



November/December 2020

Xplor

ANIMAL ASSASSINS

THEY AIM FOR PREY



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Every fall and spring, thousands of ducks flock to Missouri. Use *Xplor's* mini guide to make sense of the spectacle.

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When their tummies growl, animal hunters go on the prowl.

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Bad hair day: Cold wind ruffles a northern cardinal's feathers as the bird gobbles seeds on a snowy winter day.

 by Noppadol Paothong



Xplor

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ON THE COVER

American White Pelican

by Noppadol Paothong

GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



November is time to **CLEAN, FILL, AND HANG UP BIRD FEEDERS.** Black oil sunflower seed is best.



In December, **LISTEN FOR OWLS** singing their love songs at night. Great horned owls call “Hoo, hoo-oo, hoo-oo.” Barred owls call, “Who cooks for you? Who cooks for you all?”



Great horned owl



Milkweed pods open in November. **COLLECT THE FLUFFY SEEDS AND SPREAD THEM IN SUNNY AREAS.** If you're lucky, the seeds will sprout, and monarch butterflies will visit them next summer.



Aromatic sumac



Bird nest

Head to the woods for a scavenger hunt. **CAN YOU SPOT THESE THINGS:** a red leaf, a bird's nest, a knobby acorn, a fat mushroom, a wild animal track?



Deer tracks

Take a hike along a frozen stream, and **KEEP AN EYE OUT FOR PLAYFUL OTTERS** sliding on the ice.



Slide track



Burr oak acorns



Bearded tooth mushroom



WHAT IS? IT?

DON'T KNOW?
Jump to Page 20 to find out.



- ① I'm fragrant as well as tasty.
- ② Birds and people like to eat me.
- ③ You can find me growing almost anywhere.
- ④ And I can dress up holiday table fare.

Into the WILD brush pile

Brush piles are like apartment buildings for animals. They offer cozy crannies to keep critters safe from weather and predators.



What Happened Here?

You've found the leftovers from a fox feast. Red foxes often dig nursery dens under brush piles for their babies. Mom and pop bring food back to the hungry kits. Whatever isn't eaten — like bones and fur — gets dropped outside the den.



Sharp-shinned hawk

LOOK

Scan the branches of nearby trees, and you might catch a glimpse of a Cooper's or sharp-shinned hawk. These bird-eating hunters sometimes perch near brush piles to ambush songbirds.

Cooper's hawk

Do More

Brush piles create instant homes for critters. To build one, ask an adult to cut down branches and small trees. Stack the thickest branches at the bottom and pile smaller branches on top. Keep stacking until you have a tangly pile about head high and 20 feet wide.

LOOK

When the weather turns chilly, birds start looking **extra floofy**. That's because they can't pull on puffy coats when they get cold. Instead, they fluff up their feathers to trap warm air against their skin.



Fox sparrow



White-crowned sparrow



White-throated sparrow



Song sparrow



American tree sparrow



Dark-eyed junco

LOOK

Weeds growing in a brush pile offer a buffet for seed-eating sparrows. Most sparrow species look alike at first glance. But if you watch a flock carefully, you'll soon spot differences in the colors and patterns of individual birds.

Did You Know?



In frigid weather, **striped skunks** curl up in dens for power naps that may last several weeks. During these supersized slumbers, the chubby mammals burn fat like marathon runners. Female skunks, in particular, may drop 40 percent of their weight.

Take a Closer Look

Most mammals come out at night, so you may not see many in the flesh and fur. But if you search the ground around a brush pile, you'll find footprints that offer clues about who's living inside.



Raccoon

Striped skunk

Eastern cottontail

Virginia opossum

Listen

Eastern cottontails are usually quiet. But when they're captured by a hawk or another predator, they let loose a loud wail.



Missouri's MIGRATION Sensation

by Matt Seek

Every fall, hundreds of thousands of ducks flock to the Show-Me State to rest and refuel on their way south. Some ducks stick around through winter — especially when weather stays mild. Others return to Missouri in the spring as they're flying north to nesting grounds. To witness this migration sensation, grab a pair of binoculars and head to one of Missouri's wetlands.



