

MISSOURI. Conservationist

VOLUME 73, ISSUE 11, NOVEMBER 2012 • SERVING NATURE & YOU



[NOTE TO OUR READERS]

Gratitude

This month we are reminded of the many blessings for which we have to be thankful. Here in Missouri, those blessings extend to the

brehtaking beauty and rich bounty of the outdoor world around us, and to the generations of Missourians who have helped, and continue to help, make the Show-Me State a leader in conservation.

As your Conservation Department, we work hard to provide world-class hunting, fishing, wildlife watching and numerous other outdoor activities, along with managing healthy and sustainable forests, fish and wildlife. As hard as we work, we cannot do it alone. As Department staff, we are most thankful for you, and all citizens who help to make this season an exciting time to be outdoors.

Missourians support conservation through our one-eighth of one percent sales tax, and many do much more. Thank you to the tens-of-thousands of landowners who manage their properties for wildlife. Thank you to the more than 1 million anglers, 600,000 hunters and thousands of trappers who support conservation through their prowess, passion and permit sales. Thank you to the 900,000 visitors to our nature centers each year and countless people who enjoy our hundreds of conservation areas. Thank you to the hundreds of volunteers who teach hunter education, and to the many other volunteers who support our nature centers, Stream Teams, Master Naturalist program and other efforts of conservation. We are blessed to have so many Missourians working with us for the benefit of conservation.

One of the great benefits of our strong partnership with citizens in Missouri is that we are a national leader in hunter recruitment. Here are just a few reasons why hunting has remained a vital activity for the youth of our state:

- » Special youth hunting seasons for deer, turkey, quail, waterfowl and pheasants, where mentoring adults can focus their efforts on teaching, and where the probability of successful youth harvest is greatest.
- » Free small-game hunting and reduced-cost deer and turkey permit prices for resident and nonresident youth under 16.
- » Low-cost resident hunting and fishing permits, a bargain when compared to surrounding states.
- » Online hunter education courses with hands-on field days for those who pass the required test after independent study.
- » The Apprentice Hunter Authorization, which allows persons



Robert Ziehmer and his father, Carl, during the 2011 deer season.

16 years old or older, who are not hunter education certified, to hunt with a mentor for up to two years.

- » A statewide network of five staffed and more than 75 unstaffed shooting ranges that provide safe environments for youth to learn and practice shooting skills.
- » Statewide public lands provide hunting access.
- » Hunting skills programs that provide safe and accessible ways for youth to not only be introduced to those skills, but also to grow beyond the basics.

Hunter recruitment represents renewal and hope for the long-term continuation of not only our outdoor heritage, but also the continuation of what is a significant economic boost for our state. In Missouri, hunting contributes more than \$1.4 billion to our economy and supports more than 24,000 jobs. Fishing adds another \$2.1 billion and 21,000 jobs. Deer hunting alone generates more than \$1 billion annually in overall business activity.

Deer hunters in Missouri also help those less fortunate through the Share the Harvest program. Last year, hunters donated more than 6,100 deer that put almost 318,000 pounds of venison on the tables of hungry families in our communities. We hope to increase those numbers this year and encourage deer hunters to Share the Harvest.

The one thing that binds all Missourians together is our appreciation and passion for the outdoors. It is this love that inspired Missourians to vote for and pass Amendment 4 in 1936 to create the Department, to vote for and pass Amendment 1 in 1975 to create dedicated funding for the management of all wildlife, and what continues to inspire citizens all across our state to use, enjoy and learn about our natural resources.

I hope you take time this month to enjoy the outdoors and the work conservation has accomplished with you and for you. On behalf of staff and hundreds of volunteers, we give thanks for your help in creating and sustaining the beauty and bounty of the outdoor world around us. Happy Thanksgiving.

A handwritten signature in black ink that reads "Robert L. Ziehmer".

Robert L. Ziehmer, director



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Cover: White-tailed deer, by David Stonner.

📷 500mm lens + 1.4x teleconverter
• f/5.6 • 1/250 sec • ISO 200

Above: An indigo bunting by Noppadol Paothong.

📷 500mm lens + 2x teleconverter
f/8 • 1/500 sec • ISO 400

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FIREWISE COMMUNITIES

I applaud the efforts of the Missouri Department of Conservation and the support they provide to the fire departments of Missouri. They provide valuable training, equipment and grant money. The fire departments in Missouri have been overwhelmed, yet again this summer, due to an extreme drought. This summer's wildland fires have taken their toll on equipment, personnel and budgets. Although fire departments do an exceptional job at dealing with these fires, there are only so many trucks and/or personnel that are available to respond to calls. As a homeowner and firefighter, I can't always rely on someone to respond to a wildland fire that may be threatening my home. The first line of defense to protect your own property lies with the homeowner. There are programs, such as Firewise Communities/USA, that offer homeowners a variety of ways to

protect their homes from wildfire. The Firewise Communities/USA program recognizes small communities for efforts they have taken to create a more defensible area in their community. For more information, go to firewise.org or contact the Department of Conservation.

**Todd Chlanda, central region Firewise advisor
National Fire Protection Association (NFPA)**

Editors' Note: The National Fire Protection Association's (NFPA) Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from wildfire risks. The program is cosponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

WELCOME HUNTERS

I just returned from a Missouri dove hunt this morning. Left at 3:30 a.m. and got home at noon. A friend came down from Des Moines, and we drove down to Rose Pond this morning and had a great hunt. He was working in Kansas City this week and bought a license at Cabela's, but they didn't sell him a migratory bird license so we purchased that and my licenses online from my home last night. Wow, what a great convenience.

We hunted about an hour this a.m. to get our limit. One of your officers did a permit, gun and bird check at our vehicle. He was training a new officer fresh out of the academy. They were very professional and friendly. They visited with us for awhile and then went on with their business. They did a great job. We thought we had a limit of 12, only to find out that it's actually 15, but a wonderful time was had by both of us. Lots of shooting mixed in with some hits and, of course, ribbing about the misses.

We stopped at Wayland and had breakfast on our way home. So we helped with some economic development while visiting for hunting. One of the benefits for business in your state from the work that you do.

I am continually impressed with the access and facilities that you provide for all people in Missouri. Keep up the great work.

Brian Rose, Ottumwa, Iowa

MO FUN FACTS FOR ALL

I recently began to utilize some of the resources provided by the Department of Conservation, including the *Conservationist* and *Xplor*. I learned from an old issue that the alien-looking formation in a local lake was a bryozoan, that bears don't only sleep in caves, and recognized the importance of reading bears' and mountain lions' behavior. I am continually passing along your information to people I know.

My children and I look forward every month to the publications' arrival. I learn just as much from their magazine as my own, and I am proud that my children have the opportunity to learn so much interesting and valuable information. Your materials are high quality and underappreciated, and I thank you for your high standards.

Jennifer Campbell, Moberly



Reader Photo

RED-TAILED HAWK

Edward Vagen of St. Louis County captured this photo of a red-tailed hawk. In this photo, Vagen combined two of his great loves: nature photography and golf. He took the photo at a golf course he works at part time since retiring. "I am always interested in photographing nature," said Vagen. "I hike frequently in the parks around St. Louis, and I especially like taking photos of birds and deer. Second only to our American eagle, I think the hawk is a very impressive bird."



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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, liveliest outdoor activities and people who've made a living in the wild. Come outside with us and **XPLOR!**

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Turkey Production Up

This year's wild turkey brood survey yielded good news for the second year in a row. Observers reported an average of 1.7 poults per hen statewide. That is identical to last year's figure and up 42 percent from the average over the past five years.

This year's production exceeded the five-year average in all nine turkey-production regions. The eastern Ozarks had the highest number, 2.5 poults per hen. The Mississippi

Lowlands in southeastern Missouri was not far behind with 2.2 poults per hen. Poult-to-hen ratios ranged from 1.5 to 1.7 throughout the rest of the state.

The 2011 and 2012 brood survey numbers are dramatic improvements from 2007 through 2010, when the ratio ranged from 1.0 to 1.2 poults per hen. The difference is due in part to weather. Record rainfall cut into turkey production prior to last year. Warmer spring weather

and drier conditions enabled Missouri's wild-turkey flock to make significant gains. Hunters can expect to hear more gobbling next spring, as birds hatched in 2011 mature.

