

# WHAT Pooped HERE?

Learn about **animals** from **what** they leave behind.

**Oh poo!** You've probably heard someone say that when things aren't going right. But for biologists who study animals, saying "oh poo!" might mean they've found just what they're looking for.

That's because poo, known as *scat* by scientists who study animals, holds a lot of information about the animal that left it behind. Biologists can use scat to identify the animal species, its food, and where it lives. Some biologists get clues about its health and a lot more. You can be a scat sleuth too, if you're not too squeamish.

Just like people, most animals poop regularly, if not every day. That means you can use scat to identify animals all year—even during the coldest

days of winter. You just need sharp eyes and a little information to get started. Scat from some species like rabbits and deer is easy to find—look near wooded areas in parks or even the bushes around your house. You might have to wait until your next trip to the wilderness to find poop from bobcats, moose, and other secretive species.

Remember when looking at scat not to touch it with your bare hands or get too close. Animal scat can carry diseases, so if you have to pick it up, ask an adult for help and make sure they use gloves or a tool.

You can be a scat sleuth and learn to identify scat from many Minnesota animals.

BILL MARGHEL





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### Eastern cottontail (*Sylvilagus floridanus*)

Did you know that rabbits eat some of their own poop? It's a trick they use to survive on twigs, bark, and buds when their nutritious summer foods, like grass and clover, are covered in snow.

If you've ever chewed a twig, you know how tough and indigestible plant parts can be. By eating these foods twice, cottontails get at that locked-away nutrition. After chewing and digesting, the rabbit expels a soft, brown pellet called a *cecotrope* (seek-o-trope), which it immedi-

ately re-ingests for a second pass through its digestive system.

All that digesting results in hard poop pellets about the size and shape of a garden pea. They are brown and often very dry because they are devoid of nearly everything except the toughest, most indigestible fibers. Look for rabbit droppings in dense, low hedges or in brushy, overgrown fields.

Other animals that rely on re-ingestion include snowshoe hares and guinea pigs.



TAMMY WOLFE



SPARKY STENSAAS

### White-tailed deer (*Odocoileus virginianus*)

Like rabbits, deer rely mostly on tough, woody foods to see them through winter. But instead of eating their own poop, deer chew, regurgitate, and re-chew their food to get the most nutrition possible. This process, called *rumination*, works because deer have stomachs with four special chambers that help break down tough foods. Moose, elk, and many other animals, including cattle, rely on rumination.

When deer are feeding on twigs and buds in the winter and early spring, their

droppings are round and hard, like rabbit poop. But in the summer, when they are eating green shoots, leaves, and other foods, their droppings become clumpy.

Whitetails with young are cautious about leaving any clues that would help predators find them. When does leave their newborn fawns alone while they find food, the fawns don't poop until the mother returns. When she does, the fawns stop holding it—and the mother eats the waste to hide the evidence.



SPARKY STENSAAS



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## Moose (*Alces alces*)

Moose also often dine on woody vegetation, particularly in winter. Like deer, they are ruminators that chew, digest, and re-chew their food. They produce oval pellets that are usually harder in winter. In summer, moose poop is soft or even ploppy like cow pies because plants they eat during that time contain more water.

Nearly all Minnesota's moose live in the northeast, and you'll often find their droppings in dense forest with small, younger

trees. During spring and summer, look especially closely near lakes, rivers, and wetlands that have a concentration of water plants, a favorite moose food.

A mature Minnesota moose weighing around 1,000 pounds consumes about 40 pounds of vegetation per day, which results in up to 21 poops a day, according to biologists who study moose poop. Can you imagine taking that many bathroom breaks?



KIM CABERA



DAVID BRISLANCE

## Bobcat (*Lynx rufus*)

Bobcats are strictly meat eaters, hunting rabbits, rodents, fawns, and ground birds like ruffed grouse. Because of this, their droppings are different than animals that eat green shoots and leaves.

Bobcat scat looks like a chunk of rope. The scats are typically 3 to 5 inches long, often broken into distinct segments, although the outer surface of each segment can be smooth. The ends of the scat are often blunt, but sometimes the end that left the animal last is pointed. If you can see

pieces of fruit, berries, or seeds in scat, it probably wasn't left by a bobcat, although they sometimes eat small portions of grass.

Like pet kitties in their litterbox, bobcats often cover their scat, making it hard to find. Sometimes, however, bobcats use their scat to mark territory, leaving it uncovered in a visible location, such as on a trail. When marking territory, bobcats often leave scrape marks near scat that may be another visual signal to other animals.