But First, Make This Field Guide



- 1 Cut out the next two pages along the dotted lines.
- 2 Fold each cut-out down the middle.
- 3 Stack the cut-outs so the pages are in numerical order.
- 4 Staple the cut-outs together at the fold between pages 8 and 9.
- 5 Take your mini field guide to the nearest marsh, swamp, or lake.

You Discover DUCKS



mdc.mo.gov



Wood duck

A Mini Field Guide to Missouri's Dabblers and Divers

Common Goldeneye

This little duck's eyes aren't always golden. When ducklings hatch, their peepers are grayish-brown. Over the next several months, they turn purple, then blue, then green, and — finally — yellow.



Bufflehead

Chonky but tiny, the funny-named bufflehead is North America's smallest diving duck. Being itty-bitty allows mama buffleheads to nest in abandoned woodpecker holes that other ducks can't fit into.



Dabblers



(Mallard)

Diver



(Scaup)

Duck Designs

Here's a *quack* — oops, quick — fact: Ducks can be divided into two groups, dabblers and divers. You can tell which group a duck's in by the way it looks, flies, and feeds.

Dabblers

- ▶ Legs placed near the middle of its body make it easy for a dabbler to waddle around on land.
- ▶ Large wings allow a dabbler to rocket right out of the water on takeoff.
- ▶ A dabbler feeds by skimming seeds and insects off the water's surface. It also tips its head underwater (and sticks its bottom up) to grab deeper grub.



Divers

- ▶ Legs placed far back on its body help a diver swim underwater but make it awkward to walk on land.
- ▶ Smaller, skinnier wings cause a diver to pitter-patter across the water's surface to get airborne.
- ▶ A diver kicks its large feet like swim fins to dive underwater and catch fish or pluck up plant roots.



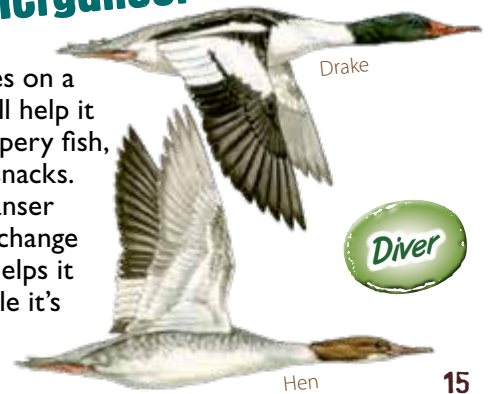
Hooded Merganser

Many mama ducks sneak an egg or two into the nests of other females. Hooded mergansers usually lay about a dozen eggs each, but some nests have been found with more than 40 eggs in them.



Common Merganser

Toothlike ridges on a merganser's bill help it hold on to slippery fish, their favorite snacks. When a merganser dives, its eyes change shape, which helps it see better while it's underwater.



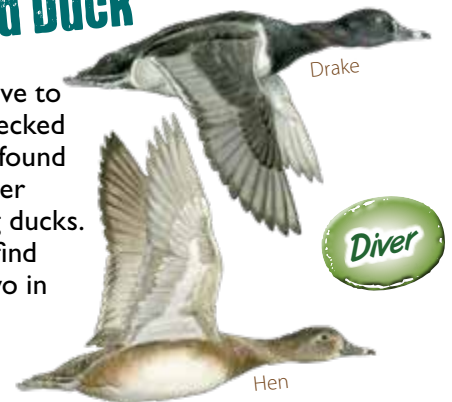
Flashy Fellas and Hidden Hens

Drakes (boy ducks) and hens (girl ducks) rarely look alike. Drakes wear colorful feathers to attract a mate. Hens wear drab feathers to help them stay hidden while they're sitting on a nest.



Ring-Necked Duck

Although they dive to find food, ring-necked ducks are often found in shallower water than most diving ducks. You might even find a ringneck or two in shallow marshes and farm ponds.