Family Events at Nature Centers

MDC has events around the state for the whole family to enjoy. Here are just a few examples of what we have to offer in November:

- **St. Louis Area, Dutch Oven Thanksgiving** at Rockwoods Reservation, Nov. 15, 10 a.m. to 12 p.m., families ages 10 and up. Reservations begin Nov. 1; please call 636-458-2236.
- **Kirksville, Birding Basics** at Northeast Regional Office, Nov. 17, 2 p.m. to 3 p.m. Open to all ages, reservations are not required.
- **Joplin Area, Backyard Birds and Winter Bird Feeding** at Walter Woods Conservation Area, Nov. 9, 6:30 to 8 p.m. Registration is required for this program, to register call 417-629-3423.
- **Cape Girardeau, Campfire Fun** at Cape Girardeau Conservation Nature Center, Nov. 8, 5 to 8 p.m. No registration required.

To find more events in your area, visit mdc.mo.gov/node/252.

Drought-Stressed Trees

Many trees turned brown last summer. Some dropped their leaves early and looked dead. Here are some tips for deciding if a tree really is dead and how to help survivors.

Select a twig about the size of a pencil and bend it gently. If it is brittle and snaps, it might mean that at least parts of the tree have died. If it bends without breaking, the tree probably is still alive. Another test to try is to scrape bark away from a small twig using your fingernail. If the tissue under the bark is moist and green, your tree probably is alive. You also can break open buds at the ends of twigs by rubbing them between your fingers. If they are moist and green the tree may still be alive.

The only way to be sure if a tree will survive is to wait until spring and see if it leafs out. In the meantime, here are things you can do to improve landscape trees' chances of survival.

Slowly soak the ground under each tree's canopy once or twice a week during dry spells. Newly planted trees are more susceptible to drought, so give them extra care by applying mulch 3 inches

deep and at least 3 feet wide around the trunk. Leave a 3-inch circle of bare soil around the trunk to protect against insects or fungus.

Cracks in the soil indicate severe soil drying and add to drought stress for trees by allowing air to reach roots and subsoil and dry them out. Mulching or filling soil cracks with additional soil can help. However, simply pushing in the sides of cracked areas can damage surface roots and expose a new layer of soil to sun and wind, creating dryer soil.

For more information on tree care, visit mdc.mo.gov/node/3321 or contact your regional MDC office (see Page 3).

2013 Natural Events Calendar

You don't have to buy the *2013 Natural Events Calendar*, but if you don't you will miss seeing the cover photo of a gray fox pup in a Columbia subdivision. You also won't see:

- A turtle's-eye view of a May apple blossom
- The Milky Way galaxy rising out of a squadron of fireflies
- A whitetail doe with triplet spotted fawns
- Dawn light filtering through 800-year-old bald cypress trees
- Water rushing ghost-like among red granite rocks
- A monarch butterfly bursting from an



- incandescent sunflower
- White pelicans in flight
- An intimate portrait of a pair of river otters



ASK THE OMBUDSMAN

Q: Are albino or partial albino game animals protected from harvest?

A: No, in Missouri they fall under the same regulations as the normally colored animals. One reference estimated the frequency of

true albino deer as about one in 30,000, though partially albino (also called piebald) deer occur somewhat more frequently. It is not unusual for albinism to be associated with poor eyesight and other disabilities that can affect the

survival of those animals in the wild. To artificially protect the occasional albino individuals would allow those negative characteristics to become more frequent in the population. I do think that many Missouri deer hunters would be reluctant to shoot an albino animal. A few states prohibit the harvest of albino deer, for cultural rather than biological reasons, but most wildlife management agencies have not taken that position.

Q: If deer have a life expectancy of 5 to 6 years, why do you never find dead deer in the woods or fields that have died from natural causes?

A: Your life expectancy numbers include the probability of unnatural death. Deer are in the prime of life between 2.5 and 7.5 years of age, and some may live for 15 years in the wild. Excluding hunting and disease outbreaks, the annual mortality of deer older than 6 months of age is less than 5 percent. That's fewer than five deer out of a hundred dying natural deaths each year, and those deaths are spread out over 365 days of the year. During warmer seasons, deer carcasses will "melt" into the ground quickly and can easily go unnoticed. When deer that die from natural mortality are observed, we may assume incorrectly that the carcasses resulted from deer that were killed by hunters or vehicle collisions. This year there has been an increase in deer mortality from hemorrhagic disease.



Ombudsman Tim Smith will respond to your questions, suggestions or complaints concerning Department of Conservation programs. Write him at PO Box 180, Jefferson City, MO 65102-0180, call him at 573-522-4115, ext. 3848, or email him at Ombudsman@mdc.mo.gov.

ALBINO DEER COURTESY MELINDA CORNICK AND BILL HATFIELD

(continued from Page 5)

- A nuthatch seemingly defying gravity

If you want a copy of the *2013 Natural Events Calendar*, buy it now. The 2012 calendar, which won national honors, sold out before Christmas.

The calendar has daily notes about natural events from owl nesting to meteor showers. You

can have all this for a mere \$7 by calling 877-521-8632, or visiting mdcnatureshop.com. Or save shipping and handling charges by buying your copy at a conservation nature center or one of the regional offices listed on Page 3. Conservation Heritage Card holders get a 15-percent discount.



Feral Hogs Unwelcome

Feral hogs damage crops, prey on ground-nesting wildlife, destroy habitat, cause soil erosion and water pollution and pose health risks to people and livestock. MDC is working to prevent these problems from becoming widespread by eradicating feral hogs from conservation areas (CAs). You can help with this important effort.

Feral hogs are not considered wildlife. They can be shot on sight, but some restrictions do apply during the fall deer and turkey hunting seasons, please see deer and turkey regulations for a full list of restrictions. However, actually setting out to hunt feral hogs is not helpful. MDC and other agencies spend weeks or months pinpointing the location of feral hog populations and getting the wary animals accustomed to visiting bait sites where they can be trapped or shot. Encounters with hog hunters can thwart these preparations by disrupting hogs' behavior patterns.

There are better ways to help. For starters, if you see a feral hog, contact an MDC office or conservation agent. Most feral hogs get into Missouri through deliberate, illegal releases by people who want to hunt them or make money by guiding hog hunters. Reporting such activity is a huge step in solving Missouri's feral-hog problem. You can call the toll-free Operation Game Thief hotline, 800-392-1111, day or night and report illegal hog releases anonymously. You can even qualify for cash rewards for reports that lead to convictions.

Missouri's window of opportunity to control feral hogs is still open, but efforts cannot succeed without citizen involvement. Don't tolerate the establishment of this destructive and dangerous pest in your area.

Hunters' Help Needed

Hunters can help prevent the spread of chronic wasting disease (CWD) by participating in sampling efforts in the CWD Containment Zone. MDC is working with taxidermy shops and deer processors to collect tissue samples from adult deer harvested during the fall archery and firearms deer seasons. The cooperative effort is aimed at monitoring the prevalence and distribution of CWD in free-ranging deer.

Hunters who harvest deer in Adair, Chariton, Linn, Macon, Randolph and Sullivan counties are encouraged to take their harvested deer to one of the cooperating businesses. Removing a tissue sample is free and voluntary, takes only a few minutes and will not reduce the food. Test results for participating hunters will be posted on the MDC website beginning in December.

Participating taxidermists and deer processors are listed on pages 4 and 5 of the *2012 Fall Deer & Turkey Hunting Regulations and Information* booklet.

MDC will also collect additional samples from across north Missouri as part of statewide CWD surveillance effort that began in 2002. With the help of hunters, MDC has tested more than 35,000 free-ranging deer for CWD from all parts of the state.

In another effort to slow the spread of CWD, the Missouri Conservation Commission has rescinded the four-point rule in the CWD Containment Zone. Yearling and adult male deer develop CWD at higher rates than female deer. They also are more likely to spread the disease because they travel long distances beyond their birth areas to establish their own territories and find mates. The four-point rule protects yearling bucks, so rescinding it will help reduce numbers of these high-risk deer.

The Conservation Commission also approved a regulation change that restricts activities that are likely to unnaturally concentrate white-tailed deer and promote the spread of CWD. The regulation bans the placement of grain, salt products, minerals and other consumable natural or manufactured products in the CWD Containment Zone. The regulation includes exceptions for backyard feeding of wildlife and normal agricultural, forest management, crop and wildlife food production practices.

Hunters who harvest deer, elk or moose out

of state and bring the animal into Missouri with spinal column or head attached must report the animal's entry to MDC within 24 hours by calling toll free 877-853-5665. The carcass must be taken to a licensed meat processor or taxidermist within 72 hours of entry.

