



JANUARY/FEBRUARY 2024

# How



SAY HEY TO  
**MISSOURI'S  
BIRDS  
OF PREY**

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*Pull out this poster* and tape it to your wall to make your room look wild.

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A photograph of a coyote walking through a snowy marsh. The coyote is in the foreground, looking down and to the left. The background shows a marsh with tall, thin reeds or grasses sticking out of the snow. The overall scene is a winter landscape.

When your tummy's growling, you can't sleep through a snow day. A hungry coyote hunts for a meal in an icy marsh. Rabbits and rodents form most of the crafty canine's diet, but waterfowl occasionally make the menu.



**GOVERNOR**

Michael L. Parson

**CONSERVATION COMMISSION**

Margaret F. Eckelkamp

Steven D. Harrison

Mark L. McHenry

Raymond T. Wagner Jr.

**DIRECTOR**

Sara Parker Pauley

**XPLOR STAFF**

**ARTIST** Matt Byrde

**PHOTOGRAPHERS** Noppadol Paothong

David Stonner

**DESIGNERS** Marci Porter

Les Fortenberry

**ART DIRECTOR** Cliff White

**EDITOR** Matt Seek

**SUBSCRIPTIONS** Marcia Hale

**MAGAZINE MANAGER** Stephanie Thurber

All content created by Missouri Department of Conservation staff unless otherwise noted.

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**ON THE COVER**  
**Red-Tailed Hawk**

# STRANGE BUT TRUE

Your guide to all the  
**UNUSUAL, UNIQUE,  
AND UNBELIEVABLE**  
stuff that goes on in nature



Female **STONEFLIES** want rock stars for boyfriends. In the dead of winter, males crawl out of icy Ozark streams and tap their bellies on hollow branches. If a female is impressed by the drum solo, she taps back.

An airliner flying over the state of Nevada at 21,000 feet struck a migrating **MALLARD**. Though it's possible other kinds of waterfowl can fly even higher, this is the highest flight ever documented for a duck in the United States.



An **EASTERN COTTONTAIL** can wiggle its nose up to 120 times a minute. The rapid wiggling exposes nearly 100 million scent receptors to odors in the air. This helps the rabbit sniff out dinner or danger.



**LONG-TAILED DUCKS** have been found diving to depths of 240 feet. During food-finding expeditions, the deep divers spend three or four times longer underwater than they do on the surface.



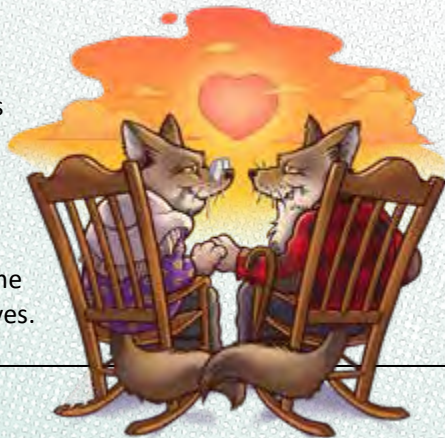
When a **LITTLE BROWN BAT** is chasing bugs across the summer sky, its heart can beat up to 1,000 times a minute. But during winter hibernation, its heart slows *waaaaay* down and may beat only 20 times a minute.



Rude awakening: **GREAT HORNED OWLS** are known to prey on wild turkeys that are roosting in trees. In a typical attack, an owl swoops in silently, grabs the sleeping turkey with its talons, and both birds tumble down in a semi-controlled fall.



Once **COYOTE** couples tie the knot, they're in it for the long run. The yappy, snappy, quick, and crafty wild dogs often stay with the same mate for their entire lives.



# WHAT IS IT?

DON'T KNOW? Jump to Page 21 to find out.

- 1 By day, I hang out in a tree.
- 2 At night, I use sound waves to "see."
- 3 In winter and summer, I flee.
- 4 The color of my hair is the key.



## TWO TRUTHS, ONE LIE

— Which —  
fascinating fact  
is actually a fib?

Answer on Page 21



- 1 A woodchuck is an expert excavator, capable of moving over 2,000 pounds of dirt while digging its network of tunnels and dens.
- 2 After fattening up for hibernation, a male 'chuck can weigh nearly 40 pounds — more than an English bulldog or a large watermelon.
- 3 Woodchucks are known as "whistle pigs" because of the piercing scream they make when something scares the jeepers out of them.

# HOW TO SLEEP IN THE SNOW

It's *snow* much fun to sleep outside in the wintertime. Here are a few tips to keep you toasty all night long.

