



The Carrion Crews

Thousands of deer and other wildlife are killed on Montana highways each year. Who picks up those carcasses, and what's being done to reduce the dangers to animals and drivers?

By Andrew McKean

GRISLY BUSINESS A Montana Department of Transportation crew based in Wolf Point picks up a dead deer along Montana Highway 24 about 15 miles north of Glasgow.

PHOTO BY SEAN R. HEAVEY

Nick Schriver has become a master of reading roadside deer, thanks to a long career with the Montana Department of Transportation (MDT) driving rural highways in all seasons, weather conditions, and times of day.

“If they have their head down feeding and their butts to the highway, you’re probably good,” says Schriver, a maintenance supervisor based in Wolf Point. “But if they’re facing the road throwing their heads around, you’d better be slowing down.”

Deer behaving erratically—twitchy and unsure which way to run, especially at dusk, dawn, or in the middle of the night—are often the ones drivers see later as roadkill. The dead animals are victims of collisions that routinely cause injury or even death to motorists, and usually outright kill or mortally wound the animal.

Deer aren’t the only wildlife to suffer. Across Montana every year, MDT maintenance crews collect and record 6,000 to 7,000 wild animal carcasses. The state has the second-highest incidence of wildlife-vehicle collisions per capita in the nation due to our abundant wildlife and rural roads that run right through their habitat. Besides Fords, Toyotas, and Subarus, the casualties include elk, bears, pronghorn, moose, bighorn sheep, mountain lions, and smaller mammals, though the vast majority (90-plus percent) are white-tailed and mule deer.

The number of wildlife collisions in Montana is increasing, says Tom Martin, chief of MDT’s Environmental Services Bureau, as the state’s population increases and more visitors drive the state’s scenic rural byways.

Wildlife are perishing in growing numbers on roadways in all other states, too. Across the nation, State Farm Insurance estimates that U.S. drivers hit an estimated 2.1 million animals between July 2020 and June 2021, a 7 percent jump over the previous year. The State Farm report

Andrew McKean, hunting editor of Outdoor Life, lives on a ranch with his family near Glasgow.

Those crashes kill an average of 200 motorists a year, injure another 26,000, and cause an estimated \$8 billion annually in property damage and other costs



KILLER CROSSINGS Above: Mule deer and white-tailed deer bucks are especially vulnerable to vehicle collisions during the November rut, when hormones cause erratic behavior. Below: Grizzlies and black bears regularly cross highways to reach seasonal habitat during spring and fall.



detailed what it called “a veritable Noah’s Ark of animals” that are killed on America’s roadways. Deer kills are by far the most widely reported, with 1.4 million collisions, followed by 190,000 “unidentified animals,”

111,000 rodents, 93,000 dogs, and 58,000 raccoons. Each year those collisions kill an average of 200 motorists, injure another 26,000, and cause an estimated \$8 billion in property damage and other costs, according to the Pew Charitable Trust.

And that’s only the reported accidents. Safety officials estimate that each year hundreds of thousands of wildlife collisions go untallied.

The problem is so universal and costly that Congress dedicated \$350 million of 2021’s federal infrastructure funding to study effective wildlife crossings. The Bozeman-based Center for Large Landscape

Conservation is working with partners to design projects that identify particularly problematic stretches of highway and find ways of reducing wildlife collisions.

BREATH MINTS COME IN HANDY

Schriver’s job with MDT is to count the number of deer, pronghorn, elk—even pheasants and porcupines—hit by motorists in one of the most game-rich parts of Montana: the remote northeastern corner. On his thousand-mile routes, he also keeps an eye out for road stretches that need special signage and notes damage to bridges and asphalt, plugged culverts, accumulating ice, disabled vehicles, and even blown tires and other debris.

But roadkill is the constant though unsavory work that he, his team, and the dozen or so other road maintenance crews do across Montana. “It’s probably the worst most important job in state government, removing roadkill and keeping our roadways safe for the

traveling public,” Schriver says.