Hunters who encounter or harvest deer in poor condition with no obvious injuries should contact their local conservation agent or MDC office.

Local MDC contacts can be found online at mdc.mo.gov.

Hemorrhagic Diseases Take a Toll on Deer

Hunters in some parts of Missouri will notice decreased deer numbers as an indirect result of this year's drought. Drought brings deer into close contact around limited water sources. This increases their chances of contracting epizootic hemorrhagic disease (EHD) and blue tongue.

These hemorrhagic-type diseases are not always fatal to deer, but some outbreaks have been estimated to reduce local deer populations by as much as 20 percent. Outbreaks tend to be local, rather than widespread. Consequently, deer numbers can be noticeably reduced in one area and unaffected just a few miles away. The first killing frost of autumn kills the biting insects that spread EHD, stopping the disease.

Symptoms of both diseases are similar—swollen neck, tongue or eyelids, excessive salivation, deformed hooves and emaciation. Excessive thirst is another symptom, so deer that die of hemorrhagic diseases often are found near water.

Blue tongue and EHD do not affect humans. They are unrelated to chronic wasting disease, which has only been found in Linn and Macon counties. Hunters should not consume deer that clearly are ill and report sick deer to a conservation agent or the nearest MDC office.

Sight in Deer Rifles

If you haven't checked the sights on your deer rifle, now is the time, and MDC shooting ranges are the places. Target shooting on conservation areas is permitted only on approved shooting ranges. To provide citizens with safe and convenient places to shoot, MDC offers more than 70 unstaffed shooting ranges throughout

Did You Know?

Conservation pays by enriching our economy and quality of life.

Hunting Supports Missouri

» **600,000 hunters** call Missouri home.

» **More than \$1.4 billion** is contributed to Missouri's economy by hunting.

» **More than 24,000 jobs** are supported in Missouri through hunting.

» **More than \$96 million** in state and local sales tax per year are generated by hunting.

» **Missouri leads the nation in recruiting new hunters**, with 1.16 hunters replaced for every one lost. This success is largely due to citizen interest in conservation, youth-only seasons, low-cost permits, and Department-sponsored hunting and education programs.

» **More than 2 million tons** of venison have been donated by hunters since 1992 through the Share the Harvest Program. Almost 6,000 hunters participate in the program each year.

» **More than 500,000** deer hunters spend more than \$750 million each year directly related to deer hunting in Missouri, which generates more than \$1 billion in overall business activity in Missouri annually and supports more than 11,000 jobs.

» **Low permit cost** is one more reason Missouri is a great place to hunt. Missouri's \$17 Resident Any-Deer Permit is a fantastic bargain compared to the average of \$46.63 for equivalent privileges in surrounding states.



the state. MDC also manages five staffed shooting ranges with a variety of shooting opportunities and outdoor programs. Some MDC shooting ranges are accessible to hunters

with mobility impairments. Many have multiple shooting stations with covered shooting benches, target holders and pit privies. To find one near you, visit mdc.mo.gov/node/6209.

Edward Anderson CA

Explore beautiful forests at Edward Anderson CA, where fall colors are at their finest in northeastern Missouri.



AUTUMN IS A STUNNING season at Edward Anderson Conservation Area (CA), where fall colors are at their finest in northeastern Missouri. This 1,045-acre area covers parts of Pike and Ralls counties and offers the season's prime nature-viewing opportunities.

Featuring forests almost exclusively, Edward Anderson CA is all about the trees. White, black, northern red and swamp white oaks, along with mixed hickories, dominate the area's forests. The mixed oaks display a broad range of red, yellow and orange leaves during fall.

The conservation area's hills reach a pinnacle at the highest point in Ralls County at 804 feet. Small, intermittent streams traverse the hilly terrain and drain into the Mississippi River, which borders the area for 2.3 miles. The river provides fishing waters for catfish, crappie and gar, but waterfront access is limited. The woods can also be used for deer, turkey and squirrel hunting in season. Timber stands provide excellent habitat for a variety of wildlife, so bird watching and wildlife viewing are year-round activities.

Although there are no designated trails, adventurous hikers can explore the area via an access road that leads close to the Mississippi River. The terrain is fairly rough and steep in some areas, so hikers should take necessary safety precautions. Primitive camping is available, and walk-in or float-in camping is permitted except during firearms deer and turkey seasons.

Edward Anderson CA managers use techniques such as a timber harvest and timber stand improvement (TSI) to take care of the area's trees. A few years ago forest density at the area had become too high, leaving trees too crowded and competing for resources. A timber harvest reduced the density, and a TSI was implemented following the harvest.

TSI frees trees desirable for wildlife and forest-products purposes from competition, thins trees to suitable numbers and removes undesirable and cull trees. TSI enhances the appearance and health of a forest as well as improving wildlife food and habitat, especially for deer and turkey. Any aesthetic disturbances due to these management practices are temporary and work to maintain beautiful woodlands for the future of Edward Anderson CA.

Edward Anderson CA is located 20 miles north of Louisiana on Highway 79. For more information including a map and brochure, visit the website listed below.

—Rebecca Maples, photo by Noppadol Paothong

📷 70–200mm lens • f/16 • 1/30 sec • ISO 400

Recreation opportunities: Hunting in season, fishing, bird watching, hiking, primitive camping, wildlife viewing

Unique features: This area features more than 1,000 acres of forest, which offers fantastic fall colors.

For More Information

Call 573-248-2530 or visit mdc.mo.gov/a6311





GROWTH INDUSTRY

For nearly a half a century, three Missourians have been planting trees from the George O. White State Forest Nursery in Texas County.

by JIM LOW, *photos by* DAVID STONNER

BOB HINDS PLANTED HIS FIRST shortleaf pine seedling on his farm east of Willow Springs in 1960. A few years later, Domien Meert planted the first of hundreds of thousands of evergreen and hardwood trees on his fledgling tree nursery near Festus. Al Lintzenich got into the act a few years later, when he started a Christmas-tree farm near Gray Summit.

Tree planting got to be a habit for all three men, their families and even some of their neighbors. Lintzenich continued to plant trees for more than 40 years. Meert and Hinds are still at it. Each had different goals, and each has reaped different benefits from his labor, but they all have one thing in common—planting stock from the Conservation Department's George O. White State Forest Nursery at Licking. >>





Hogs, Herefords and Pines

Growing trees was never one of Hinds' top priorities. In the early 1960s, he was building a successful hog- and cattle-breeding operation that drew buyers from all over the world. Like farmers in all times and places, Hinds had to make use of every resource at his disposal to keep the farm in the black. That meant finding a use for hardscrabble Ozark acres.

"The places where we planted trees were just poor land," Hinds recalled as we drove between patches of pine trees scattered around his farm, "It had nothing but blackjack and post oak on it and it was doing no good. Rather than put it in pasture, I thought it would be more productive over the years to put it in pine."

The key words there are "over the years." Each fall and winter for more than 50 years, Hinds, his wife, Jackie, and their children planted trees. The only exceptions were one year when a near-fatal automobile accident laid him up and another spent repairing damage from a tornado.

Hinds' first planting was about 3 acres of shortleaf pine. By 1965, he had 52 acres planted. At a stocking rate of 400 pines per acre, that is more than 20,000 trees. All the seedlings were planted with an 11-pound steel planting bar. They also sowed pine seed from the state forest nursery. Hinds would bulldoze a strip of scrub-oak timber in October, then come back when snow was on the ground and broadcast pine seeds from the back of a horse.

Hinds, his children and occasional hired help planted about 10 acres a year. Today they have nearly 500 acres of pine plantation. Most of it is shortleaf, Missouri's native pine. They also planted wildlife-habitat bundles from the state forest nursery.

Five-hundred acres of trees is a lot to care for when you already have a full-time job. Pine plantations are deliberately overstocked to allow for losses to disease, insects and weather. Periodic thinning is needed to prevent overcrowding and promote good growth. Just as planting trees was never Hinds' top priority, neither was thinning.

"We always had all kinds of things to do beside thin our pines," says Hinds. The exception was one stand of trees where he thinned according to the Conservation Department's recommendations. "A year later I went back and measured



the circumference of them. It was astonishing the growth they had put on," says Hinds. That experience prompted him to hire a professional logger to thin some of his pines.

Although Hinds hasn't always been methodical about thinning, he achieved the same result by selling some young trees for use as poles. The remaining trees now are 1.5 to 2 feet in diameter. Hinds' son Kelly set up a small sawmill at



the farm and has produced enough lumber to build a home, a hunting cabin and a big pole barn. His father's pride in that accomplishment is apparent as he shows off the buildings.