## FUEL UP

Your body is like a furnace. To help it generate heat, keep it fueled up. Eat energy-rich meals and lots of snacks. Gobbling down a granola bar or a handful of nuts right before bedtime will ensure your furnace burns hot all through the night. Keep a leakproof thermos of hot cocoa near your bed. If you wake up chilly, sipping a cup will warm you up from the inside out.





### PITCH A TENT

Believe it or not, some folks sleep outside in winter with just a roof of stars over their heads. There aren't bitey bugs buzzing about, so why not? If you're new to winter camping, however, try a tent. It will block cold wind and help hold in heat. Remember to take off your boots before you crawl inside so you don't track in snow.



### BUILD YOUR BED

In winter, cold creeps in from all sides, even the ground below. A thick foam pad will protect you from lumpy rocks and keep you warm. Place an insulated air mattress over the pad for extra comfort and coziness. Finally, roll out your sleeping bag over both pads. Choose a mummy-style bag that's rated colder than the temperature you'll be sleeping in.

### DRESS FOR SUCCESS

Your pj's should be made of wool or a synthetic material like polyester or polypropylene. Don't wear cotton jammies! They soak up sweat and hold it against your skin, which will make you chilly in the middle of the night. Before going to bed, pull on a dry pair of wool socks. Your head leaks lots of heat, so veteran winter campers usually sleep in a stocking cap.



### LAST BUT NOT LEAST

No one wants to wiggle out of a warm sleeping bag and wander into the cold to use the bathroom. So hit the woods before you hit the sack.

# MARSH

**M**eat Sam. Sam is a muskrat. He lives in a marsh. He shapes how the marsh looks — like a furry architect. Sam, you might say, is a *marshchitect*.

## Marsh Mower

*Nibble, nibble, num, num, num.* Sam loves to eat the roots and stems of cattails and bulrushes. Bite by bite, he mows down patches of plants across the marsh. This creates areas of open water where fish, frogs, and turtles can swim, herons can wade, and ducks can land. Though Sam is mostly a vegetarian, he sometimes snacks on small animals like mussels, crayfish, and frogs.



# CHITECTS

## Life on the Soggy Side

Sam is perfectly suited for his soggy life. His dense, waterproof fur acts like a wetsuit to keep him warm and dry. His webbed hind paws propel him through the water better than a pair of swim fins. And while you would need an air tank to stay underwater for 15 minutes, Sam can do it just by holding his breath.

## Eaten Out of House and Home

For his home, Sam has piled thousands of cattails into a 4-foot-high heap in the middle of the marsh. To keep unwanted visitors away, the front door of the house is hidden safely underwater. A narrow tunnel climbs from the doorway to a small bedroom above the water's surface in the center of the mound. Damp, 1-foot-thick walls keep the inside cool in summer and warm in winter. Not only is the mound a cozy bedroom, it's also a well-stocked pantry. If food gets scarce, Sam can eat the walls of his house.

## Muskrat on the Menu

Uh-oh! In the nick of time, Sam spots a mink slinking through the cattails. *Splish!* He leaps into the water, churning his hind paws like a boat motor. The mink barrels in after him, but the hungry hunter is no match for a motivated muskrat. Cleaving the water at 3 miles per hour, Sam quickly leaves the slower-swimming mink in his wake. Mink are Sam's greatest foes, but coyotes, owls, and snapping turtles all have muskrats on their menus.



Mink



## Muskrat Love

In early spring, while exploring part of the marsh he'd never explored before, Sam meets a fellow muskrat named Suzie. They hit it off swimmingly and quickly become a couple. Without a second thought, Sam moves to Suzie's side of the marsh, and the two turn to the business of starting a family.