Scaup

Two kinds of scaup visit Missouri: greater scaup and lesser scaup. But good luck telling them apart! They look nearly identical. Greater scaup have rounded heads. Lesser scaup have pointier heads.



Fantastic Feathers

Canvasback

These regal ducks are among the fastest of flyers. With a strong tailwind, canvasbacks can reach speeds over 70 mph! They're also deep divers, regularly swimming to the bottom of lakes to gobble plant roots.



Redhead

Most male ducks show off to attract a mate, but redheads take it to the next level. Drakes bend backwards until their beaks touch their tails. Then they snap forward while giving a catlike mee-ooow!



12

Feathers are super important! They keep ducks warm and help them fly. To replace worn-out feathers, ducks molt twice a year. This means their old feathers fall out, and new ones grow back. In summer, ducks molt flight feathers and remain landlocked for several days. Drakes also lose their flashy feathers and take on a drab appearance. In fall, ducks molt body feathers, and drakes regrow their colorful plumage.

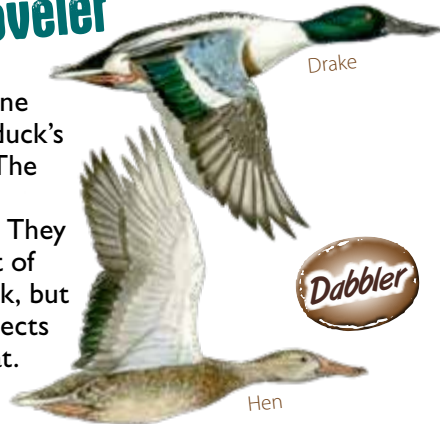


Note: Pages 8–15 show what ducks look like in the fall. In the spring, they're even more colorful!

5

Northern Shoveler

Comblike ridges line the edges of this duck's impressive beak. The ridges work like a spaghetti strainer. They let water flow out of the shoveler's beak, but trap seeds and insects for the duck to eat.



American Wigeon

Wigeons eat more veggies compared to other ducks. And their stubby beak is one reason why. Because the bill is so short, it can pinch harder at the tip, which makes it easy to pluck plants.



10

Show-Me Wetlands

To witness a migration sensation, visit one of these wonderful wetlands in the fall or spring.

- 1 B.K. Leach Conservation Area
- 2 Bob Brown Conservation Area
- 3 Columbia Bottom Conservation Area
- 4 Duck Creek Conservation Area
- 5 Eagle Bluffs Conservation Area
- 6 Fountain Grove Conservation Area
- 7 Four Rivers Conservation Area
- 8 Grand Pass Conservation Area
- 9 Marais Temps Clair Conservation Area
- 10 Montrose Conservation Area
- 11 Nodaway Valley Conservation Area
- 12 Otter Slough Conservation Area
- 13 Schell-Osage Conservation Area
- 14 Ted Shanks Conservation Area
- 15 Ten Mile Pond Conservation Area
- 16 Loess Bluffs National Wildlife Refuge
- 17 Mingo National Wildlife Refuge
- 18 Swan Lake National Wildlife Refuge



7

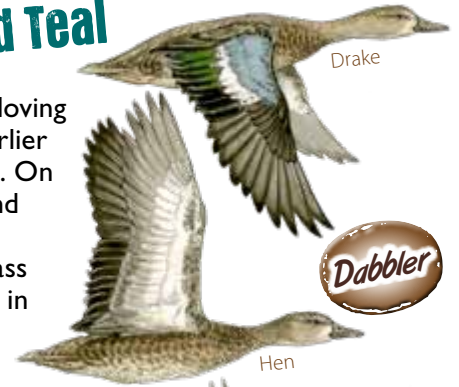
Precious Pit Stops

Missouri is the halfway point on the Mississippi Flyway. Imagine the flyway as a high-speed highway in the sky that ducks follow to get from northern nesting grounds to southern wintering areas. Along the way, ducks make pit stops at marshes, swamps, and sloughs. The water in these wetlands is packed with seeds, snails, aquatic insects, tiny fish, and plankton that travel-weary ducks can slurp up to refuel after long flights.



