



Illustrations by Stan Fellows

# All Clean!

Minnesota creatures get the **grime** out in their own special ways.

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GETTING DIRTY is part of enjoying the outdoors.

Sand between toes. Mud on knees. Fish scent on hands. These and other signs of good times are easily washed away with soap and water.

But what if you were a wild animal? How would you get clean after getting dirty?

The answer is “naturally.” Critters clean themselves with what nature provides, which is often little more than their tongue, teeth, beak, or paw. Some animals lick themselves clean. Some use special techniques or body parts to get the grime out. Some animals let others of their own kind—or even other species—help to groom them. From birds to bats, moose to mice, animals of all kinds have special ways to clean up.

In the wild, staying clean can help keep animals warm, dry, safe, and free from parasites or disease. It can sometimes even mean the difference between life and death. Let’s learn more about how different animals stay clean.



## Fur Care

The sleek fur coats worn by mammals constantly collect dirt, burs, parasites, and more. Some mammals have homes underground, so they literally live in the dirt, which gets in their fur. Others hunt, hide, and browse for food in

brush where thorns, thistles, and burs can stick to their fur. All these furry creatures are unable to evade *parasites*, the ticks, lice, and microscopic organisms that can feed on them. Fortunately, mammals have ways to stay clean.

## Lick It

Cat owners know how raspy their pet's tongue can be. The tongue of a cat—whether it's a pet in a home or a wild Minnesota cat such as a bobcat or lynx—is covered with backward-facing barbs, like those on fishhooks. When the cat licks its fur, these barbs, called *papillae*, work like a comb to remove dirt and other organic bits of stuff, hairs that have fallen out, and parasites. Cats have their own shampoo too: saliva. Cat spit has detergent-like qualities. That's why a bobcat will wet its paws before scrubbing its face and other places it cannot lick.

Teeth can be cleaning tools, too. Wolves and coyotes use teeth to rake out burs, undo tangles, and nip at bugs that bug them. Claws and hooves serve a similar function. If you see a deer scratching its face with a hind foot, it is likely cleaning itself as well as satisfying an itch.



## Shake It

Have you ever seen a wet, dirty dog shake water and muck off its fur in a cloud of spray that sends people running? Then you understand how some mammals use shaking to clean, dry, and fluff their fur.

Scientists who wanted to explore how fur shaking works took videos of 21 different-sized animals—from mice to river otters to dogs to bears—shaking water off their coats. They learned from their experiment that a soaked furry mammal

can get rid of as much as 70 percent of the water on its body by shaking. They also learned that the smaller the animal, the faster the shake.

Shaking is important for keeping mammals warm, since waterlogged fur can lead to life-threatening *hypothermia*, when warm-blooded bodies get too cold to function. Shaking can also send other stuff that's stuck in the fur flying, including small particles, parasites, and loose hairs.



## The Buddy System

If you've ever seen two house cats take turns grooming each other's heads, you've witnessed mutual cleaning, or *allogrooming*. It is what animals do to help mates and others of their ilk clean where they can't.

It is very common to see mated ducks allopreen, especially during the breeding season. Scientists believe this mutual grooming strengthens their bond. Beavers allopreen, too. Since a beaver

can't reach its back with its stubby little legs, other beavers do that task. Badgers, despite dwelling underground, are remarkably clean due to allopreening.

Wolves are reciprocal groomers as well, especially during courtship. Injured wolves are intensely groomed by other pack members, providing mental and physical comfort. Minnesota's white-tailed deer allopreen, too.

## Tools and Tricks

Some animals use special body adaptations and techniques to clean themselves. A beaver uses a forked toenail on its hind feet to comb and clean its fur. Bats use saliva-moistened thumbs on their wings to get gunk from their ears.