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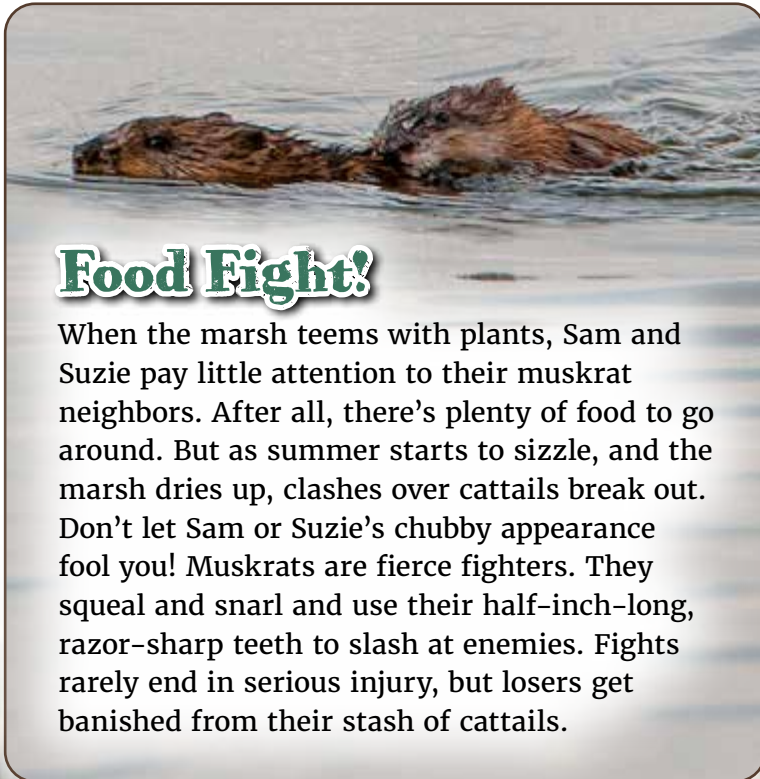


## Mini Marshchitects

A month later, Suzie gives birth to six squeaky babies. The newborns are blind, hairless, and helpless. Sam stays nearby, but Suzie does all the work of raising the new family. She feeds the youngsters milk, and they grow quickly. In a week, they're covered with fur. In two weeks, their eyes open. In three weeks, they can swim and dive. And in four weeks, they quit drinking milk and can fend for themselves.



© TONY CAMPBELL | DREAMSTIME.COM



## Food Fight!

When the marsh teems with plants, Sam and Suzie pay little attention to their muskrat neighbors. After all, there's plenty of food to go around. But as summer starts to sizzle, and the marsh dries up, clashes over cattails break out. Don't let Sam or Suzie's chubby appearance fool you! Muskrats are fierce fighters. They squeal and snarl and use their half-inch-long, razor-sharp teeth to slash at enemies. Fights rarely end in serious injury, but losers get banished from their stash of cattails.

## The Future Looks Furry

By fall, Suzie has raised three litters of babies. *Whew!* Life at the bottom of the food chain isn't easy, however, and only a third of the youngsters have survived. On the bright side, summer storms have turned the marsh into a paradise once again. It's overgrowing with cattails and in desperate need of a few more *marshchitects* to trim it back into shape. Luckily, Sam and Suzie's family knows just what to do.



# BOBCAT

## SUPER SNEAKER

When stalking prey, bobcats place their back paws in the footprints of their front paws, so no extra noise is made.

## CAMOUFLAGE COAT

A bobcat's mottled grayish-tan fur helps it blend in with its surroundings so it can ambush prey or hide from danger.