Schriver’s crew removes the carcasses from the roadways of northeastern Montana at least twice each week. When they can, they deliver remains to municipal landfills, but more frequently they drag shattered ribcages and punctured paunches off the right-of-way, to prevent scavengers like golden and bald eagles from becoming roadkill themselves. MDT also maintains a few composting facilities where carcasses break down into compost, reducing the need to visit landfills. The threat of carcasses containing chronic wasting disease prions prevents the compost from being used for highway revegetation.

It’s no pleasant task, collecting these broken remains. Many carcasses have been disfigured beyond recognition by the impact

with vehicles, and most are in various states of decomposition or scavenging. Schriver goes through several pairs of durable rubber gloves in the course of a carrion-collecting season. Breath mints and gum can help mask the smell of particularly putrid carcasses.

The maintenance supervisor says his crews are most active in the spring, as snow melts and greening grass along highway shoulders attracts deer, and in the fall, when both hunting season and the rut cause herds to break up and bucks and bulls to act erratically. Roads, and the vehicles that travel them, also cross the migration routes of mule deer and pronghorn moving sometimes hundreds of miles across landscapes. Schriver says he dreads winter storms, not only for the deteriorating road conditions, but because they often trigger migra-



THIS WORK STINKS Above: Zac Beil (left) and Ryan Feezell load a roadkill deer into an MDT truck. Right: Feezell gasps for air.

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HOW TO DRIVE SAFELY IN WILDLIFE COUNTRY

You could argue that every mile of Montana highway has the potential for wildlife collisions. But some areas require special vigilance. Here are several tips for safe driving, provided by Montana Department of Transportation sources:

► **Slow down:** In areas with limited visibility—vegetation grows right up to the shoulder or terrain rises or drops abruptly—slow down so you can react in time to an animal that darts into your lane.

► **Keep your eyes moving:** Scan the roadway and shoulder, paying special attention to unexpected movement like animals crossing far ahead. Others are likely following.

► **Learn trouble spots, times, and seasons:** Most animals move at dawn and dusk. The elk rut in late September and deer rut in early November cause bulls and bucks to move erratically. Bears move around more in October as they frantically feed to bulk up for winter hibernation. Deer frequent roadsides in the early spring to feed on emerging vegetation.

► **Don’t overrun your headlights:** That means driving slow enough at night to be able to stop before hitting something your lights illuminate.

► **Honk:** Honking can be an effective way to move animals away from roads, but don’t do it casually. Lay on the horn for a long, continuous blast rather than short, staccato bursts.

► **Don’t swerve:** Defensive drivers usually spot hazards in time to avoid them, but sometimes a crash is unavoidable. In those instances, brake as vigorously as you can without going into a slide, but do not swerve. Swerving can take your car into oncoming traffic or cause it to leave the road. In these cases, you’re better off just hitting the animal straight on, despite the damage to your vehicle and the animal.

► **Note wildlife crossing signs:** These yellow signs are installed where people regularly run into deer, pronghorn, or elk. In these stretches, slow down, keep your head on a swivel, and avoid becoming—or creating—another wildlife-collision statistic. ■

FROM TOP: PAUL N. JOUENEAU; DAWN WILSON; OPPOSITE PAGE: SEAN R. HEAVEY

tions, pushing entire herds of animals across highways. Those are busy times not only for MDT's snowplow drivers, but also for the department's "carrion crews."

TROUBLE SPOTS

The Wolf Point team, along with dozens of other MDT crews performing similar jobs around the state, don't just remove roadkill. They also document their work: when and where they collect carcasses along with details on each animal's species and condition.

That data pours in weekly to Doug McBroom's computer in Helena. McBroom, operations manager for MDT's Maintenance Division, curates perhaps the most grisly database in Montana.

If roadkill has an afterlife, it's in this information used in Tom Martin's Environmental Services Bureau to determine locations for wildlife-friendly bridges, culverts on a new highway project, 8-foot-high woven-wire fencing that keeps animals off roadways, and deer crossing signs on lonely Montana two-lanes.