Blue-Winged Teal

These small, sun-loving ducks migrate earlier than other ducks. On their way to spend winter in South America, most pass through Missouri in September, long before other ducks arrive.



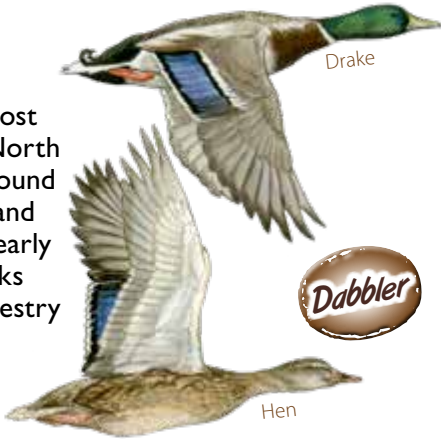
Green-Winged Teal

Stretching only a foot from beak to tail and weighing only as much as a soup can, this dapper duck is North America's smallest dabbling duck. Instead of quacking, these little fellas give a squeaky, whistle-like peep.



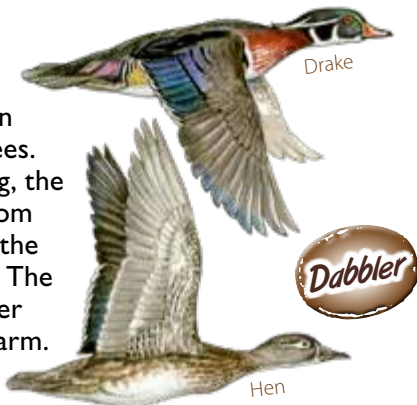
Mallard

Mallards are the most common duck in North America. They're found in marshes, lakes, and even city parks. Nearly all farm-raised ducks can trace their ancestry to this widespread waterfowl.



Wood Duck

Wood ducks nest in holes high up in trees. A day after hatching, the ducklings follow mom to the entrance of the hole and jump out. The fluffballs can fall over 200 feet without harm.



Northern Pintail

Like many ducks, pintails migrate at night, cruising from marsh to marsh at speeds over 40 mph. Some pintails take travel to the extreme. One was recorded to have flown 1,800 miles nonstop!



Gadwall

Gadwalls are often seen away from the shoreline, feeding in deeper water than other dabbling ducks. These plucky ducks sometimes steal food from American coots or from diving ducks when they surface.





Animal Assassins

by Matt Seek • artwork by Mark Raithel

Humans aren't the only animals that hunt. To eat, wild predators must catch their dinner. And though they don't have rifles or fishing rods, animal assassins are armed to the teeth. Just check out these amazing adaptations for capturing prey.

American white pelican

- When a pelican wishes
- for fishes, it plunges its
- beak underwater like a
- dip net. In a single scoop,
- the big-beaked bird gathers enough water to fill a 3-gallon soup pot. After draining its beak, it swallows any fish trapped inside.

Gizzard shad

Big Brown bat

Bats bag bugs by “seeing” with sound. They produce high-pitched squeaks and listen for returning echoes. Be glad their squeaks are too high-pitched for humans to hear. If they weren’t, they’d sound louder than a smoke alarm blaring inches from your ear.



Underwing moth



Gartersnake

Short-tailed shrew

Barely bigger than a glue stick, short-tailed shrews possess venomous saliva, ninja-like speed, and oversized attitudes. Although they eat mainly insects and earthworms, these pint-sized predators aren’t afraid to tangle with larger animals such as mice and snakes.