Another unforeseen benefit is improved wildlife habitat. Deer and turkey got hunted out during the Great Depression, but they are plentiful again today, thanks to reintroduction efforts by MDC and Hinds' habitat restoration.

A Community Effort

Like Hinds, Meert was looking for a way to employ an unused resource—youthful energy. He worked for Boeing in St. Louis. His wife, Eileen, had her hands full too, raising six children. But in their spare time they threw themselves into establishing a tree nursery.

“We had to do something to pay for 28 years of college education. I had four weeks' vacation

Bob Hinds has planted pine trees on his farm near Willow Springs nearly every fall and winter for more than 50 years.



Domien Meert and his wife, Eileen, sell approximately 1,000 Christmas trees each year from their nursery in Jefferson County.

a year, and every weekend, every vacation we spent here playing in the dirt. We're still working night and day at it," he says with a smile.

Their nursery now covers 160 acres in southern Jefferson County. It is a patchwork of Scotch pine, spruce, fir, dogwood, redbud, oaks and other trees stitched together with 100 miles of water pipe and drip-irrigation line. The air was heavy with the scent of pine on the warm June afternoon when I visited Meert Tree Farm.

The Meerts' first planting was 1,000 Scotch pine seedlings from the state forest nursery. This was before chemical weed control or power mowers. All the cultivation and maintenance was done by hand. At the peak of their opera-

tion, they planted as many as 10,000 trees in one year and had 100,000 in the ground.

The Meerts sell approximately 1,000 Christmas trees on a you-cut basis each November and December and supply ball-and-burlap trees to wholesale and retail nurseries. Evergreens that grow too large for Christmas trees are turned into Christmas wreaths and sold in Meert Tree Farm's gift shop during the holiday season.

Because they harvest trees selectively, rather than taking all the trees from a plot at once, they can't use a mechanized planter. They still set each seedling by hand, just as they did 49 years ago. During the peak years, the Meerts' children helped with planting. When they needed more help, they hired local high-schoolers. Now it's just Domien, Eileen, one hired hand and their daughter Jennifer Summercamp, who caught the tree-farming bug from her parents.

It sounds like a lot of work for two people who are eligible for Social Security, but they get lots of help from neighbors and friends they have made over the years. Kids who worked for the Meerts now are adults with fond memories of the farm. They are quick to pitch in with special projects, like electrical repairs. People who first came to the farm as wide-eyed toddlers now have children of their own, or even grandchildren, to bring to the farm each Christmas.

"It's like a family down here," says Meert. He and Eileen have a special place in their hearts for the staff of the state forest nursery, too. When they visit the facility each spring to pick up their seedlings, they always bring doughnuts.

Although the Meerts have put their tree farm on the market, it remains a central part of their lives. When I ask Domien why he continues to plant, trim and harvest, he laughs and says, "I think it's a habit. I guess I just like playing with these plants out here."

Christmas Tree Valley

Al Lintzenich's career as a residential builder left him with spare time from late fall through winter. He got his start in the Christmas tree business selling cut trees imported from Canada and then thought it might be interesting to raise his own. After selling trees through lots operated by civic clubs and Boy Scout troops for a few years, he switched to the booming you-cut

business. He quickly figured out that he needed more than trees to attract repeat buyers.

“You have to have something for the kids if you want to keep your customers,” he says. “You have to give the kids something to do while mom and dad pick out a tree. We let kids have the run of the place while parents tree-shopped.”

That didn’t mean letting kids run wild, however. Lintzenich and his wife, Marilyn, developed activities to entertain kids, adding a new attraction every year. Before they knew it, their tree farm had turned into a modest theme park. They named it Christmas Tree Valley.

An early innovation was turning a big cedar tree on the property into “Mouse Town” with hundreds of toy mice peeking out from various places.

“It was a big hit with little kids,” recalls Lintzenich as he sorts through newspaper clippings documenting Christmas Tree Valley at its zenith. “We told kids they could have a candy cane if they guessed how many mice there were. They always guessed right!”

Lintzenich created a miniature log-cabin Christmas village with a stable, church, schoolhouse, hotel, and Santa’s house. He installed model trains that ran through the village to

The Lintzenich family runs Christmas Tree Valley near Gray Summit.





The Cradle of Missouri Forests

The same year that Bob Hinds and his family planted their first tree, MDC renamed the State Forest Nursery at Licking in honor of George O. White. White began his career with the U.S. Forest Service. In 1934 he selected the site of the facility that now bears his name. He went on to become Missouri's first state forester and is considered the father of MDC's Forestry Division.

The nursery was established to grow shortleaf pine seedlings for the newly established Mark Twain National Forest. MDC acquired the 40-acre nursery in a land swap in 1942. It now covers 780 acres and produces 5 million seedlings annually, including more than 70 species of trees, shrubs and prairie plants. In its 77-year history, the state forest nursery has produced hundreds of millions of trees and rebuilt the state's once-depleted forest resources. For more information about the nursery, including how to order seedlings, see the insert in the middle of this issue of the *Conservationist*, or visit mdc.mo.gov/node/3986.

capture children's imagination. One traveled a circuit of 300 feet between buildings. But perhaps the biggest hit was a big bulletin board where the Lintzenichs posted photos of families who visited Christmas Tree Valley.

"People would come and hunt for photos of themselves from years before," recalls Lintzenich. They could see their whole family history there, with the kids growing from year to year. They loved that."

The business grew and grew. At the peak in the 1980s, the Lintzenichs had three tree farms and were planting thousands of Scotch pines each year to keep up with demand. They got help from Boy Scouts, too. Marilyn's volunteer work as a merit-badge counselor gave scouts an opportunity to earn a forestry merit badge while playing an important part in what had become a community institution.

In spite of all the work that went into Christmas Tree Valley, it never provided much income.

"We did it for the children," Lintzenich says. "Working with kids, building things for them and so forth was the real reason for doing it. If you counted your labor, it was a losing proposition."

The Lintzenichs' son John eventually took over the tree farm. Apparently he inherited his parents' civic-mindedness as well. When a tornado decimated Joplin's trees in 2011, he donated trees for the stricken town's recovery effort.

ROI

What's the return on investment from half a century of tree planting? Hinds got erosion control, commercial pole timber, wildlife and a ready source of lumber for construction projects. The Meerts' tree farm helped put six kids through college and earned them a special place in their community. The Lintzenichs earned a little extra cash, provided hands-on experience for a generation of aspiring foresters and stored up a lifetime of memories.

But planting a tree provides something beyond all that, something transcendent. As Aldo Leopold wrote, "Acts of creation are ordinarily reserved for gods and poets. To plant a pine, one need only own a shovel." ▲



Quail and Beyond

Building better habitat
for all upland wildlife

by CRAIG ALDERMAN

photos by NOPPADOL PAOTHONG

FEW THINGS STIR MY PASSION FOR HABITAT management like quail restoration. When we created the Quail and Upland Wildlife Federation (QUWF) Buffalo Bob chapter in rural Dallas County, we wanted to address the loss of quality habitat for all upland wildlife using a land-management model based on bobwhite quail. The successional and ground disturbance needs of quail also benefit other wildlife species including deer, turkey, dove, rabbits, squirrels and a host of songbirds. Trained biologists and private land conservationists from the Conservation Department and QUWF prepared a 10-year plan that now looks at all species for private landowners.

The QUWF chapter now has thousands of acres undergoing annual habitat work. The chapter also recently formed the Niangua River Basin Focus Area to join contingent landowners for maximum impact. “We have good quail populations responding to the habitat work and are approaching 8,000 acres in direct hands-on management of the chapter. Turning the dirt is what it takes,” says Nick Prough, chief wildlife biologist for QUWF. Landowners submit habitat reports and photos each year so that members can track progress during monthly meetings.

The Conservation Department’s Quail Habitat Initiative, a step-down plan from the National Bobwhite Conservation Initiative, got it all started by helping QUWF members get cost share. “I doubt we could have kindled so much passion without the Conservation Department and its guidance for landowners,” says Warren Valenti, a former Conservation Department private land conservationist for the area.

When I bought my farm 17 years ago there were no quail on the property, but I did see them along the road and in adjoining pastures. I had grown-over post oaks, abandoned glades covered with eastern red cedars and hardly any openings on the nearly 200 acres. Deer paths were the only access routes. Much has changed thanks to years of habitat management.