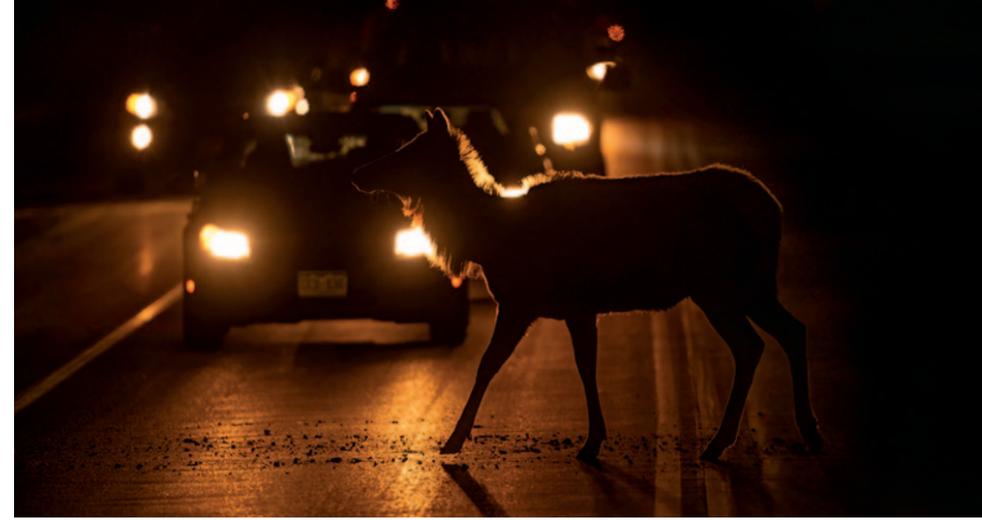
Montana has been compiling this information digitally since 2017—McBroom's database has about 30,000 individual data points that represent wildlife collisions—but people who regularly drive those roads are already aware of the most dangerous stretches.

"The locals know where and when to go slow," McBroom says. "They're places where the highway runs right through a combination of cover, water, and food," and where the terrain funnels animals into drivers' blindspots for a mad dash across the asphalt. Many don't make it.

Schriver takes me to one of these sites, on the east side of the tiny town of Nashua, on U.S. Highway 2 between Glasgow and Wolf Point. A grove of scraggly ash trees shades Porcupine Creek on the north side of the road, while a field of spring wheat extends to the south. A few dozen yards off either side of the highway are the bleached bones and leathered hides of deer—both whitetails and mule deer—that died too far from the road to concern MDT's carrion crew.

"I don't know how many dozens of deer

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FROM CRITTERS TO COMPOST

Top: A cow elk holds up traffic in western Montana. Right: A sign at an MDT composting facility indicates where people should bring dead big game animals. The carcasses eventually break down into organic matter. Though originally intended as compost for highway revegetation projects, concerns about spreading chronic wasting disease prions forced MDT to scrap the plan.



we've picked up here over the years, but it's a lot," Schriver says. "The only thing that prevents more deer from getting hit right here is that the speed limit coming out of Nashua is still 55 miles per hour."

Schriver's description of these "trouble spots" is usually confirmed by McBroom's map. Montana has hundreds of such places, where data clusters identify multiple collisions. One notorious stretch of Interstate 90 southeast of Missoula sees a dozen or more black bear deaths each year. U.S. Highway 93 south of Flathead Lake became so dangerous for drivers, deer, and bears that the Confederated Salish and Kootenai Tribes installed a multimillion-dollar wildlife overpass, the only one in the state. Montana's worst spots may also have small white crosses on the highway shoulders, each signifying a collision that was also fatal to the driver, passenger, or both.

ASKING DRIVERS TO HELP

McBroom's digital map isn't the only registry of wildlife collisions in the state. The Montana Highway Patrol records collisions, and several wildlife groups and agencies have developed their own databases using driver-reported observations. One mobile

app called WildlifeXing, maintained by a cross-border team of wildlife managers, asks travelers to record roadside pronghorn—alive and dead—spotted across southern Alberta, southern Saskatchewan, and northern Montana. Information from this and other citizen efforts is shared with MDT, along with wildlife-collision reports from the Montana Highway Patrol and migration data from Montana Fish, Wildlife & Parks and the U.S. Fish & Wildlife Service.