**POWERFUL PEEPERS**

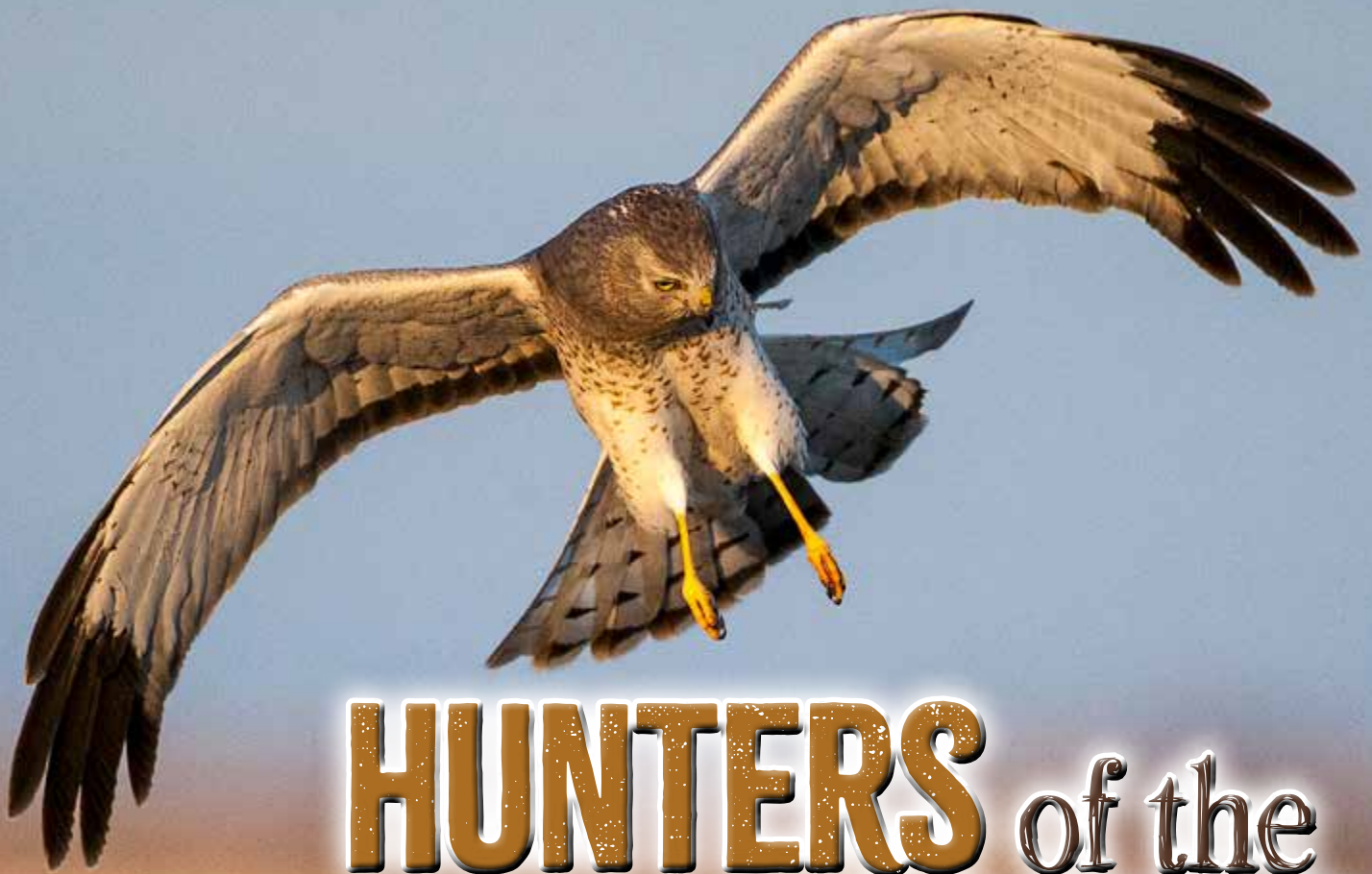
Although its eyes are as big as yours, a bobcat's pupils open three times wider. This lets in more light, helping the hunter spot prey in the dark.

**BRAWNY BITE**

Strong jaw muscles help a bobcat bite with might. Pointy canine teeth pierce a rabbit's spine to deliver a quick death.

**CLAWS FOR ALARM**

A bobcat keeps its claws tucked into its paws so they stay razor sharp. It unsheathes its terrible toenails to climb trees, catch prey, and fight threats.



# HUNTERS of the SKIES

**R**aptors, better known as birds of prey, earn their living with keen eyes, hooked beaks, and sharp talons.

If you had an eagle's eyesight, you could read this magazine from the far end of a football field! Raptors can see eight to 10 times better than you can. They use their impressive vision to spot prey as they soar high overhead.

Strong, clawed feet called talons help raptors grab wiggly prey so it can't get away. Once dinner is caught, a hooked beak helps the hunter tear off bite-sized chunks of food.

Over 30 kinds of eagles, hawks, kites, falcons, vultures, and owls ply the skies over the Show-Me State. Some have been spotted here only once or twice. For this mini guide, we picked 12 of Missouri's more common daytime raptors.

## First, Make This Field Guide



- 1 Cut out the next two pages along the dotted lines.
- 2 Fold each cutout down the middle.
- 3 Stack the cutouts so the pages are in numerical order.
- 4 Staple the cutouts together at the fold between pages 8 and 9.
- 5 Take your mini field guide outside to look for raptors.

# YOU DISCOVER RAPTORS



mdc.mo.gov



PEREGRINE FALCON

A Mini Field Guide to Missouri's  
Daytime Birds of Prey

## Peregrine Falcon



**WHEN:** Spring, summer, fall  
**WHERE:** Cities, wetlands

**WINGSPAN:** 3.5 feet

Peregrines are the world's fastest birds. When one spots a yummy pigeon, it folds its wings and ... **WHOOSH!** Like a missile, it dives toward prey at over 200 miles per hour.



Keep your eyes peeled on long drives.

Grassy roadsides and medians offer a buffet of prey. Red-tailed hawks perch on trees or utility poles watching for mice or snakes, and American kestrels hover over the median, searching for grasshoppers.



American kestrel



Red-tailed hawk

# TIPS FOR FINDING RAPTORS

## Watch the weather forecast.

In spring, look for raptors soaring overhead when winds blow from the south. In the fall, watch the sky before and after a cold front moves through.