Today the nearly 200 acres has 10 acres of open grasses, 40 acres of maintained breeding and brooding areas, 40 acres of oak savannah, and three, 1.5- to 2-acre food plots around the property. Soon after we created our first edge areas, a covey of quail took up residence on the 10-acre strip, as did a doe and her fawn.

Continuing the habitat work, the first 4-acre rock glen was cleared of cedar. Wildflowers provided a great quail and turkey bugging area. “Chain saws are a must around here; many of them, all the time,” says Tracy Watkins, an adjoining land owner whose habitat work was as heavy



Craig Alderman of Buffalo, Mo., manages his property to benefit quail and improve its habitat.

as mine. Food and quality cover began to produce good wildlife populations throughout the area.

My hearing is not the best from lots of flying and sporting clays events, so I have to see birds flushing or dashing along the ground to grade my work, and now I do. Luckily, my friends also saw what was happening years ago and began buying land around me. They are active habitat



stewards, so the affected area expanded exponentially.

Today you can see habitat work that includes native warm-season grass conversions, fescue eradication, edge feathering, timber stand improvement, oak savannahs, food plots, and controlled burns, and the work pays off for many species.

In 2010 the landowners of the QUWF chapter spent more than \$100,000 in habitat work. “These landowners don’t stop. This is not CRP ground either, it is get your hands dirty, chain saw running, sweat-causing terrain you have to love for wildlife,” says Prough.

Why do we do this? All of us want the next generation

to experience wildlife in Missouri as it should be. Our sons and daughters, grandchildren and friends can be seen most weekends working on habitat projects large and small. We now estimate, from that first Conservation Department \$2,500 matching Quail Habitat Initiative grant and private landowners’ plans, chapter members and the chapter have invested more than \$250,000 in habitat management in recent years, with no signs of slowing down on the horizon. ▲

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Learn more about managing your own land for wildlife at mdc.mo.gov/node/90.



Big bluestem



The Grass **IS** Greener!

This summer's drought shows the importance
of native warm-season grasses.

by BILL WHITE *and* MIKE GASKINS

MY GRANDFATHER OFTEN TOLD ME that “the grass isn’t always greener on the other side of the fence,” and this advice served me well, until this summer’s record-breaking drought hit us.

When I saw Ben Dowler’s lush, green, native warm-season grass field in Shannon County this summer, I couldn’t help feeling sorry for the deep-fried appearance of the fescue hay field across the fence. Ben had planted this field in 2009 and planted another field to natives in April 2012.

Ben called me in July and said, “Mike, you’ve got to get over here and see this.” When I asked him what was wrong, he told me, “It’s not what’s wrong, Mike, it’s the fact that the native grass field I planted back in April is the only, I mean the only, green field on the farm.”

Last summer proved the drought-resistant nature of native grasses. Ben plans to plant more next spring.

On another property in Osage County, Byron Baker saw similar results with his field of eastern gamagrass. It looked a whole lot different than his neighbor’s burned-up fescue and the brome pastures across the rest of mid-Missouri.

About 10 percent of Byron’s cattle farm is planted to eastern gamagrass, and he wishes he had more of it this summer. He has 44 head of heifers on this little oasis that has already been hayed once this summer. He had “no idea of the potential” of his 4-year-old planting until the spigot was turned off on the spring and summer rains. Byron plans to convert another 40 acres of fescue to this drought-resistant grass.

Throughout Missouri, the 2012 drought forced all introduced grasses such as tall fescue and Bermuda grass into dormancy. However, native grasses, especially those that were hayed or grazed earlier in the season, continued growing throughout the summer.

If you would like to improve drought tolerance on your own property:

Make Drought Tolerant Species a Priority

Native grasses, such as big bluestem, have been documented to grow roots to depths of 10 feet or more where bedrock is not limiting. Switchgrass, another native, produces almost four times the root biomass as tall fescue within the first year after planting. Over 10 years, studies have shown that switchgrass will produce about 5 tons per acre of root mass within the first 12 inches of the soil horizon. Such root systems, common to all of these tall-growing natives, make these the most drought-tolerant forage grasses grown in Missouri.



Cattle do well on native grasses during summer months. Blends of big bluestem and indiagrass provide better daily gains, but switchgrass and gamagrass can support heavier stocking rates.

Natives Produce Quality Summer Forage

Recent research at the University of Tennessee has demonstrated that cattle do well on these grasses during summer months, commonly posting gains of between 1.5 and 2.0 pounds per day on steers. Bred heifers typically gain between 1.0 and 1.5 pounds daily on these grasses. Blends of big bluestem and indiagrass provide better daily gains, but switchgrass and gamagrass can support heavier stocking rates.

How Much Summer Forage is Enough?

Studies have indicated that about 30 percent warm-season forages may be an appropriate level—perhaps more farther south and less farther north. Consider that 30 to 40 percent of the grazing months we have in Missouri occur during the hottest part of the year. Given the efficiency of native grasses, virtually all dedicated hay ground could be in these grasses. Regardless of the proper ratio, start small and evaluate your need for more summer grasses as you go.

Programs through your local Department of Conservation, Soil and Water Conservation District, and the USDA Natural Resources Conservation Service can help defray some of the expenses of converting portions of your pastures or hayland to native grasses.

Visit www.youtube.com/watch?v=dZQXF6Sq3o for videos that provide basic instructions on establishing native grasses. If you would prefer to receive a DVD with these instructions, please contact the Department of Conservation at 573-522-4115, extension 3251, and ask for the Private Land Care DVD. Plant native grasses—so your side of the fence will always be greener.

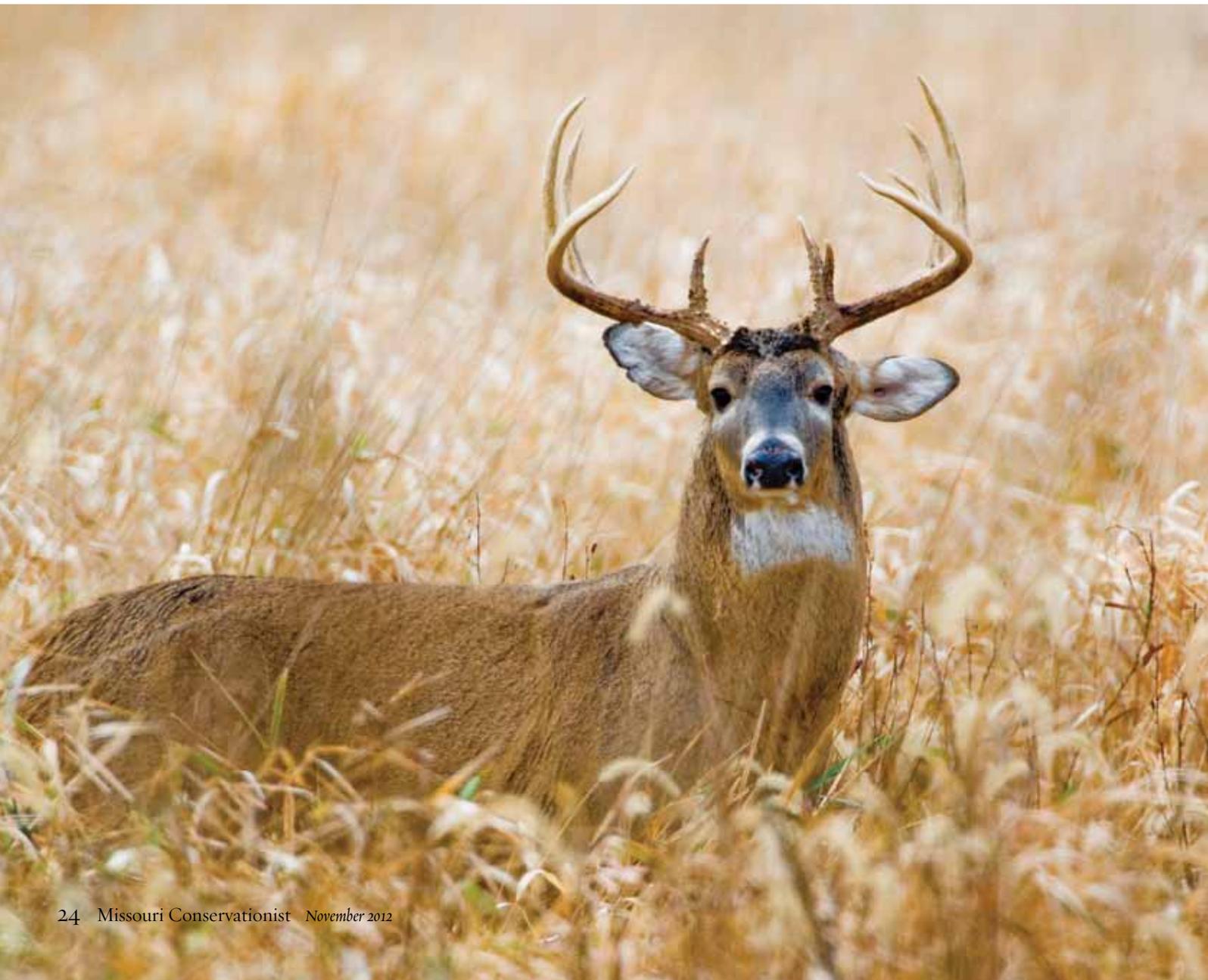


Top: Throughout Missouri, the 2012 drought forced all introduced grasses such as tall fescue and Bermuda grass into dormancy. However, native grasses, especially those that were hayed or grazed earlier in the season, continued growing throughout the summer. Both fields in this photo were hayed earlier in the summer. The photo was taken in July 2012.

