

Fall Conservation

A photograph of a white-tailed deer with large, velvet-covered antlers. The deer is facing forward, looking directly at the camera. It is standing in a field of tall, dry grass and brush. The background is a soft-focus landscape with more vegetation and a hint of a blue sky.

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Wednesday, September 18, 2019
A SPECIAL SUPPLEMENT TO THE

Unterrified Democrat

DRIFTWOOD OUTDOORS



Trail cameras give glimpse into wildlife world

Most antlers have shed their velvet at this point, and trail cameras are capturing photographs of the bucks roaming hunting lands across the country. Eager hunters yearning to know what this year's herd has shaped up to look like pull cards and check, with fingers crossed, for a monster to pursue. In the past, finding out what deer



by **BRANDON BUTLER**

are on your property meant spending hours driving and glassing fields, or waiting and waiting on stand armed with nothing more than binoculars. These days, trail cameras do much of the hard work for you.

Trail cameras have been around for a long time now, but in the last couple of years they have really exploded in popularity. Most hunters I know are using some form of camera to monitor the deer on their property. They also can serve as security for rural properties.

Trail cameras are motion activated, so they take a picture of anything that passes by. The bells and whistles vary greatly on the countless different models of scouting cameras available. Some have flashes, others are infrared. Some take video, some don't. Some email pictures from the woods to your phone, while others simply capture to memory chips. Some models cost as much as a rifle, but many can be bought for under a hundred dollars.

Ultimately, you need to decide what features matter to you, but what I prefer is a camera with a good mega-pixel count, so

they take clear images, and the ability to capture video. I also like an internal picture viewing system. Most of the inexpensive cameras require you to remove the chips and take them back to your computer before you can view your pictures. I prefer to use cameras with a built-in screen, so I don't have to mess with transporting chips, because chances are I'll lose one.

Trail cameras are a tool, but more than anything, they're fun. Placing, monitoring, and removing trail cameras extends your hunting season. You may not be out there with a gun or bow, but in a sense, your hunting. Hunting for information. Hunting for excitement. Hunting for motivation. And you never know what you are going to capture a picture of. I recently captured an image of a bobcat carrying a snake in its mouth.

At this time of year, bucks are generally hanging in their home range. They're also in bachelor groups, so there is a good chance of capturing a photo containing more than one buck at a time. When the rut comes, and bucks start traveling all over, you'll pick up pictures of deer that may never step foot on your property again. So, from now until the rut kicks in during late October is actually the best time to run scouting cameras if your goal is to learn about your resident herd of deer.

A few places to setup your cameras to capture shots at this time of year are along agricultural fields, at water sources, around oak trees and in natural funnels. It doesn't take too many miles of dirt road driving at dusk or dawn to realize deer are feeding in bean fields right now. If you have beans on your property, set up cameras on major trails deer are using to enter and exit the field. If you have a pond or creek on your place, try to determine where deer are frequently drinking and set a camera there.

Running trail cameras is both fun and educational. It gets you out in the woods and helps build excitement for the coming season. Trail cameras are available just about everywhere hunting products are sold.

See you down the trail...

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White-tailed deer and the wild places they shape

Many a mushroom seeker, hunter, or curious youth has walked into unfamiliar woods and encountered a bare-dirt trail. Often, they follow the path, pulled along by the trail's open route, through brush, up a ridge, or across a creek. Turkeys, foxes, and turtles use these pathways, too.

People and creatures owe easier passage on such trails to white-tailed deer. Missouri's most popular wild herbivore is a creature of habit, their hooves repeatedly pressing into soil and making paths along travel routes they find safe or easy for walking. "They create an infrastructure for anyone or anything," said Joe DeBold, MDC urban wildlife biologist.

Deer help shape the wild places where they dwell in many other ways, too. A deer herd roaming a territory can influence species types and abundance — plants, trees, and animals — that people might see when they explore the outdoors. Deer are food for predators and scavengers. They provide nutrients for plants. Antlers shed by bucks in late winter are chewed on by field mice, which are preyed upon by owls. Deer are a keystone species, a species capable of profoundly affecting an ecosystem.

"They're one of the key indicators we have to know that nature's OK," DeBold said. "If we were to not see deer any more in Missouri, things would be drastically



wrong."

RESTORING DEER TO NATURE'S BALANCE

In the early 1900s, the state's deer numbers had dwindled to a small herd in the rugged southeastern Ozarks, survivors of over-hunting and habitat loss. Most Missourians never saw a deer or walked on a deer

trail before voters authorized the Missouri Conservation Commission in 1936. MDC's science-based conservation efforts, along with citizen support, helped restore deer statewide. Today, whitetails are once again contributors to nature's life cycles in nearly every Missouri ecosystem. "Probably the biggest thing they do is browsing," said Barb

Keller, MDC cervid program supervisor.

As they browse for food, deer can subtly or profoundly affect plant and tree species within a natural community. They are the largest wild herbivore that roams statewide,

WHITE-TAILED DEER continued on page 4B

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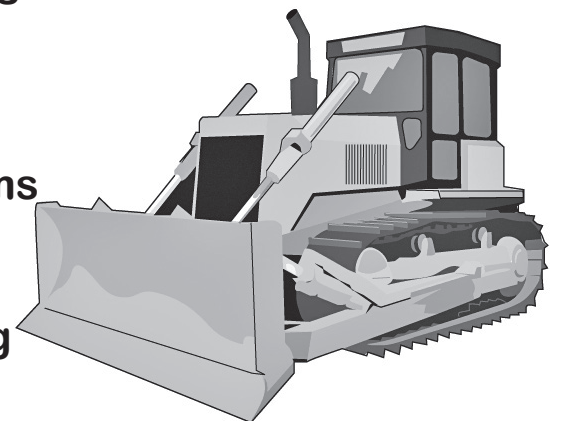
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WHITE-TAILED DEER

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reduce dominance by certain plant species, giving other plants a chance to grow. Plant diversity increases insect diversity, including pollinators, and insects are crucial food for birds and other wildlife.

“Quite a bit of research shows if done at the right level, their browsing creates more plant diversity in a natural community,” Keller said.

Deer promote plant diversity by spreading seeds. Undigested seeds in droppings can sprout in new places, and the feces provide fertility to boost growth. Plant seeds can stick to deer fur and be carried to new locations. Tick-trefoil provides great forage for deer, Keller said, and its seeds can stick to deer fur and ride to new places, perhaps scraped off on grasses as a deer beds down for the night.

Deer also add to soil fertility. They eat greenery and drink water, and the feces and urine deposited daily helps plants and trees grow.

KEEPING A BALANCE

Too many deer in an area can cause less diversity. Desirable native plants can be greatly reduced or eliminated from the ground cover. Deer also feed on buds and tender, moist limbs of shrubs and trees. In harsh winters, they will eat bark. That can set back the growth of young trees, such as oaks, needed for forest regeneration. In areas with overabundant deer, browse lines are sometimes visible where all understory plants and low limbs have been eaten in an area. This occurs most often in urban areas where predators are fewer and hunting opportunities are limited, letting herd numbers grow.

Keeping natural communities healthy with diverse plant life is one reason why it is important to keep deer numbers in balance with the carrying capacity of their habitat. Hunting is one of the main tools to control deer numbers. Hunters gain food, trophy antlers, and outdoor adventure. Special managed deer hunts in urban areas, like Kansas City’s Rocky Point Glades in Swope Park, have helped bring deer numbers into balance in some locations, DeBold said.

Deer are also food for furbearing predators.