## Listen for fussy birds.

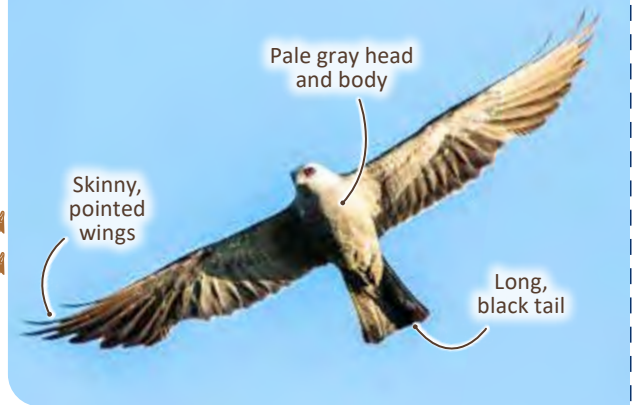
Smaller birds, especially blue jays and crows, swoop and squawk at raptors to alert their feathered friends of the predator's whereabouts.

American crow

Blue jay

2

## Mississippi Kite



**WHEN:** Summer

**WHERE:** Cities, woody areas near grasslands

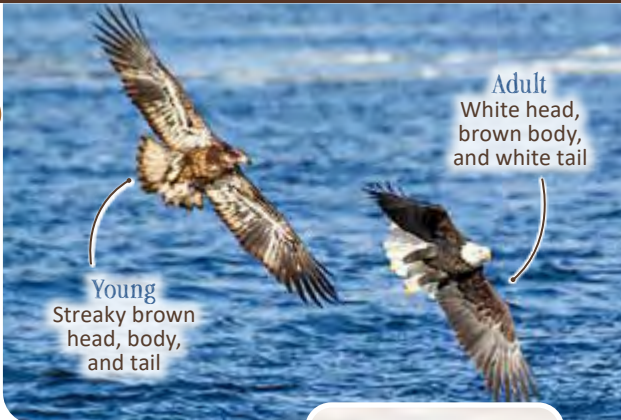
**WINGSPAN:** 2.5 feet

Kites specialize in catching insects — like beetles, grasshoppers, and dragonflies — in midair. They sometimes soar over pastures to nab bugs flushed by cows.



15

## Bald Eagle



**WHEN:** Year-round

**WHERE:** Large lakes, big rivers, wetlands

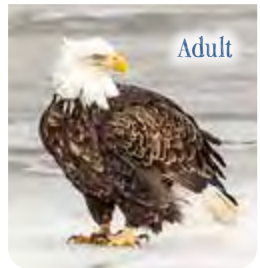
**WINGSPAN:** 6.5 feet

Bald eagles can catch their own food, but they prefer to steal it. They've even been known to swipe fish from anglers and ducks from hunters.

Young



Adult



4

## American Kestrel



**WHEN:** Year-round

**WHERE:** Prairies, pastures, along roads

**WINGSPAN:** 2 feet

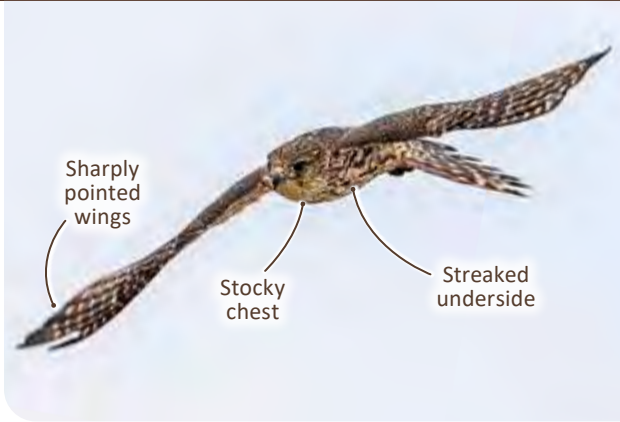
Rodents mark their trails with urine. Under ultraviolet light — which kestrels can see — the urine glows like a neon sign pointing toward dinner.