Left: Landowner Ben Dowler enjoyed his lush, green native warm-season grass field in Shannon County this summer during the drought. The grass in this photo was planted in April 2012, and the photo was taken in August 2012.

VENISON

Woods-to-table taste sensation



by BERNADETTE DRYDEN
excerpted from MDC's cookbook *Cooking Wild*

DURING THE LAST FIREARMS DEER SEASON, hunters harvested more than 238,000 whitetails in Missouri. Although deer is the most sought-after game animal in the state (turkeys are second), Missourians also enjoy bringing to the table a fair number of squirrels, rabbits and other small game.

I've known hunters and anglers all my life and worked with hundreds of them during my 23 years with the Conservation Department. I've always admired the strength, skill, stealth and patience it takes to draw back a bow, deftly cast a line or sit motionless in a cold deer stand for hours.

Kevin Lohraff, a Conservation Department colleague from whom I've learned much about the natural world, concurs. "Hunting is one of the most natural things I know," he says. "For me it is the ultimate connection between the land you live on and yourself. It also gives you an intimate connection with what you put in your body."

The meat and fish that Kevin and his family eat are almost exclusively from animals that he harvests from the Missouri wild. Nature's ability to help "reset his balance" is high on Kevin's list of reasons to hunt and be in the wild. "In this modern, digital era, a person can feel pretty disconnected from everything. When I get out in the woods, it doesn't take long to get the feeling that I could be living a thousand years ago—using what I have learned about animals and their behaviors, and putting into practice my familiarity with the outdoor environment and my skills as a hunter. There's a calming effect and intimacy from all of it that is very healing."

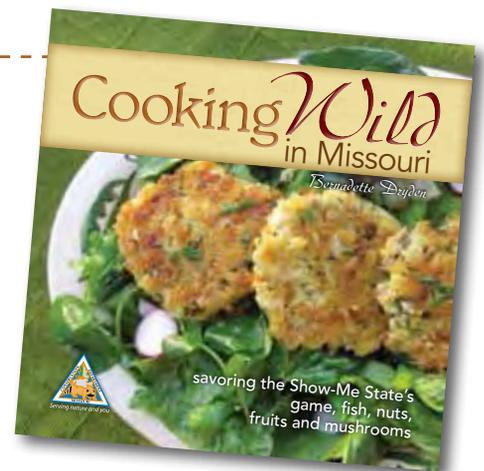


Cooking Wild in Missouri

Savoring the state's native fish, game, nuts, fruits and mushrooms

Whether you hunt, fish or forage, Bernadette Dryden's collection of more than 100 delicious, kitchen-tested recipes highlights Missouri's game, fish, nuts, fruits and mushrooms. Tempting recipes cover appetizers, fresh salads, savory stews, elegant entrées and delectable desserts. Detailed instructions are suitable for the novice or advanced cook and offer imaginative, fresh ideas for turning your harvest into a mouth-watering feast. With beautiful color photographs on nearly every page and dozens of tips to make your time in the kitchen easy, efficient and fun, *Cooking Wild in Missouri* is sure to earn a trusted spot in your kitchen.

It costs \$15 plus sales tax and shipping and handling. To order, call toll free 877-521-8632, or visit mdcnatureshop.com.



VENISON KEBABS

This is one of my favorite ways to use ground venison. Quick and easy, this recipe also is incredibly malleable, as I've mentioned in my herbs and spices note that follows. In a nutshell, kebabs are miniature Middle Eastern meatloaves on sticks. I love to tuck them into grilled pitas and top them with fresh heirloom cherry tomatoes and yogurt-cucumber dip.

Soak Your Skewers

Bamboo skewers are my choice for threading meat for satays or kebabs. Be sure to soak the skewers in water for at least 30 minutes (or more) to keep them from igniting on the grill. Metal skewers don't need to be soaked, of course, but they do get (and stay) very hot. Also, they often are bigger and tear the meat when threading in a way that the smaller bamboo ones don't.

Suit Yourself With Seasonings

The herb-and-spice mixture can be adjusted to suit your palate when you are mixing all the ingredients together. For example, when I created this recipe, I first tried the mixture with less garlic, hot pepper flakes and salt. To test for seasoning, I made a 1-inch-round ball and cooked it in the microwave for a few seconds. If it tasted too bland, I kept experimenting until I had the desired amount of spiciness in the raw mixture. Once when I made these I didn't have cilantro on hand, so I used various other herbs from my garden including rosemary, oregano, chives, basil and thyme. I also threw in a few fennel seeds. So the herb and spice blend is not strict. You may want to try it this way the first time, then the next time use your own combination of fresh herbs and spices from your pantry.



Serves 4 to 6

- 1 pound ground venison**
- ½ cup finely chopped onion**
- ¼ cup finely chopped fresh parsley**
- ¼ cup finely chopped fresh cilantro**
- 4 garlic cloves, minced**
- 1 teaspoon salt**
- ¾ teaspoon coarsely ground black pepper**
- ½ teaspoon paprika (or smoked Spanish paprika)**
- ¾ teaspoon hot red pepper flakes**
- 1 tablespoon extra-virgin olive oil**

Pita bread

- Equipment: 6 (10- or 12-inch-long) bamboo skewers**
(See *Soak Your Skewers* above.)
- Oiled baking sheet**

>> Mix all ingredients together and chill for at least 3 hours or overnight. Remove skewers from water and shake off excess; firmly pack meat mixture around the skewers in 3-inch-long, 1-inch-thick links—two to a skewer.

>> Place skewers on the oiled baking sheet and carefully turn them to lightly coat the meat with oil. Remove skewers from the sheet carefully and place them on a grill heated to medium. Cook 10 to 15 minutes—carefully and gently turning them halfway through. A metal spatula gently pushed under the kebabs helps to turn them.

>> Serve sandwich style in freshly grilled pita bread. Top the kebabs with fresh, chopped tomatoes and *Tzatziki*.



VENISON GREEN-CHILE STEW

Green-chile stew is one of my favorite fireside comfort foods—not one that I grew up with, however. Since my first visit to northern New Mexico many years ago, that state’s signature dish calls to me on snowy Missouri nights. It is traditionally made with beef or pork in the Southwest, but venison also does it justice. Several containers of New Mexican chopped green chiles were in my freezer from a recent trip, so I pulled out a couple to try in this recipe. After the first taste, I congratulated myself for having had the foresight to bring them home with me. Yum!

Pick a Pepper

You may use any kind of fresh or frozen pepper for the minced peppers. I have friends who grow a large variety of heirloom peppers every summer on their farm in Shannon County. They preserve plenty for winter by chopping them finely in a food processor and freezing the pulp flat in large freezer bags. Being a beneficiary of many of their fresh peppers, I’ve started doing the same. It works great for recipes such as green-chile stew. I pulled out a freezer bag and pinched off 2 or 3 tablespoons of puréed mixed hot and sweet peppers and threw them into the pan with the chiles.

Make it Hotter or Milder

Only your taste buds can decide how much hot pepper you want to add. If you use mostly mild green chiles, then you’ll want to add fresh hot peppers for extra kick. I like a ratio of about two-thirds mild and one-third hot New Mexican green chiles to begin with. Then, upon tasting, if I decide it needs more punch, I throw in the fresh hot peppers. If you find the stew too spicy, add extra broth and a little water to dilute the heat.