Young fawns in spring and early summer often fall prey to bobcats, foxes, black bears, or coyotes. Predators can also sense weak or diseased deer and remove them from the herd, boosting deer herd health, DeBold said. Those predators and their health are important for the ecosystem, as they keep other species, such as rodents — field mice and wood rats — in balance.

Scavengers, such as turkey buzzards, bald eagles, crows, and carrion beetles, will feed on dead deer carcasses. Some fawns are stillborn or die soon after birth. Adult deer die due to age, disease, or accidents. They become important meals for scavengers.

Deer prove the axiom that nothing is wasted in nature. Buck deer shed their antlers in late winter. Mice and squirrels, being rodents, need something hard to chew on to wear down their teeth, so from the time of antler shedding in late winter they gnaw on antlers.

“From that they get calcium, and calcium makes them more nutritious for the creatures that eat them like hawks, owls, and foxes,” DeBold said.

WHERE DEER ROAM

The areas where deer affect ecology can be large or small. Deer can survive in small pockets of habitat in urban areas, but in rural areas they will move over wider ranges.

MDC biologists, in cooperation with the University of Missouri, are studying deer habits and survival in northwest Missouri and in the central Ozarks. They are trapping deer, outfitting them with GPS collars that communicate with satellites, and downloading data about their movements.

“There’s a lot of individuality in every deer that’s out there,” said Kevyn Wiskirchen, MDC private lands deer biologist.

In general, however, a buck deer will roam over 600 to 800 acres, Wiskirchen said. A doe will use 300 to 400 acres. At times deer are moving in herds. During fall rut, deer are moving more as individuals and at times will travel farther than usual through timber and fields.

“But within each home range, there will be a smaller core area where they spend most of their time near preferred bedding sites and high quality forage,” he said. “Deer prefer edge-type habitats where there’s the greatest amount of diversity. They look for certain plants and plant parts as forage. They like newer growth that’s easier to digest. Even in a closed canopy forest, they’ll look for

a place where a tree has fallen over and unusual plants have sprung up. They really like that diversity.”

In the large forests in the Ozarks, soft mast such as berries and hard mast such as acorns are critical foods to deer to help them prepare for winter. Mast feeds many other animals, too. Balance of deer numbers is important to ensure plants, shrubs, and trees that provide mast grow sustainably, including young oaks. “If the deer population is balanced and equal with habitat so carrying capacity is balanced, deer will help keep everything around them balanced as well,” DeBold said.

DEER DISEASE UPDATE

Missouri’s white-tailed deer herd is healthy when viewed on a statewide basis, said Barb Keller, MDC cervid program manager. But disease is a factor for deer numbers in local areas.

In 2012, dry conditions worsened a broad outbreak of hemorrhagic disease, a virus disease carried by a midge fly. When drought concentrates deer around water sources, disease transmission chances are increased.

“The 2012 outbreak hit the entire state hard,” Keller said. “The north Missouri population was hit particularly hard. That population is more vulnerable.” Hemorrhagic disease, also called bluetongue, is more common in southern Missouri. Deer there have built up more antibodies and resistance to the disease. North Missouri deer contract the virus less frequently, thus they have less resistance when it arrives. Deer populations

in some areas of the state have rebounded to pre-2012 numbers, Keller said. But in many northwest Missouri neighborhoods, deer numbers are still down, which might also be due to habitat losses.

MDC is battling chronic wasting disease (CWD) in partnership with hunters and landowners. The fatal disease, associated with misshapen proteins called prions, is contagious and affects deer and other cervids. It causes brain damage and is progressive.

Mandatory testing in some counties with confirmed cases and culling deer near hotspots to reduce transmission chances appears to have helped limit the disease. During late 2017 and early 2018, MDC tested 24,500 deer for CWD and found 33 new cases. That brought the total number of cases to 75 since 2001, when the first case was discovered in northeast Missouri.

“We’re lucky in that I don’t think CWD has had a significant effect on our state’s overall population,” Keller said. “We have CWD in a wide geographical area. But so far we’ve seen the prevalence to be low.”

A healthy deer herd is important to Missouri. Deer hunting is a treasured family tradition. Hunters move a billion dollars through the state’s economy. Wildlife watchers value deer, and deer are an important component in natural ecological systems.

MDC will continue to work with partners to keep Missouri’s deer herd healthy. For more information, visit short.mdc.mo.gov/Zch.

Don’t fight the bite

Hunting seasons are upon us, take precautions and be safe. Above average rainfalls and river levels have contributed to higher densities of mosquitos for recreational users. Be sure to protect yourself against nature’s most annoying insect. There is a myriad of different diseases that mosquitos proliferate. The most commonly known is West Nile Virus. The disease is transferred from the mosquito when you are bitten. Other diseases are also spread via mosquitos. There are many ways to combat mosquitos and make an outdoor adventure more fulfilling.

Citronella is a natural mosquito repellant and many stores sell candles that can be effective in keeping mosquitos away. Technology has also produced many sprays and lotions that will effectively keep mosquitos from biting you. My personal favorite is an item called a Thermacell. They are a small butane burner that heats a plate. On that plate sits a pad of repellant as the plate warms the repellant is distributed into the air. This creates a 15’X15’ mosquito free zone. It is EXTREMELY effective on our river bottoms here in Osage county. As always please be safe while recreating, you never know when your first time could be your last time. Your experience outdoors is only as good as you allow it to be.

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Enjoying the harvest

Missouri offers outstanding hunting, and hunters enjoy millions of days of recreation each year pursuing a variety of wildlife species. Hunting seasons also produce, for the lucky hunters, a tremendous source of high quality meat. For example, the result of a typical Missouri deer season is 13 million pounds of venison.

TAKING CARE OF THE GAME

Some people turn their noses up at wild game, often because of a bad previous experience in which they were served an awful-tasting piece of "gamey" meat. Usually the bad taste results from improper processing or cooking. The series of events from before the shot is taken to the table determines the palatability of the game.

What can you do to produce the best wild game meat? We can take some lessons from the domestic meat industry, which has developed handling procedures that produce marketable and high quality meats. Most of the following deals specifically with deer, but it also can be applied to other game.

BEFORE THE SHOT

The quality of the venison may be affected by the sex and age of the deer you take and what it had been eating. No doubt a young-of-the-year deer produces a more

tender cut of meat than one that is older. Does this mean that older deer, especially that old buck or bottle-nose doe are not edible? Absolutely not!

People often say, when a hunter brings in a big buck, "You better grind that one up into sausage." It is true that as deer get older, connective tissue—that tough stringy material that attaches muscle to bone—becomes more prominent. Muscle cell walls also become thicker, making the meat a bit tougher. In addition, the meat of rutting bucks may have a "stronger" flavor because of the stress of breeding season and a buck's production of strong glandular secretions.

There also is evidence from the animal sciences industry that diet affects flavor. For example, grain-fed cattle have a better flavor than pastured cattle, and the same could hold for deer, although in wild game the differences may be subtle.

Any sex or age of deer can produce fine venison, if you are flexible in your cooking methods. But if your primary goal is to put the highest quality meat on the table, you should select a younger animal or, if older, a doe.

THE SHOT

A quick and clean kill is the next step in ensuring quality meat. A variety of chem-

ical changes take place in the muscles of stressed deer, such as one that has run long distances. Waste products of enzymatic activity produce conditions that give the meat a stronger flavor and increase the rate at which the meat will spoil.

Shots that penetrate digestive organs are especially a problem. They often do not produce immediate death and result in digestive fluids spilling into the body cavity, potentially contaminating surrounding meat. The key is to take only shots that assure a quick, clean kill. This not only is responsible, ethical hunting, but it also results in better meals.