13



# Merlin



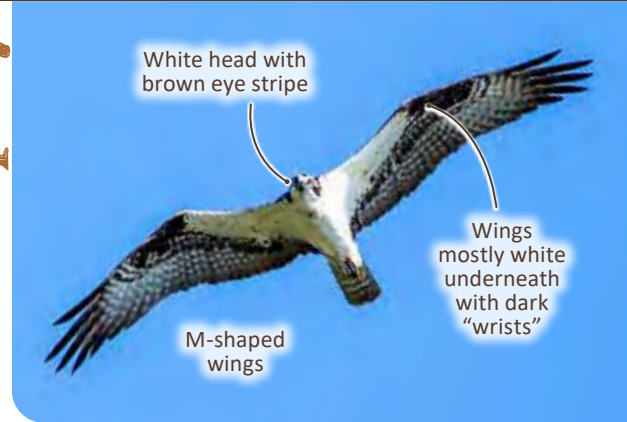
**WHEN:** Spring, fall  
**WHERE:** Prairies, fields, wetlands

**WINGSPAN:** 2 feet

Need for speed: Merlins eat other birds, which they typically catch by chasing them through the sky until the prey tires.



# Osprey



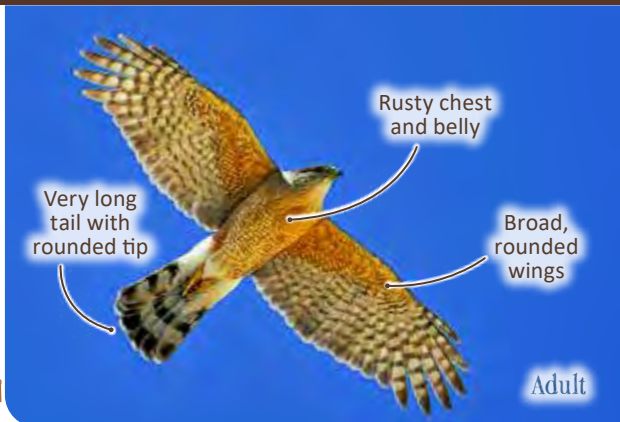
**WHEN:** Spring, fall  
**WHERE:** Large lakes, big rivers, wetlands

**WINGSPAN:** 5.5 feet

Ospreys can bend their outer toes forward or backward to get a better grip on slippery fish — pretty *talon-ted*, huh?



# Cooper's Hawk



**WHEN:** Year-round  
**WHERE:** Forests, wooded backyards, city parks

**WINGSPAN:** 2.5 feet

Diving bombing through branches to bag birds isn't an easy way to earn a living. In a study of over 300 Cooper's hawks, nearly 25 percent showed signs of broken bones.



\* Cooper's and sharp-shinned hawks are hard to tell apart.

# Red-Tailed Hawk



**WHEN:** Year-round  
**WHERE:** Farm fields, city parks, perched near roads

**WINGSPAN:** 4 feet

Courting red-tails fly high into the sky, lock talons, and plummet toward the ground. Before they go *splat*, they let go and swoop back up.



# Northern Harrier



Male

Both  
Flat, owl-like face  
Wings held in a slight "V"  
White rump

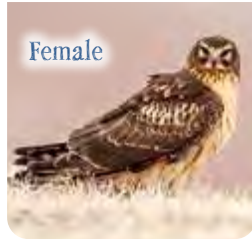
Female

**WHEN:** Winter, spring, fall  
**WHERE:** Prairies, weedy fields, marshes

**WINGSPAN:** 3.5 feet



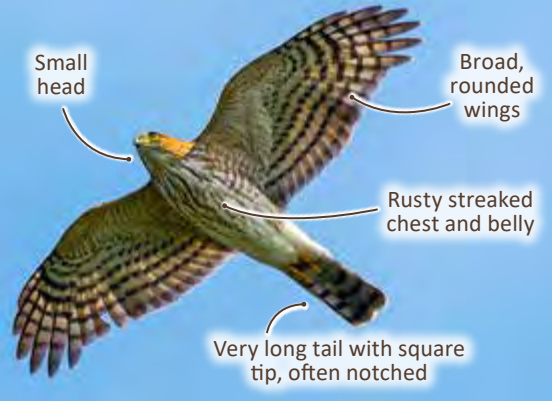
Male



Female

A harrier's saucer-shaped face is lined with stiff feathers that funnel sounds to its ears. This helps the hawk zero in on mice hiding in the grass.

# Sharp-Shinned Hawk



Small head

Broad, rounded wings

Rusty streaked chest and belly

Very long tail with square tip, often notched

**WHEN:** Winter, spring, fall  
**WHERE:** Forests, wooded backyards, city parks

**WINGSPAN:** 1.75 feet

Like many raptors, mama sharp-shinned hawks are bigger than daddy hawks. Their larger size helps them catch bigger prey.



\* Cooper's and sharp-shinned hawks are hard to tell apart.