AUSTIN VINAR



BILL MARCHEL

### Coyote (*Canis latrans*)

Coyotes eat everything from fruits and vegetables to rodents, rabbits, and even a deer on occasion. Because their diet is so varied, coyote droppings may have a lot of different contents.

Often, coyote poop has a rope-like shape. It's typically between 3 and 6 inches long, with bits of bones, hair, seeds, grass, and even some fruit. Like most wild and domestic canines, coy-

otes communicate through howls and barks as well as by scent marking their territory with scat and urine.

Coyotes live just about anywhere they can find enough to eat, including large cities, rural areas, and the wilderness. Look for their droppings on trails, on rocks, or in other visible places. Coyotes often place their scat where other animals see it to mark their territory.



JOHN ERB, DNR



DAVID BRISLANCE

### Wolf (*Canis lupus*)

Finding wolf scat in the wild is easier in Minnesota than just about any other state. Except for Alaska, we have the largest population of wolves in the United States, with more than 2,600 animals. About 11 other states, including Wisconsin and Michigan, also have gray wolf populations.

Like coyotes, wolves leave rope-like scats with bits of bone and hair. Wolf scat is often larger than coyote scat, but

droppings from these two animals look so much alike that biologists sometimes have difficulty telling them apart. In general, wolves more often eat meat. Coyotes tend to have a more varied diet, including fruit and seeds.

While all wolves poop and pee, only the breeding male and female mark the pack's territory by peeing with their back leg raised, like most male domestic dogs.



GARY GEE

### **Bald eagle** (*Haliaeetus leucocephalus*)

You can often spot eagles' nests from miles away because the branches below the nest are thickly coated in white deposits produced by the young. To help keep clean, eagle chicks face the center of the nest and then back away from it to excrete something called a *mute*, which actually consists of three things that all come out together. The dark black part is poop. The small clear runny part is urine. The large chalky white mess is something called *uric acid*.

Uric acid is a byproduct of digesting protein. Because meat is high in protein, eagles and other birds that prey on animals have lots of uric acid. Eagles produce little urine and much of the thick, white stuff in order to retain water in their bodies.

Unlike humans, who have different release valves for poop and urine, all of the waste from the eagle comes out of a large cavity called the *cloaca*. The resulting goop is pasty enough to stick to car windshields.



BILL MARCHEL

### **Ruffed grouse** (*Bonasa umbellus*)

Ruffed grouse live in Minnesota all year, but their small, oblong droppings are easiest to find in winter, against a backdrop of white snow.

During this time ruffed grouse survive on leaf buds and *catkins*, which are tube-like flowers produced on hazel, aspen, oak, and many other trees. Their droppings are about an inch long, slightly curved, with a whitish coating of uric acid on one end.

Because snow is a good insulator, ruffed



grouse dive into it at night to stay warm and hide from predators. If you find a small, shallow hole in a snowy forest, look around for three-toed tracks or imprints of wings. Look all the way to the bottom of the hole—ruffed grouse usually leave droppings just before they take flight.

Grouse scat is more difficult to spot in summer, when the birds are feeding on fruits and berries and their droppings are darker and stand out less against the forest floor.





LEFT: AUSTIN VINAR, RIGHT: COURTESY AMY GOETZMAN.

## American black bear (*Ursus americanus*)

Did you know that bear poop smells good? Maybe not all bear poop, but bears that have been eating fruit or vegetation leave big messy piles that have a sweet or pleasant odor. Often these droppings contain whole berries that weren't ripe enough to digest, plus many seeds from digested berries.

A bear scat can weigh a pound or more. Its appearance changes depending on what the bear is eating. In spring, after bears emerge from their dens, scats might be tubular, small, and dense as bears feed on

fibrous vegetation, such as aspen catkins and buds. As weather warms and juicier vegetation becomes available, bear scats become large and loose.

While most of the state's black bear population lives in northern Minnesota, it is very possible to find bears, and their scat, in the south. Check out the black bear reporting tool on the Minnesota Department of Natural Resources website to see where bears have been spotted in southern and western Minnesota.



MIKE DVORAK

## Serious Sign

Now that you know about scat, go out and see what you can find. You don't need to go to the woods to do this. Cities and towns are also home to raccoons, opossums, squirrels, coyotes, and a host of other animals.

Start by looking for trees or shrubbery with a ragged edge that's been browsed by rabbits or deer. Walking or biking trails and edges of fields are also good

places to find scat and other signs of animal activity. The weather is also important—heavy rain or snow makes scat disappear quickly.

By carefully studying what our wild neighbors leave behind, we can learn firsthand about how animals eat, move, and survive just outside our door. Who knows? Maybe soon you'll be saying "Oh, poo!" to celebrate your latest find. 