Alligator snapping turtle

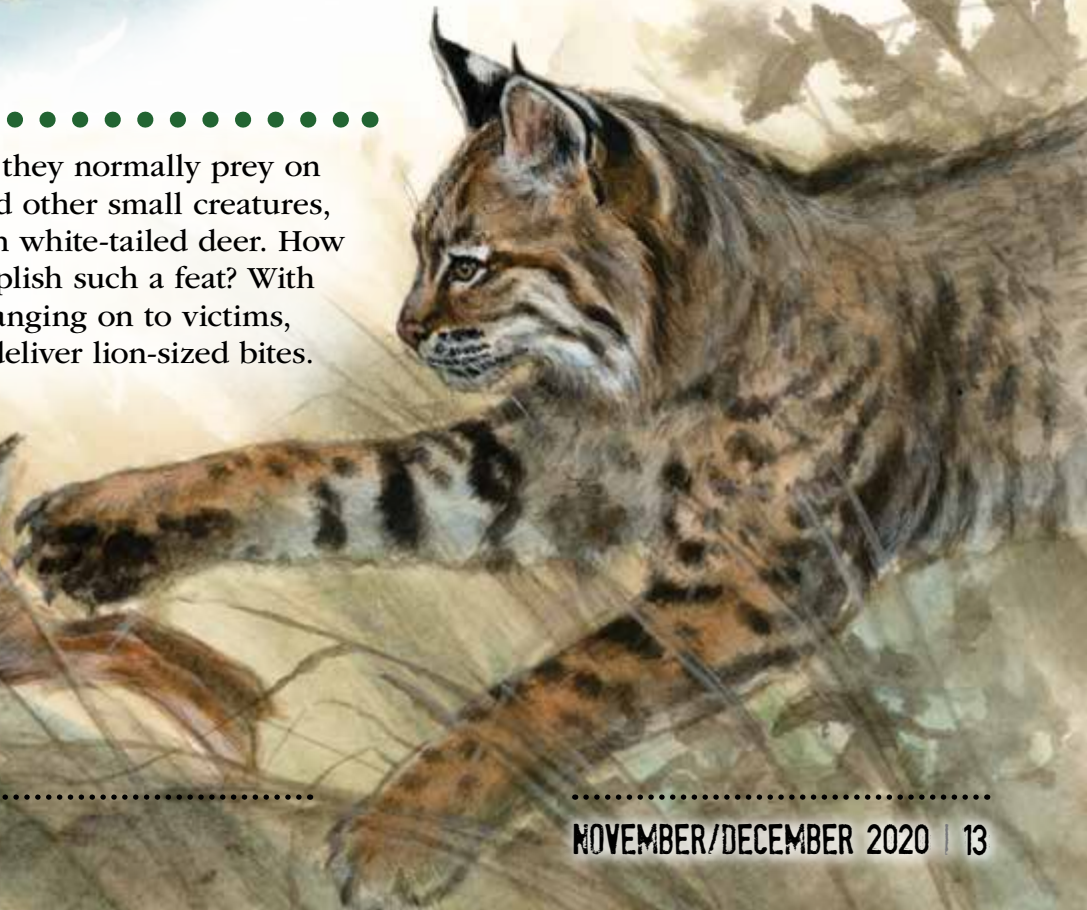
When an alligator snapping turtle yearns for sushi, it simply opens its mouth and wiggles its pink, worm-shaped tongue. Hungry fish are lured in for an easy meal and learn too late where the name “snapper” comes from.



Bluegill

Bobcat

Although they normally prey on rabbits and other small creatures, bobcats sometimes take down white-tailed deer. How does a 20-pound kitty accomplish such a feat? With stealth, hook-like claws for hanging on to victims, and strong jaw muscles that deliver lion-sized bites.





Field cricket

American toad

How do chubby toads catch fast insects? With spring-loaded tongues. Toads can flick out their tongues faster than you can blink. Plus, a toad's tongue is attached to the front of its jaw, so it can reach nearly two inches out of its mouth, leaving prey tongue-tied.

Green darner

To ambush tasty insects in midair, dragonflies are equipped with oversized eyes. (If you were a dragonfly, you'd have eyes the size of soccer balls.) Each eye can see in all directions at once thanks to 30,000 lenses blanketing its surface.



Timber rattlesnake



White-footed mouse

Rattlesnakes are armed with camouflage, venom, and the reptile equivalent of night-vision goggles. Pits between their eyes and nostrils detect slight differences in temperature. This helps the serpent sense warm-bodied rodents even in the dark of night.