# Broad-Winged Hawk



Broad wings

Pale wings with dark edges

Thick black and white bands on tail

**WHEN:** Spring, summer, fall  
**WHERE:** Forests, soaring overhead during migration

**WINGSPAN:** 3 feet

In spring and fall, enormous flocks of broad-wings migrate through Missouri. These "kettles" sometimes contain nearly a thousand hawks swirling overhead.



# Red-Shouldered Hawk



Reddish chest

Pale crescents near wingtips

Checkered wings

Skinny white bands on tail

**WHEN:** Year-round  
**WHERE:** Forests, swamps, along rivers

**WINGSPAN:** 3.25 feet

Like many baby raptors, red-shouldered hawk chicks can shoot their poop up and over the edge of their nests. This helps keep nests clean.



# NIGHT SHIFT and CLEANUP CREW

Biologists and birders usually include owls and vultures as raptors, even though these birds make their living in far different ways than their day-hunting cousins.

## Great Horned Owl

Great horned owls don't have horns — they have feather tufts. But they *are* great predators, unafraid to take large prey like turkeys, falcons, and other owls. This hooter has nearly no sense of smell, which is why it occasionally eats skunks. *Pee-yoo!* Couples call to each other in winter. Listen for a deep *hooo, hoo-hoo, HOOO, HOOOO*.



## Barred Owl

You might hear this dark-eyed owl hooting to attract a mate in early spring. Listen for its questioning call — *Who cooks for you? Who cooks for you all?* — in woods near streams, rivers, and swamps. In the winter, barred owls hunt rabbits and other rodents. In summer, they add frogs, snakes, insects, and even fish to the menu.



## Eastern Screech-Owl

This stocky, 8-inch owl isn't much bigger than a robin. But nothing's small about its appetite. More than 250 kinds of critters make the menu. In fact, the list is longer than that of any other North American owl. If you hear songbirds fussing around a tree, look nearby for a screecher trying to take a nap. At night, listen for its eerie, trilling whinny.



## Short-Eared Owl

Short-eared owls live up to their name — you rarely see their "ear" tufts. Look for them swooping low over pastures, prairies, and marshes at sunrise and sunset. They use keen hearing to pinpoint voles and mice that are hiding in the grass. Although a few shorties nest in northern Missouri, most are here only during winter.



## Turkey Vulture

Unlike other raptors, turkey vultures rarely kill their food. Instead, they look for already-dead animals. Most critters would get a terrible tummy ache if they ate rotten meat. But not a turkey vulture. By eating roadkill, vultures — nature's cleanup crew — keep germs from spreading.



# XPLOR MORE

## Which Winter Critter Are You?

Ever wonder which winter critter you're most like? Take our quiz to find out. For each question, circle the letter next to the answer that best describes you.

Where's your favorite place to go for dinner?

- A. A grill would be great. Give me meat, meat, and more meat.
- B. Seafood sounds swell — the fresher the better.
- C. Let's hit a snack shack where I can nibble on nuts and chips.
- D. Forget dinner! Bring me dessert.
- E. How about a buffet? I like a little of everything.

It's Valentine's Day. What's the best way to win your heart?

- A. Sing sweet songs to me.
- B. Leave a note to let me know you're interested.
- C. Valentine's Day is a made-up holiday! I'm happy being single.
- D. No one likes a showoff — except for me.
- E. A kiss is the only way to know if it's true love.

What's the best way to spend a winter day?

- A. Gobbling up snacks.
- B. Let's go sledding!
- C. Curled up asleep in my cozy home.
- D. At the beach. I can't stand the cold.
- E. Hanging out with friends.

How would your friends describe you?

- A. Clever.
- B. Playful.
- C. Busy.
- D. Feisty.
- E. Loud.

What's your New Year's resolution?

- A. Find a boyfriend or girlfriend.
- B. Spend more time fishing.
- C. Save more for my future.
- D. Travel to another country.
- E. Plant some trees.



Which letter did you circle the most?



**A** **Red foxes** are carnivores, which means they eat mostly meat. In winter, they leap high into the air to pounce on rodents hiding under the snow. Foxes are clever and often outwit dogs and other predators. In the winter, female foxes give shrill yowls to attract a mate.

**B** **River otters** feel at home in the water and can swim fast enough to catch fish for dinner. As one of Missouri's most playful animals, they're often seen sliding down snowy slopes on their bellies. Otters mark logs and rocks with their scent to let other otters know they're looking for love.

**C** Although some **eastern chipmunks** are active during winter, many are curled up asleep in their cozy underground dens. In the fall, they're among Missouri's busiest animals, scurrying to and from their nests to stockpile acorns for winter meals. While they're not unfriendly, chipmunks prefer to have time to themselves.