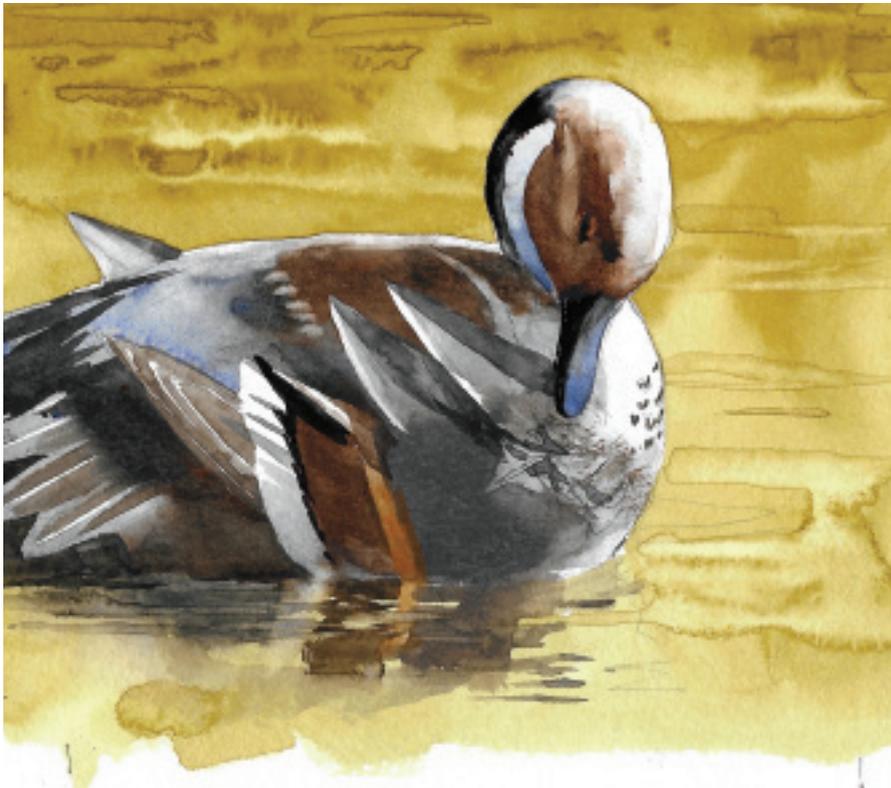


## Here's the Rub

Some of Minnesota's biggest animals rub up against equally big, solid objects to help keep themselves clean.

Minnesota's black bears rub their backs and sides against trees to clean them-

selves, scratch itches, and shed fur. Bison, especially those living on a treeless prairie, use boulders for the same purpose. Some prairie boulders have been rubbed smooth after centuries of use.



## Feather Care

Most kinds of birds clean themselves a lot. In fact, if they aren't seeking or eating food they are often *preening*, using their beak or feet to clean, straighten, remove, and moisturize feathers.

Birds preen in part to align feathers, putting them into just the right position. Clean, aligned feathers can enhance a bird's *aerodynamics*—its ability to slip through the air—and its ability to perform attacking or evading flight maneuvers, depending on whether it's predator or prey. Properly positioned feathers are

also important for repelling rain and providing insulation from heat or cold.

Birds also preen to remove the covers, or *sheaths*, of newly grown feathers. This can be quite a task because some birds have up to 25,000 feathers. Removing sheaths helps new feathers unfurl and grow into proper position more quickly.

Birds also clean for vanity reasons. Like some mussing, fussing, and hair-brushing humans, birds strive to look their best to enhance their chance of attracting a mate.



moves dust, dirt, and other clingy things.

Do baths matter?

Yes, according to a scientific study in which starlings were separated into two groups: those that had access to bath water and those that did not. When the birds navigated an obstacle course, unbathed birds didn't fly as well as their squeaky-clean counterparts.

## Birds A-Bathing

Beyond using their beaks and feet to clean, birds take actual baths. Songbirds often moisten their feathers in backyard bird baths or other water bodies before preening. Splashing and flapping in water re-



## Dust Bathers

Some animals get themselves clean by taking dust baths. Getting dirty to get clean may seem strange, but

it makes sense for many birds and mammals, especially those with little access to water.



## The Turkey Dirt Toss

The wild turkey is a dust bather. Its bathtub, so to speak, is often the edge of a plowed field or an unvegetated sandy spot in or near a forest. It takes a bath by scratching at the ground with its clawed toes, then snuggles low and uses its wings to throw dirt over its body. As it does this, the turkey keeps feathers fluffed so that powdery dust can penetrate to the skin, where the fine particles can clog the breathing holes of attached parasites. Once the bird's dust bath is over, it shakes. This aggressive trembling flicks away many parasites. The turkey ends its bath by preening.



## Bison Bathtub

The bison is another dust bather. Historically a roamer of the prairie, bison often lived where water wasn't in great supply, so they adapted. They discovered that rolling in dirt was an effective way to remove parasites and last winter's unwanted coat.

Bison like to find a sandy patch of ground where they crawl, kick, roll, and grind to create a dust cloud that rains on them. Sometimes they roll in mud to create a defensive barrier that protects them against biting flies, ticks, and lice.

The depressions formed by bathing bison are known as *wallows*. Before the European settlement of North America, wallows were incredibly common across a large swath of the continent. Scientists estimate that the historic Great Plains—some 500,000 square miles—was home to more than 1.5 billion bison wallows.

Moose also make wallows. At one time, Minnesota had a Moose Wallow Wildlife Management Area. It likely got its name from somebody finding a wallow on the property. 🌿