Makes about 10 cups of stew

2 pounds venison, cut into ½-inch cubes
¼ cup vegetable oil
2 medium onions, diced
6 large garlic cloves, minced
2 pounds potatoes, cut in ½-inch cubes
1 tablespoon salt
6 cups chicken broth
3 cups chopped fire-roasted mild or hot green chiles, preferably New Mexican
2 sweet or hot fresh peppers, minced
(See Pick a Pepper left.)
Several pinches of freshly ground black pepper
¼ cup chopped fresh cilantro

Whole wheat- or white-flour tortillas

>> In a large, heavy saucepan, cook the venison in oil over medium heat until browned and most of the liquid has evaporated. Stir in onions and garlic and cook for 3 or 4 minutes. Add potatoes, salt and broth. Bring contents to a boil. Reduce to a simmer and cook uncovered for an hour.

>> Add the chiles, fresh peppers and black pepper, and cook 1 hour or more until the venison is tender and the stew is of desired consistency.

>> Ladle into soup bowls and sprinkle with cilantro. Accompany with warm tortillas for dipping into or stuffing with the stew.

Saving our Sturgeon

Raising and releasing mighty fish for big rivers

by BILL GRAHAM



TRAVIS MOORE REACHED INTO A HATCHERY tank and with one hand picked up a young fish, one that in the next century might require three people to lift. The squirming, 6-inch lake sturgeon could grow into a giant that would outlive the biologists trying to save the species' future.

The biggest lake sturgeon can reach 8 feet and 300 pounds. This year, biologists in a northern state measured an egg-producing female lake sturgeon that weighed 240 pounds and was more than 7 feet long.

"They believe that it was 125 years old," Moore said, "which means she was born sometime in the late 1800s."

It's remarkable that a fish that old is still reproducing, said Moore, a Missouri Department of Conservation fisheries biologist who is leader of the Lake Sturgeon Recovery Team. The flip side is that it takes 25 or 30 years for a lake sturgeon to reach reproductive size and age, and they don't always spawn every year. Slow reproduction is one reason why they are a state endangered species in Missouri.

Working to reverse that trend, Moore and MDC fisheries crews handled 12,672 hatchery-raised lake sturgeon on Sept. 25, one fish at a time. They marked them by removing a specific scute, a scale-like plate, from the fishes' side. Each fish also received a tiny wire chip in its snout that is magnetized to carry information about its origin. The fish were released Sept. 27 into the Grand, Osage and Gasconade rivers, just upstream from where they empty into the Missouri River.

Years from now, the same fish may be caught by biologists conducting research. A missing scute will hint that the fish was stocked and not spawned in the wild, and which scute is missing will tell them what year the fish was stocked. A magnetic wand passed near the fish's mouth will read the tag and provide more information. The fish will be weighed and measured, and biologists will have data about their travels in the rivers, habitat preferences, survival rate and growth rate.

Lake sturgeon date back 150 million years. The species swam near wading dinosaurs and out-survived



MDC biologists are working to bring back Missouri's largest fish by sampling sturgeon and helping females spawn. Sturgeon require large waters and are native to the Missouri and Mississippi rivers.



those beasts. They require large waters and are native to the Missouri River, Mississippi River, Great Lakes and Hudson Bay ecosystems. Sturgeon use tube-like mouths on the undersides of their elongated heads to suck up small fish, snails and other food.

Overharvest by commercial fishing greatly reduced lake sturgeon numbers in the United States by the early 1900s. Continued loss of habitat due to human changes to rivers and lakes caused further declines.

But biologists are working to bring back Missouri's largest fish.

MDC began releasing lake sturgeon into the state's big waters in 1984. Research has shown that maturing lake sturgeon spend most of their time in the deep pools of the biggest rivers. But they often travel long distances between stops. Most lake sturgeon stocked by MDC were released in the Mississippi or lower Missouri River on the state's eastern side. But MDC research crews have caught and measured lake sturgeon upstream in the Missouri River all the way to Iowa. Some have been caught in the Kansas

City area and a few in the lower Kansas River.

Lake sturgeon are protected in Missouri and must be released if caught. Adults have rounder bodies, shorter snouts and smooth barbels that distinguish them from the far smaller and more common shovelnose sturgeon, or the endangered pallid sturgeon. Anglers fishing for catfish catch them at times.

The goal is to build self-reproducing lake sturgeon populations, Moore said.

"Someday down the line we might have a sport fishery with limited harvest," he said. "When caught on a rod and reel they will actually tail walk like a largemouth bass."

But it might take another 20 years of stocking, management and research for the fishery to grow enough in Missouri to take lake sturgeon off the state endangered list, Moore said. They are considered a good eating fish in states with populations large enough to allow harvest.

"These lake sturgeon will be the biggest fish in the state of Missouri someday," he said. "There's nothing else that reaches 200 pounds." ▲

Osage Copperhead

Missouri's most common venomous snake makes its home on rocky hillsides and forest edges.

LAST AUTUMN, as I was hiking and photographing my favorite trail at Shaw Nature Reserve in Franklin County, I came upon an Osage copperhead coiled before me in a patch of sunlight. The chestnut-colored pit viper paid me no attention, not even a head turn, as it soaked up the waning light of the afternoon. My first thought was to get some quick shots before my good fortune slithered into the woods, but I soon realized that the docile snake was none too eager to give up its strategic position, carefully selected for solar gain.

The Osage copperhead (*Agkistrodon contortrix phaeogaster*) is the most common of Missouri's five venomous snakes. Growing up to 3 feet long, the copperhead can be identified by its reddish-brown body with darker hourglass-shaped saddles and its copper-colored head. Osage copperheads are common in the northern two-thirds of Missouri and a subspecies, the southern copperhead, is found in the southern third of our state. Copperheads are not easily spotted in the wild because their coloration allows them to meld into the surrounding terrain of their preferred habitat—rocky hillsides and forest edges. As with all of Missouri's pit vipers, a cat-like vertical pupil and an opening (pit) between the eye and nostril distinguish the copperhead from Missouri's nonvenomous snakes. The temperature-sensitive pit helps the copperhead detect mice and other warmblooded prey. Copperheads rarely strike at humans unless antagonized and their bite is painful but rarely fatal.

Copperheads are active throughout much of the year except for winter when they retreat into underground dens on warmer, south-facing slopes. Mating typically occurs in spring and young are born by late summer into early fall. Copperheads are born alive, rather than hatched from eggs, and newly born individuals must fend for themselves, eating mostly insects. Juvenile copperheads use their yellow-tipped tail to lure in small prey, such as frogs and lizards. Adult copperheads pursue a variety of prey, but they prefer mice and help to keep their populations in check.

So how does one photograph a copperhead? My preference, as with all creatures, was at eye level, so I found myself lying on my belly, not unlike my subject. I needed at least five feet of distance between the snake and my lens to achieve focus, so I knew I wouldn't have to get too close for an effective image. I selected the creature's coppery head as the focal point of my composition to add impact to the photograph. I was amazed that even its eye was coated with a coppery film. As I finished shooting and parted ways with the serpent, I began to feel a chill in the air with the approach of evening. The copperhead would soon join others on its wintering ground and find its favorite den from the year before. I looked forward to the possibility of our next meeting, perhaps in spring.

—Story and photo by Danny Brown

 300mm lens • f/6.3 • 1/60 sec • ISO 200

We help people discover nature through our online field guide. Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.





Hunting and Fishing Calendar

FISHING	OPEN	CLOSE
Black Bass from Ozark streams	5/26/12	2/28/13
Nongame Fish Giggling	9/15/2012	1/31/2013
HUNTING	OPEN	CLOSE
Coyote	5/07/12	3/31/13
Crow	11/01/12	3/3/13
Deer		
Archery	9/15/12	11/09/12
	11/21/12	1/15/13
Firearms		
Early Youth	11/03/12	11/04/12
November	11/10/12	11/20/12
Antlerless	11/21/12	12/02/12
Alternative Methods	12/15/12	12/25/12
Late Youth	12/29/12	12/30/12
Dove	9/01/12	11/09/12
Furbearers	11/15/12	1/31/13
Groundhog	5/09/12	12/15/12
Pheasant		
North Zone	11/01/12	1/15/13
Southeast Zone	12/01/12	12/12/12
Quail	11/01/12	1/15/13
Rabbit	10/01/12	2/15/13
Rails (Sora and Virginia)	9/01/12	11/09/12
Squirrel	5/26/12	2/15/13
Turkey		
Archery	9/15/12	11/09/12
	11/21/12	1/15/13
Waterfowl	please see the <i>Waterfowl Hunting Digest</i> or see mdc.mo.gov/node/3830	
Wilson's (common) Snipe	9/01/12	12/16/12
Woodcock	10/15/12	11/28/12

TRAPPING	OPEN	CLOSE
Beaver and Nutria	11/15/12	3/31/13
Furbearers	11/15/12	1/31/13
Otters and Muskrats	11/15/12	2/20/13

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* or 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 mdc.mo.gov/node/130 or permit vendors.