Field dressing—Your deer should be field dressed immediately, taking care not to puncture the digestive tract or the urinary bladder. Wipe the inside of the body cavity with a clean rag. This removes potentially contaminating material and minimizes bacterial growth.

Some hunters like to wash the body cavity with water to ensure a clean carcass. This may remove some potential contaminants, but the moisture enhances the environment for bacterial growth. If the deer is to be processed immediately or if the cavity has been contaminated with stomach contents, washing is OK; otherwise, do not rinse

with water.

If you drag your deer out of the woods, consider cutting up to—but not through—the chest cavity and pelvis to reduce the amount of dirt that enters the body cavity. When transporting, never tie your deer on the hood or other location where heat may build up and prevent cooling.


AGING

Hang the deer so that blood drains and the carcass is cooled to 50 degrees within six hours of harvest. Leave the skin on to keep the carcass clean and prevent it from drying out. Some people like to hang their deer from the hind legs, some from the head. Stretching muscle fibers in the process of hanging can have a tenderizing effect. Hanging from the hind legs may be best because this will stretch muscles in the hams, a major source of meat on a deer.

To ensure tender venison, do not freeze it within six hours of the time it was harvested. Some important chemical reactions stabilize the muscle within six hours of death, preventing a toughening process called "cold shortening" that happens when meat is frozen shortly after the kill.

ENJOYING THE HARVEST

continued on page 7B




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ENJOYING THE HARVEST

continued from page 6B

Does venison need to be aged beyond the six-hour period? The answer is no, if you plan on having all of your deer made up into deer sausage or ground meat, or if you do not have a place where the deer can be stored that maintains temperatures between 34 degrees and 40 degrees F. But if you have a good storage facility and enjoy many different cuts of venison, aging can be a benefit.

Aging is a chemical process in which natural enzymes break down cell walls, resulting in better cuts of meat. Most of this enzymatic process is complete within eight days; benefits of longer aging are negligible. In addition, there are increased risks of spoilage and reduced freezer life if meat is aged beyond eight days.

Processing—There are many ways to process and package your deer for long-term storage. One key concern is to remove as much fat as possible. Deer fat tends to be more saturated than fat in domestic animals, with a resulting higher melting point that gives it a "stick to the roof of the mouth" consistency when eaten. It also tends to have a stronger flavor.

Boning the meat by separating muscle bundles and filleting them from the bone may produce the best quality cut. Slicing by

sawing through bone tends to spread bone marrow and bone dust across the surface of the meat, potentially producing a bad flavor and increasing the rate of spoilage. If you do use a saw to make cuts, you should scrape the bone and marrow residue off the surface of the cut.

Soaking venison in salt water or other liquid is not recommended. Vacuum packing produces the most storable product, but wrapping tightly in a plastic wrap and then freezer paper will adequately protect from freezer burn.

COOKING

Cooking may do more to make or break flavor and tenderness of wild game than anything. Lack of fat makes wild game susceptible to drying while cooking. Many experienced chefs feel that fully cooked venison is unpalatable because it becomes tough and bland tasting.

Marinating or cooking for long periods with moist heat produces the most flavorful product. By undercooking one risks exposure to pathogens naturally present or introduced while processing. Ground meat especially should always be cooked thoroughly because in the process of grinding much surface area is exposed to potential pathogens.

Intact pieces of venison are less of a problem and the best choice for those who do not like their venison well done. To be safe, it is recommended that venison be cooked to an internal temperature of 160 degrees.

PRACTICAL HEALTH CONSIDERATIONS

Avoid eating large quantities of any type of meat, regardless of how lean it is. Most Americans consume about twice the amount of dietary protein they need. Two to three ounces of meat is a recommended serving size; it's about the size of the palm of your hand, or a deck of cards.

Use low fat cooking methods—broiling, baking, grilling or stewing—instead of frying.

Harvest plenty of fruits and vegetables along with your game. Start looking at meat as a "side dish" with whole grains, fruits and vegetables taking up a larger portion of your dinner plate. Try to eat at least five servings of fruits and vegetables every day.

Get at least 30 minutes of moderate physical activity on most days of the week. If hunting season is the only time you enjoy a hike in the woods, see your physician first, and then develop some regular heart-healthy fitness habits.

NUTRITIONAL VALUES OF GAME MEAT

Wild game could be a meat of choice for the health-conscious consumer.

Meats from most wildlife species hunted in Missouri contain concentrations of nutrients, such as protein, iron and lower amounts of total fat, saturated fat and calories. Compared to domestic animals, cholesterol tends to be lower in upland game, such as pheasants and rabbits, and higher in

deer, ducks and doves. All in all, wild game contains generous quantities of beneficial nutrients, while being low in total fat.

You might be surprised to learn that the cholesterol content of venison is higher than similar servings of beef and pork. Yet venison contains significantly lower amounts of saturated and total fat.

Although human blood cholesterol level is useful in assessing heart disease risk, it is not the only risk factor. The American Heart Association has determined smoking, a sedentary lifestyle and overall dietary habits play major roles in heart disease risk. Furthermore, the level of saturated fat in the diet affects blood cholesterol levels to a greater extent than simply the amount of dietary cholesterol consumed.

The United States Department of Agriculture recommends choosing a diet low in fat, saturated fat and cholesterol. Keep cholesterol intake below 300 milligrams per day, saturated fat to less than 10 percent of total calories and total fat to less than 30 percent of total caloric intake. On a 2,000 calorie per-day intake, that would mean keeping total fat to below 65 grams.

For safe food preparation, contact your local county extension office, or the USDA's Meat and Poultry hotline: (800) 535-4555.

For heart-healthy lifestyle habits, contact your extension nutrition specialist at your county Extension Office, or the American Heart Association.

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The tradition of trees

If planting hundreds of tree seedlings sounds like an impossible task, imagine thousands of Missourians doing that every year. Many have been at it for decades, passing the tradition down from one generation to the next. Some plant trees because they're trying to reestablish wooded areas on their property, or to improve wildlife habitat. Some are working to reduce erosion control. When asked, most say the same thing — they just like trees.

Those trees start out at the George O. White State Forest Nursery, which has been operated by MDC since 1947. The nursery is located just north of Licking in Texas County. While its original purpose was to provide shortleaf pine seedlings for the state's national forests, its mission has changed over time. Now most seedlings are sold to Missouri's private landowners.

"We have 754 acres of property where we grow about 70 different species of trees and shrubs, and almost all of them are native to Missouri," said Mike Fiaoni, nursery supervisor. "The variety and scope of our efforts is unusual for state nurseries, and you won't find many that produce as many species as we do."

Each year the nursery processes more than 10,000 orders and ships almost 3 million seedlings. To grow all these trees, the nursery collects or buys tens of thousands of pounds of seeds each summer and fall. For example, about 2,000 bushels (50,000 pounds) of walnuts, 6,000 pounds of white oak acorns, 12,000 pounds of shellbark hickory nuts, and 16,000 pounds of bur oak acorns are needed just to establish seedlings for these four species.

"Missouri's private landowners are responsible for most of the state's forests and woodlands," said Fiaoni. "The nursery is here to support their efforts to keep their woodlands healthy and growing for decades into the future."