A detailed illustration of a yellow garden spider on its web. The spider has a black cephalothorax with yellow spots and a yellow abdomen with black spots. It is positioned in the upper left quadrant of the page, with its web extending across the top left. A small insect is trapped in the web below the spider.


Yellow garden spider

Like eight-legged anglers, spiders weave silken nets to snare airborne insects. Spider silk is stronger than steel, plus it's sticky, stretchy, and nearly invisible. Garden spiders have poor eyesight, but when they feel their webs quiver, they know dinner has arrived.

A large illustration of an osprey in flight, catching a fish. The osprey is shown from a side profile, with its wings spread wide, showing the dark feathers on the upper side and the lighter feathers on the underside. It is positioned on the right side of the page, with its talons extended towards a fish. The background is a soft, light blue and white wash, suggesting a sky or water surface.

Osprey

An osprey's toes bristle with short spikes for hanging on to slippery, wiggly fish. But that's not the only secret in the fish hawk's tackle box. Ospreys can also bend their outer toes forward or backward to get a better grip — pretty *talon*-ted, huh?

A detailed illustration of a common carp, shown from a side profile. It has a brownish-gold body with a lighter belly and a reddish-brown tail. It is positioned in the lower left quadrant of the page, swimming towards the left.

Common carp

THIS ISSUE:

LONG-TAILED WEASEL VS EASTERN COTTONTAIL

Illustrated by David Besenger

Fast and Furious

Weasels are as nimble as ninjas and attack so swiftly that they usually catch prey off guard.

Mighty Bitey

Once a weasel pounces, it bites so quickly that it's hard to follow the action with the human eye.

Long Jumper

When a bunny wants to boogie, it can leap 15 feet in a single hop and zigzag away at 18 mph.

Wide-Angle Vision

Thanks to eyes that stick out from the sides of its head, a cottontail can see danger coming from almost any direction.

AND THE WINNER IS...

Although mice make up most of its menu, a weasel can capture animals twice its size. This time, though, the cottontail gets the jump on the hungry hunter and is able to buck the weasel off its back.

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
STUFF THAT GOES ON IN NATURE

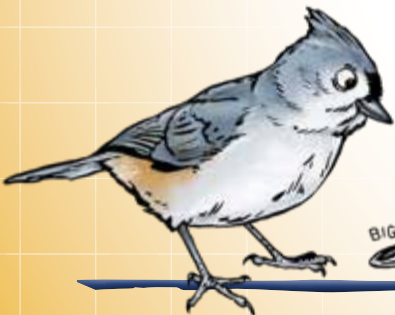


Hoo's got yellow eyes? When it comes to **OWLS**, nearly all of 'em. Of the nine species that live in or visit Missouri, only two have brown eyes: barn owls and barred owls. All the rest have yellow peepers.

Tall tail: A **RED FOX'S** tail can make up almost 40 percent of the fox's total length. On chilly nights, foxes curl into doughnuts and wrap their bushy tails around their bodies. To stay extra cozy, they tuck their noses underneath.



For **TUFTED TITMICE**, bigger is better. When offered a variety of seeds at a feeder, a hungry titmouse will almost always fly off with the largest seed first. But it doesn't always eat the seed right away. It stores many to eat later.



During World War II, American school kids gathered **MILKWEED** seeds from fields, fence rows, and roadsides. They sent the fluffy seeds to the U.S. military, who stuffed them in life jackets to help keep sailors, pilots, and soldiers afloat.

Ring around the nosy: A **RING-NECKED DUCK'S** dark-brown collar is nearly impossible to spot on its black neck. In fact, it's much easier to see the white ring that circles the male's beak. But "ring-beaked duck" doesn't have the same ring, does it?



Unlike most birds, which have three toes pointing forward and one toe pointing backward, **WOODPECKERS** have two forward and two backward. This arrangement offers the chisel-beaked birds a no-slip grip when they're hammering on tree trunks.