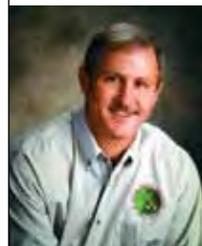
"Ever since I took that cooking class, I'm truly at home on the range."

Contributors



BERNADETTE DRYDEN, former editor and publications supervisor with MDC, inherited her ease in the kitchen from her mother—by whose side she grew up cooking in High Hill, Mo. Bernadette, who has studied cooking in Mexico and Italy, also cooked professionally in Portland, Ore.

BILL GRAHAM joined MDC in 2010 as a media specialist for the Kansas City and Northwest regions. He formerly worked for 25 years as a reporter and columnist for *The Kansas City Star*. A lifetime hunter, angler and camper, he is a native of Nevada, Mo., and now resides with his family near Platte City in Platte County.



JIM LOW, MDC print news coordinator, has planted enough trees and done enough timber-stand improvements to be in awe of those who pursue those activities for upward of four decades. Waterfowl hunting, small-mouth bass fishing and nature photography are his favorite outdoor pursuits.

Operation Game Thief

Help put game thieves out of business. If you see a possible violation in progress, call your county conservation agent immediately or dial the toll-free number below:

1-800-392-1111

All information is kept in strict confidence. Desirable information includes names of violators, vehicle description and license number, as well as the violation location.

AGENT NOTES

Encouraging Safe, Knowledgeable and Responsible Hunters

ONE OF THE most rewarding aspects of being an active outdoors enthusiast is passing on your knowledge and experience to someone else. Whether by participating in outdoor activities within your community, taking a child hunting or fishing, or inviting someone else to go hunting with you. The time you invest in such a project is well worth it. For many new hunters, this journey starts by attending a hunter education course.

This course focuses on producing knowledgeable, responsible, and involved hunters and reducing the number of hunting incidents. In Missouri, every hunter born on or after Jan. 1, 1967, must complete an approved hunter-education program in Missouri or another state to buy firearms hunting permits, with a few exceptions. One of those exceptions involves hunting with the Apprentice Hunter Authorization.

Apprentice Hunter Authorizations are designed to help introduce adults to hunting. MDC allows hunters age 16 and older who are not hunter-education certified

to hunt with firearms, as long as they take all three of these steps:

1. Purchase an Apprentice Hunter Authorization.
2. Purchase a hunting permit for the season they want to hunt.
3. Hunt in the immediate presence of a properly licensed adult hunter who is 18 years of age or older and has in his/her possession a valid hunter-education certificate card, or was born before January 1, 1967.



This authorization may be purchased annually for no more than two permit years (March 1 through the last day of February).

Safety is the number one priority. Here are some tips to help you stay safe this season:

- *Always point the muzzle in a safe direction.*
- Unload your firearm before crossing obstacles, approaching populated areas such as parking lots and campsites, or climbing up or down tree stands.
- Let someone know where you will be hunting and when you plan to return home.
- Inspect and clean your equipment before taking it afield.
- Always use a safety harness while in a tree stand.
- Hoist your unloaded firearm into your tree stand after you are secured.
- Bring binoculars or a spotting scope with you to properly identify wildlife. NEVER use your mounted sight until you KNOW what you are aiming at.
- Make sure your target has a safe backstop.

It is easy to get caught up in the excitement of the hunt. Next time you come to a fence crossing or begin to climb your tree stand, just remember to take your time and be safe.

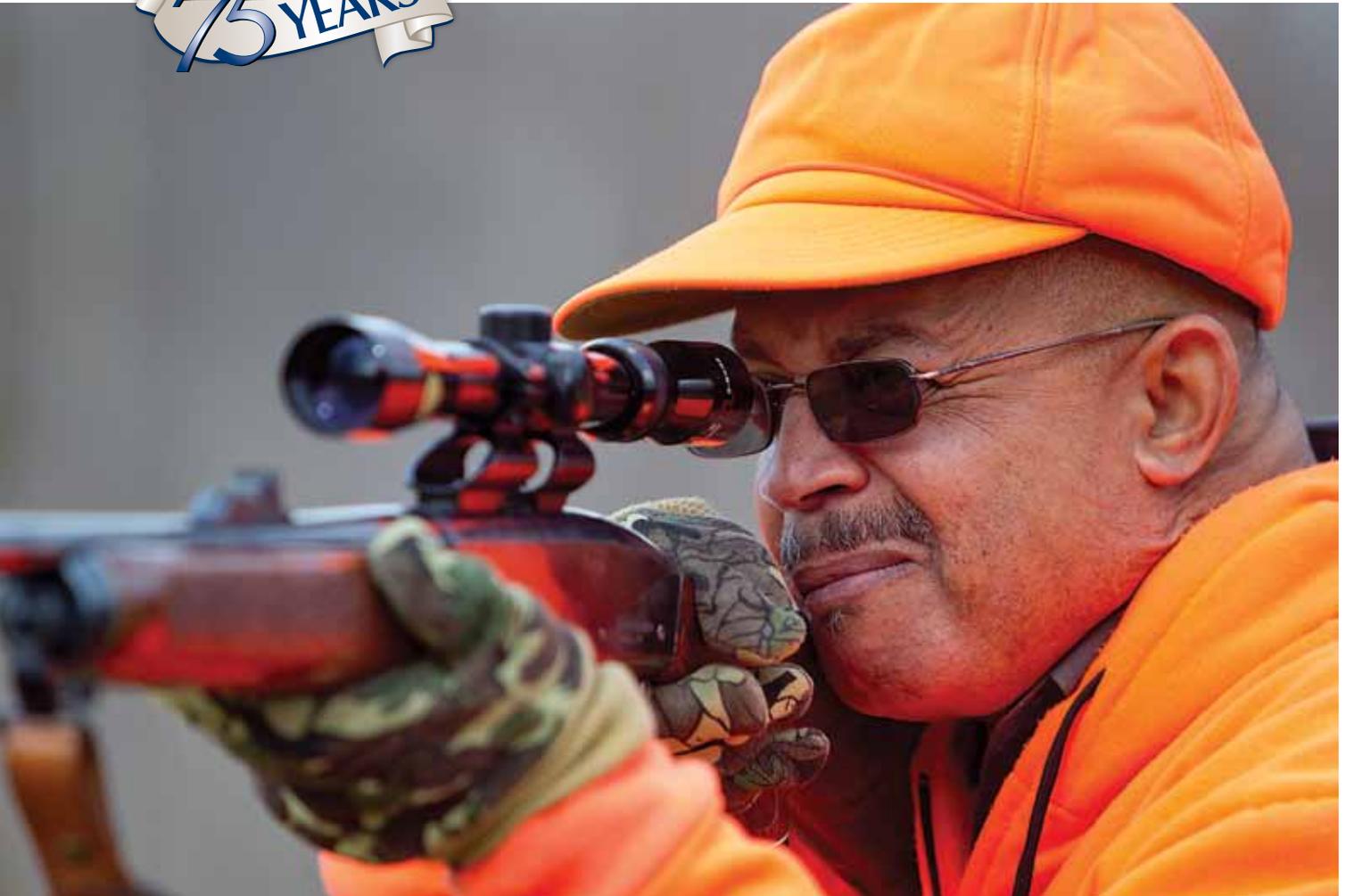


Lance Moore is the conservation agent for Lafayette County.

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



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I Am Conservation

"Conservation reaches out to all Missourians," says Jackie Womack, who grew up in the country near St. Louis and hunted and fished a lot in his childhood. "My brother and I would flush rabbits when we were kids," says Womack. "Us 8- or 9-year-olds could get more rabbits than my dad and granddad could get." Jackie raised his two children, Michael and Christina, to appreciate the outdoors through target shooting, hunting and fishing. Sports they still take partake in today. "The best thing about the Conservation Department is that it is available to all Missourians. Everyone can take part if they wish, from shooting clinics, places to hunt, ponds to fish and outdoors to explore." —*Photo by David Stonner*