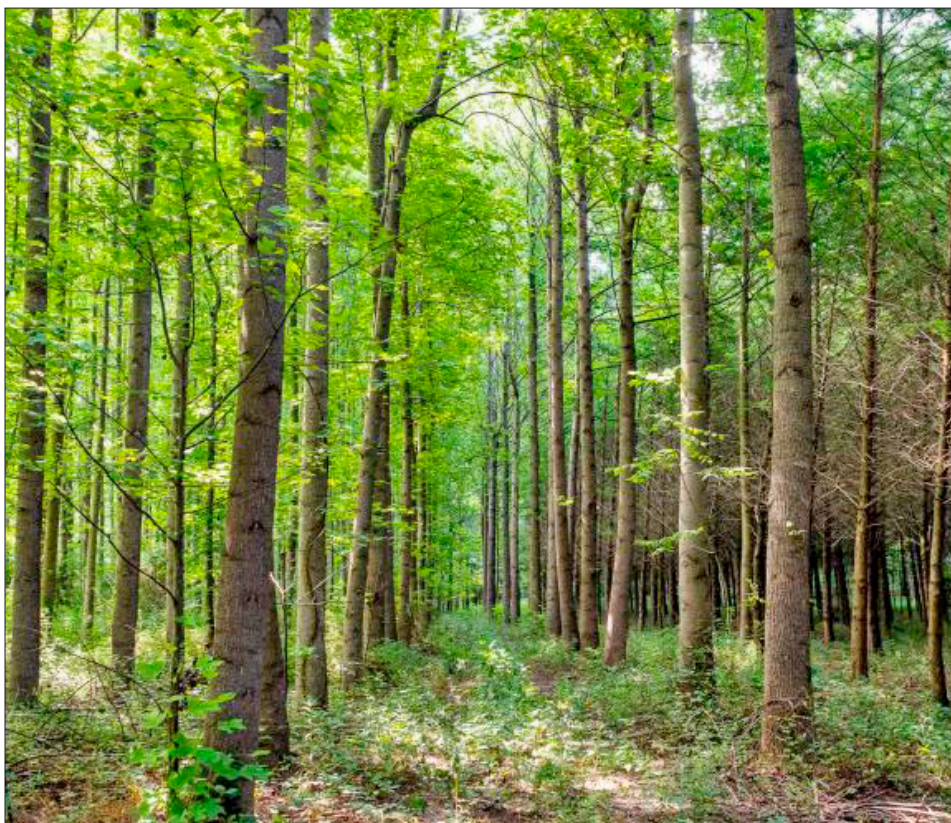
Planting seedlings is a low-cost way to improve the landscape, whether you have acres of property or just want to enhance the yard around your home. Depending on the quantity of seedlings purchased, the prices range from 22 to 60 cents for pine seedlings and 36 to 90 cents for hardwoods and shrubs. It's a bargain that many landowners take advantage of year after year.

"I became nursery supervisor in 2017, and one thing I realized right away is that people love these tree seedlings, and they come back year after year for them," said Fiaoni. "I believe it's because the staff here take pride in their work and deliver quality seedlings to Missourians every year."

SECRET TO TREE SUCCESS

Lawrence Buchheit has been buying seedlings from the nursery for over 30 years. His connection with the Missouri Department of Conservation isn't just limited to the nursery. He was an MDC employee for decades, taking care of conservation areas in the southeast part of the state.

His love for trees started when he was young. Growing up in a rural area, he spent



a lot of time outdoors. His father taught him the value of trees.

"He told me a tree isn't just a tree," said Buchheit. "Every tree has its place. Every tree has a purpose."

After retiring from MDC in 2001, Buchheit and his wife, Shirley, started their own reforestation business, planting trees for other landowners. They had an eight-person crew and planted thousands of trees across southeast Missouri. He attributes his success in that venture, in part, to the nursery in Licking.

"I would order all the seedlings on behalf of the landowners I was working with," said Buchheit. "Year after year, the people working at the nursery were always helpful and organized."

Buchheit said there's no way he could have planted all those trees without the nursery. There was no other place to get the variety and quantity he needed. He still orders seedlings each year to plant on his property.

Regardless of whether he's working on his 93 acres of woodlands or when he was

working on other's properties, his objective is the same. He plants trees because trees are necessary for the environment — for clean air, clean water, and for soil conservation.

Buchheit has no plans to stop, and now he gets the whole family involved. He encourages anyone who wants to get started planting trees on their property to plant a variety of species, including shrubs. He also has some tips for keeping the seedlings alive.

"Make sure you've got the soil tightly packed around the tree roots, or the voles and mice will come for them," he said. "If you can, dip the seedling roots in a solution that helps preserve moisture, and try to manage the weeds."

WORKING WITH SHORLEAF PINE

Mark Nikolaisen's experience with seedlings might seem a little contrary to what one would expect to read in a story about planting trees. Nikolaisen has been working on his property in Phelps County near Maramec Spring for almost 17 years. He has invested plenty of hard work to improve the mostly wooded acreage and

has planted over 1,300 seedlings.

"My goal for the property has been to provide food and shelter for a variety of wildlife, and I also wanted to establish a few shortleaf pines since my acreage is on the northern part of their natural range in Missouri," he said. "The nursery seedlings are an affordable way to do that, but you have to put in the effort to get your plan moving forward."

Unfortunately, nature can be tough on his trees. Hot and dry summers, insects, and especially the deer have claimed many a seedling. Tree protection tubes, bamboo stakes, and, as the seedlings get a bit bigger, 4-inch plastic drain pipes have helped more trees survive.

While the shortleaf pine survival rate hasn't been what he would have liked, other tree species are doing well, including persimmon and black walnut trees in the woodland valleys. For Nikolaisen, the seedlings are one part of his effort to manage his property.

Nikolaisen's reason for planting trees is one piece of his overall plan to keep improv-

TRADITION OF TREES

continued on page 9B

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TRADITION OF TREES continued from page 8B

ing his property. He wants a diverse natural area that provides good habitat for all sorts of wildlife. He's built brush piles for rabbits and he's seen bobcats and foxes. Deer are plentiful and his interest in hunting them has changed a bit over the years.

"If I see a mature deer and I get a clean shot, I'll take it, but as I get older, I just enjoy seeing wildlife using the land," he said. "Planting seedlings and taking care of the property is the reward itself."

START YOUR OWN TREE-DITION

Seedlings can be ordered each year, starting Sept. 1. Check out the seedling order form included in this issue, or order online at mdc.mo.gov/seedlings. Order early for the best selection because certain species sell out quickly. Seedlings ship in the spring.

A few tips to remember when you order: Think about what trees and shrubs would best meet your needs. Consider the size of tree you want to plant, your site's soil condition and sun exposure, and the proximity to buildings, overhead wires, and other obstructions. Plant the right tree in the right place.

"CENTENNIAL CELEBRATION BUNDLE" CELEBRATES 100 YEARS OF STATE FORESTRY

This year marks the 100th anniversary of state forestry agencies in the United States, and the George O. White State Forest Nursery is helping the National Association of State Foresters celebrate by offering a special centennial bundle. The bundle will include 100 seedlings total and will be available in 2019 only. It includes 10 each of 10 different species that represent the various reasons for planting trees and shrubs and the benefits they provide. The species include deciduous holly and wild plum for wildlife habitat, false indigo and buttonbush for pollinators, witch-hazel and ninebark for erosion control, eastern redbud and bald cypress for urban beautification and shade, and white oak and black walnut for forest products.



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Nature goes nuts

When you're walking in the woods this fall, you're likely to kick up some acorns. These capped containers of energy are the seeds of oak trees. In fact, one oak can drop 10,000 acorns in a growing year. Some take root and grow into mighty trees, but others become groceries — or homes — for wildlife. Let's look at six Missouri oaks and acorns and the critters that go nuts for them.

BUR OAK

Also known as mossycup, the bur oak bears the only native Missouri acorn with a characteristic fringe. It's also the state's largest acorn, measuring ¾-2 inches long. Many kinds of animals (including humans!) eat the mossycup, but the little acorn weevil grub lives in it. Once the grub exits the acorn, it burrows into the ground to become a skinny-nosed brown beetle.