Much of the FWP information is from animals with GPS collars—ungulates like elk and pronghorn but also species such as grizzly bears. Signals from the collars tell biologists when, where, and how frequently animals cross highways. FWP also issues and records roadkill-salvage permits, enabling motorists to take home an accident-causing deer, elk, moose, or pronghorn and turn it into burgers and roasts to feed their family.

However, salvage-permit requests are a messy metric, says Lauri Hanauska-Brown, of FWP's Wildlife Division. "Just because we don't have any salvage-permit requests from a certain stretch of highway doesn't mean there aren't problems there," she says. "Fewer people living in certain parts of Montana results in fewer permit requests," even though the number of collisions may be just as high

as areas where roadkill salvage is routine.

Hanauska-Brown says local knowledge of wildlife is critical. "MDT is replacing several bridges on a stretch of U.S. Highway 87 east of Lewistown, and they want to know where the major wildlife crossings are," she says. "It's a stretch of highway where we have very few radio-collared animals, but our area wildlife biologist knows where animals cross and when." She adds that MDT is using the information to determine the feasibility of modifying bridge designs or other ways to facilitate easier highway crossings for wildlife.

NEW MAPPING TOOL

Deer have been killed by motorists on Montana roads for as long as there have been highways and fast-driving vehicles. But Martin, the MDT Environmental Services Bureau chief, says the amount and type of knowledge available has steadily improved with evolutions in technology. A new web-based mapping tool is expected to launch this winter. Created in collaboration with FWP and the nonprofit Montanans for Safe Wildlife Passage, it will integrate several data streams, including carcass and collision reports as well as traffic, wildlife, and infrastructure data. The information will be used by agencies and local governments to plan what Martin calls "wildlife accommodation projects" on Montana highways.

Wildlife need the assistance. All species need to move seasonally or even more frequently from one type of habitat to another. Deer, for example, annually travel from winter thermal cover to spring fawning grounds.

Highways impede that vital movement. The roadblocks not only lead to costly and even deadly collisions, they disrupt historical wildlife movement patterns established over thousands of years.

FWP biologists have tracked wildlife movement and migration routes for decades. "We know of places where pronghorn or mule deer have been traveling for generations to reach more hospitable areas in winter or return to fawning grounds in

SAFE PASSAGE MDT has installed dozens of undercrossing culverts beneath highway trouble spots across Montana. This doe and her fawns are moving beneath Montana Highway 200 east of Lincoln.



SALT LICK A sign with flashers indicates where bighorn sheep congregate, often to lick road salt off the highway in winter. Indicators and fencing help, but the best ways for motorists to avoid collisions with wildlife is to slow down and stay alert to animals on the road.

spring," says Hanauska-Brown. "But now they have to run through a gauntlet of fences and highways to get from one place to another. Many don't make it, and some just stop trying."

That can lead to increased winter mortality and reduced fawn production.

Initially, the mapping tool will be used by agency and government civil engineers and planners. On U.S. Highway 2 near the Thompson Chain of Lakes, MDT is investigating the feasibility of installing a wildlife underpass culvert where FWP and MDT have documented regular deer, moose, grizzly bear, and other wildlife movement.

"We've had good success with undercrossings, which are very effective and far less expensive than the highly publicized overcrossings," says Martin.

In time, the mapping tool will lead to a public version, similar to MDT's popular 511

mobile app that alerts motorists to hazardous road conditions, construction zones, and traffic incidents.

Though the new technology can make highways safer and reduce Montana's roadkill tally, Schriver says it's ultimately up to drivers to pay attention and avoid collisions. That starts with "reading" deer behavior and paying attention to those yellow diamond-shaped signs showing a deer, bighorn sheep, or moose that cause any prudent driver to ease up on the gas.

"They're there for a reason," Schriver says. "Locals tend to just ignore them after a while, but hopefully they get the attention of a driver from somewhere else traveling across Highway 2. If they see a sign, or the new 'Antelope Crossing' flashers that we put up in recent years, hopefully they'll slow down so their vehicle, the animal, and maybe even the driver's life will be spared." 🐾