In a school bus, the driver rides at the front. But in a school of **FISH**, the drivers ride in the middle. A few fish in the center of a school direct the speed and direction of the entire group.

HOW TO

Make Homemade Suet

We can't promise a partridge in a pear tree, but if you want your backyard branches bustling with birds, make some suet.

When winter weather arrives, birds need lots of energy to stay happy and flappy. Suet is animal fat or vegetable shortening mixed with seeds, nuts, and berries. Though it might sound yucky to you, insect-eating birds like woodpeckers, chickadees, and bluebirds love the stuff. You can buy suet cakes in the birdseed aisle at the grocery store. But it's more fun to whip up a batch at home. You probably already have the ingredients.

HERE'S WHAT YOU NEED

- Two large, microwave-safe mixing bowls
- Mixing spoon
- Measuring cups
- 2 1/2 cups birdseed
- 1/2 cup oats
- 1/4 cup cornmeal
- 1 cup vegetable shortening
- 1/2 cup peanut butter
- Small shallow bowl or sandwich container to use as a mold for the suet
- Suet cage (found in the same grocery aisle as birdseed)

HERE'S WHAT YOU DO

1 In a large bowl, mix together the birdseed, oats, and cornmeal.

2 In a different bowl, combine the shortening and peanut butter. Place the bowl in a microwave and heat the mixture until it melts into a thick liquid. (This should take less than a minute.) Be careful! When you remove the bowl from the microwave, it might be hot.



3 Stir the melted shortening and peanut butter, and then pour it into the bowl containing the dry ingredients. Mix well to thoroughly combine everything.



4 Spoon the mixture into a small, shallow bowl or plastic sandwich container. Place the container in a freezer and leave it there overnight.



5 Remove the suet from the container. If it's stuck, set the container in shallow, warm water until the edges of the suet get soft. Then, use a butter knife to carefully pry out the suet.

Put the suet in a suet cage, and hang it in a shady spot that you can see from your house. In no time, birds will arrive for a healthy, high-energy meal.



XPLOR MOR

The Great Escape

artwork by
Alexis (AJ) Joyce

Most plants make many seeds. A single cottonwood tree, for example, can produce 25 million fluffy seeds! If they all fell directly beneath the tree, there wouldn't be enough sunlight and water for each of them to grow. To avoid overcrowding, seeds have different ways to escape from their parents.

Escape Plans

Rollers



Acorns and hickory nuts are rounded and simply roll downhill when they drop to the ground.

Riders



Some seeds are sticky and cling to the fur of animals that brush against the parent plant.

Fliers



Maple trees, dandelions, and many other plants produce fluffy or winged seeds that fly away when the wind blows.

Poopers



Blackberries, apples, and other fruits contain seeds. When an animal eats the fruit, the tough seeds pass through the animal's body and get pooped out in a new location.

Shooters



Some plants, like jewelweed, produce pods that burst open and shoot seeds many feet away.

Floaters



Water lilies and other aquatic plants make seeds that float in the water.

WHAT IS IT?

— FROM PAGE 3 —

as a zesty seasoning in sauerkraut and stews. The red cedar's boughs as well as berries smell like Christmas, and they look nice in a wreath or on the dinner table during the holidays. Learn more at mdc.mo.gov/field-guide.

The eastern red cedar tree grows everywhere in Missouri. In the winter, it attracts flocks of hungry cedar waxwings that gobble up its waxy blue berries. People like to eat the berries, too, mostly



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FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

American Wigeon



© Brian Kushner | Dreamstime.com

Now through April, look for this duck tipping up its tail to dabble shallow water for plants and bugs. Wigeons also tend to swim near ducks that dive for fish and bottom-feeding critters. Sometimes, wigeons will snatch food from divers' bills as soon as they surface. For this, people call wigeons "poachers." Boy wigeons have white foreheads and green eye stripes. Girl wigeons have gray bills, dark eye spots, and rusty sides. Learn more at mdc.mo.gov/field-guide.