CHINKAPIN

This acorn has a bowl shaped cap that is thin and hairy, and the scales are small and flattened. Sweet chinkapin acorns serve as crucial winter food for wildlife, especially the whitetailed deer. One deer can eat as

many as 300 acorns a day!

ACORN ID

Size, color, shape, and texture are some of the things to note about the acorns you find. The cap, including the stem, is the part that covers the nutshell, and it's usually easy to snap off. The cap has its own features to study, especially the scales. In the bur oak's case, the scales along the edge of the cap produce a mossy fringe. If you can ID the acorn, you can ID the kind of oak it fell from.



SWAMP WHITE OAK

You might find these acorns in clusters of one to three. The cap covers about half the nut. It has flattened scales, and sometimes a short fringe on the border. Blue jays gather and bury only the best, weevil-free acorns they can find. Scientists give the birds credit for helping spread oak forests after the last ice age, about 11,000 years ago.

DID YOU KNOW?

Blue jays have expandable throat pouches that can hold up to five acorns at a time!

PIN OAK

The acorns of this member of the red oak family are small, striped, and round. The shallow cap covers about one-quarter of the nut. Although they're bitter, they last longer than white oak acorns. This may explain why squirrels will eat white oak acorns but store pin oak acorns. Gray squirrel

DID YOU KNOW?

Squirrels may store and fail to dig up nearly 75 percent of the acorns they bury. Why? Lots of predators eat squirrels, so they may not live long enough to clean

out their pantries.

NORTHERN RED OAK

These acorns are barrel-shaped and hairy at the cap end. Many kinds of wildlife, including blue jays, woodpeckers, mice, squirrels, raccoons, deer, and especially turkeys depend on these long lasting nuts for winter food. If you find a patch of bare ground with V-shaped marks, you know turkeys have been scratching for acorns.

SOUTHERN RED OAK

This small, round, faintly striped acorn looks a little like a pin oak acorn, but the cap covers more of the nut. Raccoons are among the many kinds of wildlife that snarf down this bitter but nutritious acorn in the fall and winter.

WHITE OAKS AND RED OAKS

Missouri's 19 kinds of oaks fall into two groups — white and red. White oaks include post, bur, swamp white, chinkapin, overcup, dwarf chestnut, and swamp chestnut oaks. Their leaves are rounded and lack bristles. Their acorns mature in one year, and they are sweeter than red oak acorns. Red oaks, also called black oaks, include the true black oak, the northern red, southern red, pin, shingle, willow, water, blackjack, cherrybark, Shumard, Nuttall's, and scarlet oaks. Red oak leaves have little bristles or spinelike tips at the ends. Red oak acorns take two years to mature and they are very bitter.

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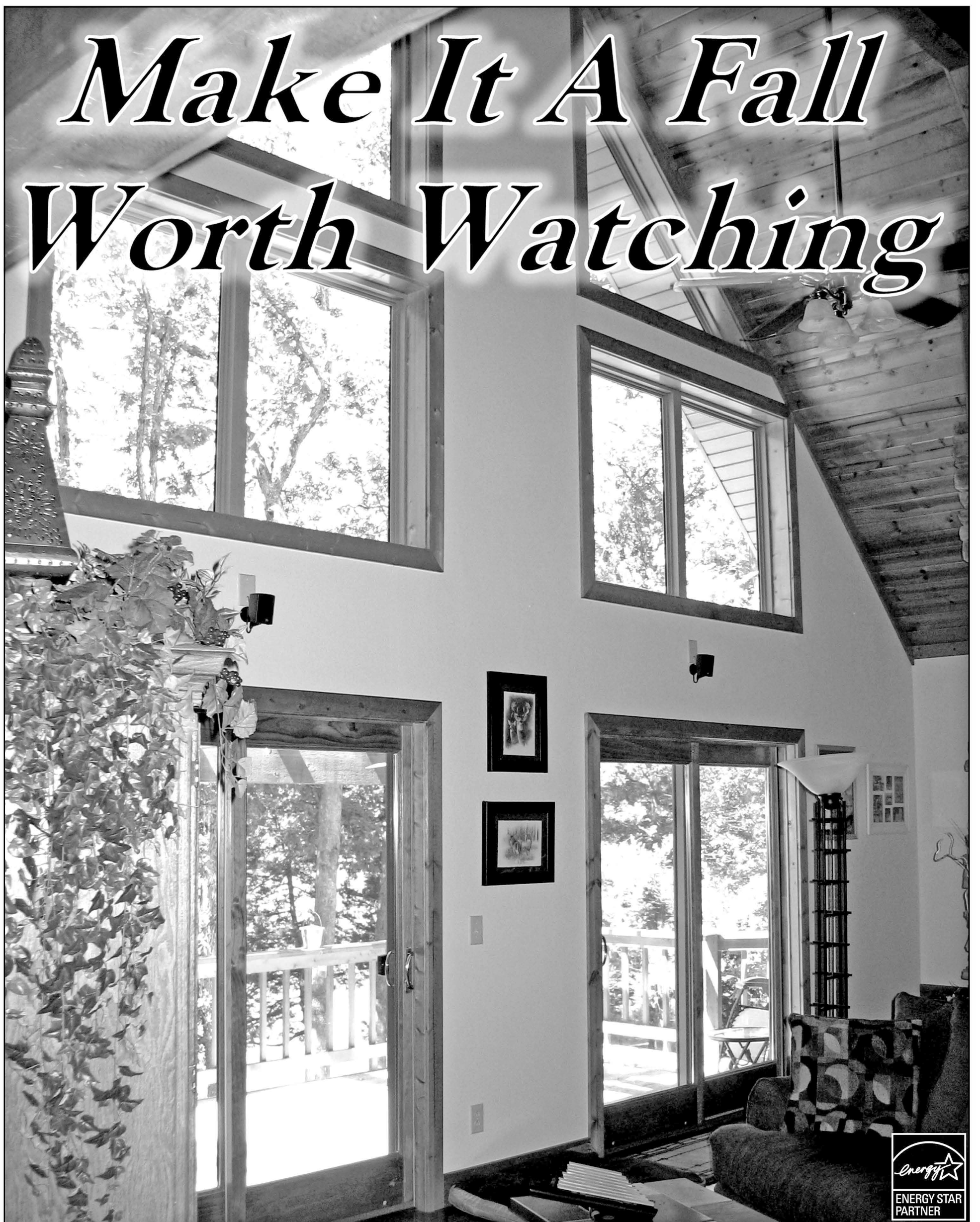
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OUTDOORS IN THE OZARKS

An exploratory tip

On one of the hottest days of early September, we journeyed up the Sac River to see if any of the big hybrids had moved into the river yet. I should have known it was too early. They'll be there in the cooling waters of October.

But there is a goose season early in October and we found one heck of a flock of geese out in the green fields along the river, partially flooded with high water. There were 60 some in one photo I took, and another 200 or so along the river elsewhere. I have 18 of the 'bigfoot' Canada goose decoys I haven't used in awhile and another 30 or 40 'shell decoys' to set out.

What a spread I will have during that special October season, if those Canada's don't decide to move southward. Most of the geese you see here raising young goslings during the summer stay well into the winter, and sometimes never migrate at all.

Also saw a lone osprey, once a very unusual sight in the summer Ozarks. Now there are several which nest here and stay well into the winter not far from where they nest. When I was a youngster seeing an osprey or an eagle was like seeing a nun in the pool hall! They are a fascinating bird that does some real aerial acrobatics on the wing at times over the water.