**D** **Ruby-throated hummingbirds** drink sweet nectar from flowers and feeders. Tiny but feisty, they spend much of their day chasing each other away from nectar sources. Male hummers show off for females by making looping, U-shaped flights. Before winter arrives, hummers buzz off to warmer countries like Mexico and Belize.

**E** **Blue jays** eat many things including acorns, insects, and eggs. They flock to feeders to eat seeds, often using loud calls to scare away other birds. In the fall, jays bury acorns to eat later, but many are forgotten and sprout into trees the following spring. Blue jay couples "kiss" by nibbling each other's beaks.

To learn more about these and other animals, scurry over to [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).

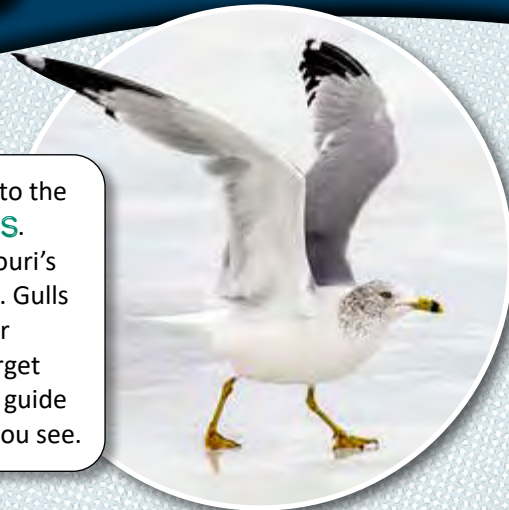
# GET OUT!

FUN THINGS TO DO  
AND GREAT PLACES  
TO DISCOVER NATURE



To find the first flowers of the year, take a hike along an Ozark stream in mid-January. Even when snow still blankets the ground, you might find the frilly orange blooms of **OZARK WITCH-HAZEL** brightening the scenery.

You don't have to go to the beach to **SEE GULLS**. Just visit one of Missouri's large lakes in January. Gulls gather on the ice near open water. Don't forget binoculars and a bird guide to help you ID what you see.



On warm winter days, keep an eye out for **MOURNING CLOAK BUTTERFLIES**. These hardy insects hibernate during the depths of winter and wake up when temperatures rise. Their fluttery flight is a sure sign spring will be here soon.



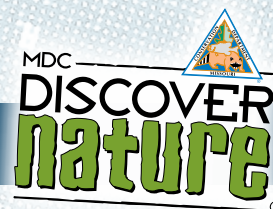
In mid-February, **EASTERN CHIPMUNKS** awaken from their winter slumbers and pop out of their tunnels to search for food. Look for hungry 'munks stuffing their cheeks along the edges of woods, near rock piles, and in city parks.



Most mammals prowl around after dark, so you may never see them in the flesh and fur. But tracks in the snow show where they've been. **FOLLOW THE FOOTPRINTS** to see where their maker might be sleeping.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at [mdc.mo.gov/events](http://mdc.mo.gov/events).



WHAT IS IT?

— FROM PAGE 3 —



### SILVER-HAIRED BAT

Silver-haired bats are named for the white-tipped hairs on their backs, which give them a frosty appearance. They're most abundant in Missouri during their spring and fall migrations. At night, they hunt flying insects, using echoes from high-pitched squeaks to pinpoint prey. During the day, they sleep in trees. Although most live in forests north and south of Missouri, a few raise babies in northern Missouri, and a few spend winter here in hollow trees, rock crevices, and houses.

GO FIND IT!



Cut out this critter card and take it with you outside. How many of the things on the card can you find?

### CHICKADEE



#### ACROBAT BIRD

Chickadees often hang upside down to pluck insects from the undersides of branches.

#### SEED STASHER

Chickadees hide thousands of seeds to eat later. Each snack is stashed in a different spot.

#### SOUND THE ALARM!

When a chickadee spots danger, it calls out a warning: *chicka-dee-dee-dee*. The more *dees*, the bigger the threat. Other birds freeze until the danger passes.

#### CAVITY CREATURE

A woodpecker hole or other cavity offers a cozy bedroom for a sleepy chickadee.

#### DOUBLE THE TROUBLE

Two lookalike chickadees live in Missouri. Black-capped chickadees live north of the Missouri River, and Carolina chickadees live to its south.

ONE LIE

— FROM PAGE 3 — Answer: 2

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FREE TO MISSOURI HOUSEHOLDS

**GO FIND IT!** ≡

Look and listen for chickadees in forests, parks, and backyards throughout Missouri. For more on these energetic birds, fly over to [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).

CHICKADEE