There were also some blue-winged teal, early migrators for which there is a special hunting season for two weeks in mid-September. I love to hunt teal, one of the smallest of the wild ducks and also one of the best eating of all waterfowl. They will be here in good numbers when we have some 50-degree nights and days that stay in the sixties, with a good north wind to ride.

Along the river there were lots of snowy egrets, maybe more than I have ever seen, and they are next to impossible to get close to. But I got a good photo of one by easing my boat along behind the cover of brush along the shore. I know that with the space problem most newspapers have you might never get to see the photos I send them each week, so you can use a computer to see them on a website by printing in larrydablemontoutdoors. We put some controversial stories on there each week, which newspapers hesitate to print. Be sure and see the letter about the MDC telecheck system being used to target deer hunters. It is a letter sent last year by an MDC agent and if you use the telecheck system, you had better read it. There will also be news about CWD given to me by a Texas researcher and biologist just last week. It will be on that blogspot soon, as will news from an Arkansas biologist about 680 cases of the disease found in a handful

of north Arkansas counties, and a map of where they were found.

There is a great deal of controversy between what the Missouri Department of Conservation wants known and what you see in Arkansas. One report I got says that in 2018 seven people died of the TSE disease in that same region. I am going to report on those deaths in that blogspot.

What you can read here is my analysis of a beginning migration season. The time for nesting and reproducing and raising young is coming to an end. The killdeer that nest and raise fledglings in a field next to Lightnin' Ridge seldom fly any higher than ten feet off the ground, but I watched a couple of them in staging flights this past week, flying about 50 feet high, getting ready to move south soon.

You know what comes with the migrating of the birds and butterflies? Good fishing! Those cooling waters make fish start to move shallower and upstream, in the case of white bass and hybrids especially. That isn't exactly a migration but it is something similar. Last October, below some flowing shoals one cool day, I hooked more than a dozen hybrids that were all in the eight- to ten-pound size and lost five really good lures because I was using line that was just too light to pull them out of obstacle-strewn water.



by **LARRY DABLEMONT**

But if the Good Lord is willing, I will spend a few days in northern Manitoba within the next month, watching the incoming thousands of migrating wild ducks and geese that will likely be visiting the lower Midwest in early December. It might get cold but it never gets old. Again, I urge you to see that blogspot, larrydablemontoutdoors, and learn some things that cannot be printed elsewhere. If you intend to hunt deer or eat venison this year you need to read this. By the way, another article on solutions to conservation problems, which I have proposed to the director of the MDC, will be coming in columns in the next few weeks.

If you want to get a copy of my magazines, the Outdoor journal or the journal of the Ozarks call my office, 417 777 5227. Write to me at Box 22 Bolivar, Mo 65613 or email lightninridge47@gmail.com

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Bountiful, beneficial black walnuts

Every fall, the limbs of thousands of Missouri eastern black walnut trees release a treasure trove of sustenance. For hundreds of Missouri families, harvesting black walnuts — a wild, native crop — is a tradition spanning generations.

CONTINUING THE TRADITION

Every fall, Brent Rutledge, 50, takes a breather from his Cedar County cow-calf operation to harvest the nut crop from his family farm. Once collected, the nuts are delivered to the Hammons Products Company in Stockton where they are processed for sale.

"I remember doing it as a school kid — my mom gave me money for it — and I turned it into a tradition for my own family," Rutledge said. "It's something we could do together for a couple of hours after my kids (now college aged) got off the school bus."

For Rutledge, it's not a main source of income, but a way to support his extended family — his brothers work at the Hammons plant — and save for Christmas.

Unlike other nut crops that grow in carefully tended orchards, eastern black walnuts grow naturally in the woods, pastures, and yards of the east-central United States. Every fall harvest, Hammons purchases millions of nuts from more than 200 hulling stations in a 12-state area. More than half of those buying stations are in Missouri.

GROWING AND PROCESSING BLACK GOLD

The trees can be grown either plantation-style or cultivated in the wild. Nuts from improved varieties produce higher yields compared to uncultivated wild trees and are purchased by Hammons Products at a higher rate.

The reasons people hand-forage the crop every fall are diverse, said Brian Hammons, CEO.

FFA clubs collect the nuts to raise funds to support their activities. Families use the money to pay for vacations they otherwise couldn't afford. Parents use it as a way to teach their kids a work ethic. Homeowners just want to be able to mow the yard again.

"I've heard all kinds of stories," Hammons said. "Some people need the money and pick up thousands of pounds every year. The money they earn pays for shoes and winter

coats.

They're very resourceful."

Stockton grocery store owner Ralph Hammons launched the company in the mid-1940s when he purchased a cracking machine and began to buy the nuts from the locals. Today Hammons is the world's primary hulling purchaser, processor, and distributor of black walnuts.

The company uses a proprietary process to crack and remove the hard shells. Once separated, the nut meats are sorted, sterilized, and packaged for sale. Every part is used, including the tough outer hull, which is ground into fine pieces and included in products such as abrasive cleansers and exfoliating cosmetics.

The nuts — high in protein, antioxidants, and unsaturated "good" fats — are also distributed via grocery chains such as Walmart, Kroger, Costco, and Sam's Club. "Ice cream is our big market," Hammons

Unlike orchard-grown English walnuts, black walnuts have an intense flavor.

The company engages in marketing campaigns and social media outreach efforts to educate the public on how to use the nut.

"It's a bit of an acquired taste," Hammons said. "But knowledgeable foodies appreciate the flavor, which is complex, bold, and robust. When you get a black walnut, you know you are getting a unique, native Missouri product that has a lot of historic tradition."

Eastern black walnuts are an alternate bearing crop, which means they produce a larger crop every other year. Some years, the company can only purchase 10 million pounds, other years, up to 30 million pounds are harvested.

"We try to buy as many as we can because the next year there's a good chance the harvest will be down again," Hammons explained.



BOUNTIFUL, BENEFICIAL BLACK WALNUTS
continued on page 16B

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Watching wildlife

A heavy fog brought the sky down and closed us in. Snow geese banked their flight and set wings and feet for a landing in the pool beside the viewing tower. I shouted a greeting over the deafening honks to the person near me.

There were hundreds of thousands of snow geese at Squaw Creek National Refuge that weekend, and I was in the thick of them, watching, observing, absorbing every sound, smell and sight. Hours went by like minutes. Hundreds of visitors came past and many lingered, amazed, not wanting the moment to end.

Wildlife watching provides perspective on a great and powerful world. To most people, watching wildlife is, a wonderful escape from routine, fax machines, e-mail and all those little emergencies.

Missouri has a wealth of opportunities for watching wildlife, and they only require being in the right place at the right time. There's nothing scientific to watching wildlife, but a few techniques can maximize your discoveries while minimizing your impact on nature.

PLAN THE ADVENTURE

Oh, where to start! To help you learn about locations and available activities, the Conservation Department offers the Missouri Conservation Atlas, Missouri Nature Viewing Guide and Outdoor Missouri Map.

When you're planning, don't try to pack too much into a trip. A couple of nearby areas for a day trip is probably the best compromise. Call ahead to the site, where you can, and ask about migration activity in spring and fall or possible restrictions due to hunting seasons and migrations.

Take into account local conditions and weather. If you're going to a wetland, stream or prairie in summer, don't forget insect repellent. Come prepared with clothing and footwear to suit the trip. Remember that many roadways to wildlife are unpaved and that conditions are usually primitive.

TIME OF DAY

Visit sites when animals are likely to be busy. In general, most species (especially mammals) are active in the hour before and

after sunrise and sunset.

The peak of songbird activity begins one-half hour before sunrise and continues for four hours into the morning. Hawks and falcons are easier to view in midday as the air warms. Insects, amphibians and reptiles like the heat of a summer day, too. Nighttime offers "sound" rewards from owls and coyotes. See if you can find a sunrise and sunset chart in a calendar or almanac to improve your timing.

KNOW THE SEASON

Spring and fall are busy seasons for wildlife. Carnivores and rodents breed in spring and are most active from March through June. Birds are in their brightest plumage in spring and ready to find a mate. Courting behaviors, such as the booming of prairie chickens or the strutting of turkeys, can be exciting to witness. Nocturnal animals, especially owls and flying squirrels, are active in summer at twilight. Fall migrations of waterfowl, shorebirds and raptors are more dramatic and longer lasting than spring migrations.

Call ahead to a site if you want to catch peak migrations of waterfowl, shorebirds or bald eagles, for the weather can quickly change viewing conditions. Eagle watching is most spectacular December through early February in Missouri. White-tailed deer and wild turkey bunch in winter; watch for small groups of them feeding in openings or fields late in the day.

If you have a bird feeder, you have probably learned that storms can be good for viewing wildlife, with peak activity before and after rain or snow. For night calls, owls begin in late January, while coyotes and foxes are good listening from December through summer.

TOOLS

Outfitted with just a couple of field guides and binoculars, you have the basic tools to make your trip exciting. A spotting scope is especially helpful for water birds. Use binoculars or a scope to scan open areas, hillsides, bluffs, lakes and stream banks.

Look in bookstores for field guides to birds, mammals, plants and others. Half the

fun of seeing and identifying a new species is reading about it afterward to learn more of its habits and habitats.

Learn about the habitats you're going to visit. Most field guides have general habitat descriptions in the front. More specific references are available about primary habitats in the state including forests, grasslands, river bottomlands, rivers and streams, wetlands and caves and springs.

Cassette tape recorders can help you capture and learn bird songs and frog calls. Don't forget your camera.

OBSERVATION SKILLS

Stop, look and listen as you go. Hike into the wind and avoid noisy ground covered with leaves and sticks. Walk slowly and quietly. Wear clothes that blend with the habitat. Sometimes using your car, truck or boat as a viewing blind is less disturbing to wildlife and allows you to watch animals go about their routines.

A pond or stream bank is a good place to sit and watch for wildlife coming and going. When you enter an area, you'll probably disturb the animals, so give them 10 to 15 minutes to lose their fear and return to their activities.

Think again about habitats and learn where to look for particular species. Make

note of habitat conditions and observe closely. You may even want to keep a journal or create some habitats in your own yard.

A fresh snow in winter can be wonderful for observing wildlife signs. Many mammals, such as bobcat, river otter and beaver are active at night and hard to see, but they leave signs behind, such as tracks in snow or mud. Keep an eye out for scat, fur and gnawed or trampled vegetation.

Visit nearby nature centers or visit with naturalists about wildlife watching. Attend a meeting of the local chapter of the Audubon Society or some other outdoor organization. Most of these groups offer guest speakers, workshops and field trips to view wildlife.

ETHICS

While watching wildlife, try not to interfere with their daily activities. If an animal is jumpy, you're probably getting too close. To keep from disturbing young animals, stay away from nests or dens while animals are rearing their young. If you find young animals alone, the parent is likely nearby and will return. Feeding, handling or chasing wildlife can be harmful to you

WATCHING WILDLIFE
continued on page 15B

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MDC will raise trout permits and tags starting in 2020

New pilot program at Maramec Spring Park will increase limit to five trout for \$5

The Missouri Department of Conservation (MDC) will raise the prices of its annual trout permits and daily trout tags starting in 2020. According to MDC, the price increases are needed to better cover its costs of running hatcheries and providing more than 1.7 million trout each year for public fishing. The prices have not been raised since 1999.

Starting in 2020, the cost of an annual trout permit will go from \$7 to \$10 for anglers 16 years of age and older and from \$3.50 to \$5 for anglers ages 15 and younger.

Also starting in 2020, the cost of a daily trout tag to fish at three of Missouri's four trout parks -- Bennett Spring State Park, Montauk State Park, and Roaring River State Park -- will go from \$3 to \$4 for adults and from \$2 to \$3 for those 15 years of age and younger.

Starting in 2020, MDC will begin a pilot program at Maramec Spring Park where the daily limit will be raised from four to five trout and the cost of a daily trout tag for adults will go from \$3 to \$5 and from \$2 to \$3 for anglers 15 years of age and younger. MDC has received public comments requesting the daily-limit return to five trout. Prior to 2004, the daily limit at the four parks was five fish measuring an average of about 10.5 inches. Today, the limit is four fish averaging about 12.5 inches. As a part of

the Maramec Spring Pilot, the Department will maintain the current stocking size and daily stocking allotment. The possession limit will remain twice the statewide daily limit, except at Maramec Spring where the possession limit will be ten.

"The five-fish-for-\$5 pilot at Maramec Spring will allow us to survey anglers to determine their level of satisfaction," said MDC Director Sara Parker Pauley. "Gathering input from our anglers and area users is critical as we look at ways to recruit new anglers."

The price increases were given initial approval by the Missouri Conservation Commission at its May 23 meeting. As part of the rulemaking process, MDC asked for public comments on the changes during July. The Commission considered input received and approved the price increases and instructed MDC to initiate the pilot "five fish for \$5" at Maramec Spring Park during its Aug. 23 meeting. The effective date for all trout changes will be Feb. 29, 2020.

A trout permit is required to possess trout, except in trout parks where a daily trout fishing tag is required during the catch-and-keep season. In addition, a trout permit is required for winter fishing in trout parks during the catch-and-release season and for fishing year-round in Lake Taneycomo upstream from the U.S. Highway 65 bridge.

To fish for trout, anglers must also have a fishing permit or qualify for an exemption.

MDC raises trout at five fish hatcheries and releases about 1.7 million trout around the state for public fishing each year. According to MDC, the annual cost of fish food and staff labor to raise a trout in 2003 was about \$1 per fish. The annual cost in 2017 had jumped to nearly twice that amount.

Those five fish hatcheries -- Bennett

Spring, Montauk, Shepherd of the Hills, Roaring River, and Maramec Spring Park -- also require regular maintenance, and several have been damaged numerous times in recent years by spring flooding. MDC has spent more than \$11 million over the past decade on repairs and improvements to the hatcheries. MDC also reports that utility costs for the five hatcheries have increased by more than 25% since 2008.

WATCHING WILDLIFE

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and the animal.

If you're visiting a public area with marked trails, remain on pathways or in designated areas. Keep a leash on any pets with you or, better yet, leave pets at home. Honor the rights of landowners and ask permission before entering private property.

Watching wildlife can be addictive. The more you go, the more you'll want to learn about animal activities and habitats. Missouri offers a variety of habitats, from big rivers and swamps to prairies and forests. Discover all of these as you enjoy our state's wildlife. triangle

WILDLIFE WATCHING SITES

Following are a few places where anyone can go to see wildlife.

Squaw Creek National Wildlife Refuge, Mound City, has fall migrations of snow geese, ducks, hawks and bald eagles, and spring migrations of shorebirds and marsh birds. An auto tour provides views of prairie marsh mammals.

Fountain Grove Conservation Area and Swan Lake National Wildlife Refuge, Sumner, have spring and fall migrations of ducks, geese, shorebirds and pelicans. Look for river otter and water mammals year round.

August A. Busch Memorial Conservation Area, St. Charles, has waterfowl, songbirds, deer and small mammals in all seasons, and

wading birds and reptiles in warmer months.

Ruth and Paul Henning Conservation Area and Shepherd of the Hills Fish Hatchery, Branson, provide glimpses of Ozark wildlife. Henning has glades of wildflowers in spring, while the fish hatchery's trails help you observe trout, waterfowl and raptors.

Prairie State Park, Lamar, is a scenic prairie with a bison herd and prairie chickens. Summer wildflowers, butterflies and songbirds provide color in the grassland.

Mingo National Wildlife Refuge and Duck Creek Conservation Area, Puxico, have cypress swamps in which you can see waterfowl, songbirds, fish, river otters and nesting and wintering bald eagles.

NATURE VIEWING GUIDE

Send for your copy of the Nature Viewing Guide, which lists 101 of Missouri's most spectacular nature viewing sites. The book's easy-to-read format lets you know at a glance what awaits you at each area -- everything from restroom availability to what animals you may see. Color photographs give you a preview of some of Missouri's most interesting plants and animals. To order, send \$3.50, plus \$2 for shipping and handling (Missouri residents should add 22 cents for sales tax) to: Missouri Department of Conservation, Fiscal Section, PO Box 180, Jefferson City 65102-0180.

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Bountiful, beneficial black walnuts

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EASTERN BLACK WALNUTS' UNTAPPED POTENTIAL

Nuts aren't the only value eastern black walnuts provide. The species represents an opportunity for landowners to realize a new stream of revenue — if they are willing to manage stands of the high-value trees and be patient, said Harlan Palm, a walnut tree farmer and member of the National Walnut Council (NWC).

Palm got started in 1973 when he read a Farm Journal article about thieves stealing the trees from Iowa farms.

"I knew then that walnut trees must be worth raising if the value is so great that someone wants to steal them!" he said. He soon purchased 30 acres of forested land in Callaway County.

On Palm's farm, the previous owner pastured livestock in the creek bottoms. Palm took the farm in a new direction, pruning young, volunteer walnut trees, culling ones with poorer form, and eliminating invasive brush species. Palm has benefited by managing the growth of black walnut trees, and he thinks that, with more knowledge, other landowners also could.

"There's definitely an untapped potential," Palm said. "Walnut timber is the most valuable timber you can raise in Missouri."

According to the U.S. Department of Agriculture (USDA), walnut timber in the United States is valued at \$530 billion.

Current national walnut prices are very good. In 2015 and 2016, the price of high-quality walnut has risen to almost \$2,800 per thousand board feet — the highest prices since 1970. The price of "stumpage" — what a logger is willing to pay for a standing tree — is also the highest it's been since 1990.

When foresters evaluate trees, they look for 17- to 22-feet of relatively straight trunk unencumbered by limbs.

"We're typically looking for logs without blemishes, knots, or branches," explained MDC Forest Products Program Supervisor Mike Morris. "And bigger is better because the veneer potential increases with the size of the tree."

He noted black walnut is Missouri's most valuable species and the export market particularly to China — is supporting the industry. The U.S. housing market, which uses walnut in higher-end homes for trim, beams, millwork, and flooring, has not rebounded yet from the 2008 crisis, Morris added.

With work and attention, Palm believes landowners could realize a 10-fold increase by pruning saplings to create taller, straighter trees. "If the pruning is done properly, it could be 60 to 65 percent qualifying for veneer-potential, rather than just saw logs for lumber," he said. "Pruning is

essential to increasing value."

To learn more about pruning techniques, contact MDC's Forestry Division at mdc.mo.gov or the National Walnut Council (NWC) at walnutcouncil.org.

THE PROMISED LAND

Growing black walnut timber can take 50 to 75 years, depending on soil type and landscape, so it's not a get-rich-quick scheme.

But it can be a way to nurture income for the next generation. Although the prospect is not without work, creating a stand of high quality walnut timber isn't insurmountable.

And Missouri landowners have an edge. With twice as many eastern black walnut trees as any other state, Missouri is "way out in front in the number of walnut trees," Palm said.

WHY DOES MISSOURI LEAD THE NATION?

Partly because Missouri's temperate weather and soil types are well-suited to this valuable, native crop. And partly because the glaciated plains of Illinois, Indiana, and Iowa are so productive, agriculturally, that only rarely has farmland in those regions been allowed to revert to its natural landscape. In Missouri — where crop farming conditions are less ideal and agricultural practices have changed over time — small, odd-shaped tracts of cropland and pasture increasingly lie fallow today, Palm said.

"These tracts were farmed for decades, but now are idled because they are too small or too difficult to reach with modern, larger field equipment," he explained. "The old two-, four and six-row planting and harvesting equipment fit such fields very well in the past. But today's 60-foot-wide equipment no longer fits." Harlan has met farmers who felt abashed they no longer farmed areas their grandfathers planted. But when they learn those areas are suitable for growing walnut trees, they're intrigued, he said.

THE NECESSARY INGREDIENTS

Black walnut trees require full sunlight to thrive and do best on deep, fertile, well-drained soil. Because the seedlings need sunlight, they prefer open areas where the soil has been disturbed, as opposed to dense forests. They like to grow alongside streams and can tolerate inundations for a few days. But they can't take long-term flooding, so you won't find them in the vast bottoms of Missouri's great rivers.

They have a favorite soil type: Hammond or Landis silt loam. Loams are considered ideal for agricultural uses because they retain nutrients and water, while still allowing excess water to drain away.

A unique crop, eastern black walnut trees enjoy a symbiotic relationship with squirrels, since most trees grow from

cached nuts. This results in uneven-aged stands of volunteer saplings and resprouts from harvested trees.

"Squirrels are good at planting walnuts, just not in rows," Palm lamented, noting the animals typically bury them within 75 feet of an established tree.

On good soil, the species competes well with other species and can be fast-growing. Given adequate space and the right soil, they'll develop spreading canopies and can grow quite tall — up to 80 feet.

Missouri's native black walnuts offer landowners lots of benefits — the joys of annual nut harvest and the value of a long-term investment. If you'd like to know more about growing eastern black walnuts on your land, call your regional forester.

Do you have black walnut trees on your land?

Would you like to harvest the nuts or have local gatherers harvest them for you? The buying season runs from Oct. 2 through the first week of November. To find buying stations and huller operators near you, call 417-276-5181 or visit black-walnuts.com.

Eastern black walnuts are prized for their rich, dark heartwood. Not only is the wood moderately heavy and strong for its weight, it's also exceptionally stable when dry. It machines well — leaving no splinters or rough edges — and is excellent for carving.

Time is of the essence: The best time to ensure eastern black walnuts become the key component of an eventual timber stand is within five years after conventional agricultural practices have idled, said grower Harlan Palm. To improve their prospect, landowners can simply heel in walnut nuts in the fall or plant seedlings in the spring.

Thousand Cankers Disease (TCD) has not been discovered in Missouri.

But if the disease ever is introduced here, walnut growers fear millions of dollars in economic damage. TCD occurs when thousands of tiny walnut twig beetles attack a tree, feeding on the pale-green phloem tissue beneath the bark. As they tunnel along, the beetles carry the spores of a fungus that quickly creates "cankers," or inky, coin-sized spots of infection. Branches start to die back, and the tree eventually dies.

To combat TCD, Missouri enacted a quarantine making it illegal to transport all species of untreated walnut wood and any hardwood firewood into Missouri from states where the disease has been detected. Exemptions exist for nuts, finished walnut wood products, and 100 percent bark-free, kiln-dried lumber with squared edges.

One of the first symptoms landowners might notice is die-back from the top of the tree in mid-July through early August. Landowners who have concerns are encouraged to contact their local MDC forester, the forest pest hotline at 866-716-9974, or use the online reporting form at mdc.mo.gov/thousand-cankers.

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