

# The Swift Fox's Speedy Return

Why, after being declared locally extinct in 1969, has this tiny canine returned to Montana?

by Tom Dickson



**I**N 1996 AMY ZIMMERMAN, a graduate student at Montana State University, documented what biologists had previously thought highly unlikely: a resident population of swift foxes in Montana.

Zimmerman saw her first swift fox one summer afternoon as she and her assistant drove toward a live-trap set on a vast, flat shortgrass prairie near the Montana–Canada border, 25 miles northeast of Havre. As the pickup neared the trap site, the research biologist could see a small, tawny canine moving nervously inside the cage. This was no skunk, which was what she had been catching during the previous six weeks.

“It’s a swift fox! It’s a swift fox!” she shouted to her assistant before climbing down from the truck for a closer look at an animal that Montana had officially declared extirpated (locally extinct) in 1969.

Thrilled to have captured such an elusive animal, Zimmerman quickly sedated the fox, took its measurements, then attached a radio collar before releasing it back into the wild. Over the next two years, she would trap and radio-collar more than a dozen of the prairie canines, eventually discovering three dens containing a total of 15 pups. Her findings documented the return of a species that had disappeared from Montana, and it sparked efforts to expand the fox’s range and population within the state.

“The most beautiful fox that I ever beheld,” is how Meriwether Lewis described the swift fox in 1806. Often exhibiting a

light orange hue, the animal was called “yellow fox” by pioneers, who marveled at the animal’s inquisitive nature. Named for its lightning speed, which can reach nearly 40 miles an hour in a sprint, the swift fox is the smallest canine in North America, weighing just 5 pounds, about half that of a red fox, and standing roughly 12 inches tall.

Closely related to the kit fox, a desert species, the swift fox has large ears, which help it dissipate heat in an environment where daytime summer temperatures can reach 110 degrees. Mostly nocturnal, the swift fox uses its large eyes to see in the dark as it travels through the abandoned prairie dog and badger holes it claims for its den. There it can escape coyotes, eagles, and other predators. Swift foxes pose no threat to farmers or ranchers. In fact, they eat rodents such as mice and ground squirrels considered pests by landowners.

#### **A SWIFT DEMISE**

Swift foxes were once as much a part of North America’s Great Plains landscape as bison, pronghorn, and prairie dog towns. Early pioneers found them throughout the short- and mid-grass prairies from New Mexico north to Saskatchewan. Late 19th-century fur records from forts on the upper Missouri River show that most of the fox pelts turned in by trappers were swift foxes.

Not only were the foxes abundant, but the curious canines were easily lured to bait. That gullibility proved part of the species’ undoing. In the early 1900s, populations began to decline, especially in the northern part of its range, due to indiscriminate wolf and coyote trapping and poisoning, which inadvertently killed swift foxes by the thousands. Another factor, says FWP furbearer specialist Brian Giddings, was the loss of large prairie ungulates.

“After wolves killed bison and elk, swift foxes would scavenge the carcasses,” he says.

Other reasons the species began to disappear include habitat loss (prairies plowed up and planted to crops), poisoning of prairie dogs, ground squirrels, and voles (all swift fox prey), and competition with coyotes and red foxes (whose numbers have increased in the plains with the disappearance of wolves).

By the mid-1900s, the swift fox appeared to have disappeared from Montana altogether. In 1969, the state declared the species extirpated, noting that the last documented record was a specimen captured along the eastern border of Glacier National Park in 1918. Canada declared the swift fox extirpated in 1978. In 1992 the species was petitioned for listing in the



United States under the federal Endangered Species Act, then was listed as a candidate species by the U.S. Fish and Wildlife Service (USFWS) four years later.

It appeared that the swift fox was about to become the endangered species poster child of the Great Plains.

Then, inexplicably, the foxes began reappearing in Montana. "We started hearing more and more reports from people saying they'd seen swift foxes," says Giddings. Most of the sightings were in the state's north-central region around the Hi-Line between Havre and Glasgow.

The foxes were products of an aggressive reintroduction begun in Saskatchewan and Alberta several years earlier. In 1983, the provinces had begun releasing wild-captured swift foxes from Colorado and Wyoming and captive-bred foxes from Canada. Over the next 14 years, Canadian wildlife biologists reintroduced 900 foxes into suitable habitat, with the hope that a healthy breeding population would develop. Though most of the released foxes died (reintroduced foxes are highly susceptible to predation), enough survived to establish a growing resident breeding population.

Once they learned of the Canadian program, Montana biologists assumed the increased sightings were of swift foxes crossing the international border. But with federal listing looming, the state's Department of Fish, Wildlife & Parks knew it needed proof the rare fox had established a resident population in Montana.

That task was assigned to Zimmerman, the MSU graduate student. In 1996 FWP funded her two-year study in northern Blaine and Phillips counties to estimate swift fox distribution and population density, locate den sites, follow the animals' movements, and determine survival rates. Zimmerman trapped 16 foxes, to which she attached radio collars that monitored the animals' movements. Her most important finding during the study was three separate den sites where adults were successfully raising large numbers of pups.

"That was just huge, because it showed Montana did have a resident breeding swift fox population," says Zimmerman, who now lives in South Dakota.

## RAPID RECOVERY

Why were swift foxes thriving in a region where they had all but disappeared? One reason is that Canada and the United States no longer carry out large-scale predator and rodent poisoning programs. Also, many early homesteads have been abandoned and returned to federal ownership, allowing the land to revert back to semi-native habitat. A habitat survey conducted by FWP in the mid-1990s estimated that Montana contained roughly 8 million contiguous acres of suitable swift fox habitat.

That survey and Zimmerman's study were part of a larger swift fox restoration effort. In 1994 ten Great Plains states formed the Swift Fox Conservation Team and began developing a plan to promote the species' recovery and avoid federal listing. The states set standards for population sampling, surveyed their swift fox populations, reviewed the status of existing habitat, and documented whether their populations were rising or falling.

State governments weren't the only ones trying to restore swift foxes. In 1998 the Blackfoot Indian Tribe, Defenders of Wildlife, and the Alberta-based Cochrane Ecological Institute (which rears captive

swift foxes) quietly began returning swift foxes to the Blackfoot Reservation. The Blackfeet consider the swift fox, known to them as *Senopah*, as spiritually significant. Dan Carney, Blackfeet tribal wildlife biologist, says 123 swift foxes reared in Canada have been released over the past six years on the reservation, which still contains nearly 1 million acres of the rolling, shrubless grasslands where swift foxes thrive.

In 2000-01 Montana and Canada conducted a joint census in the region straddling the international border. Biologists determined the Alberta and Saskatchewan population had nearly tripled from estimates five years earlier, from 192 to 560. They also estimated Montana's swift fox population to be 211, not including the Blackfeet foxes nor those reportedly moving into southeastern Montana's Powder River and Carter counties from Wyoming.

"We estimate that about 1,000 individual swift foxes are now along the northern Montana-southern Canada region," says Giddings. "When you think how it's grown from virtually nothing in the 1970s, it's really an incredible restoration success story."

It's so successful that FWP may consider opening a swift fox trapping season, though



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at a highly regulated level that would allow for just a few animals to be harvested from the Montana population each year. Giddings says trappers, who have strongly supported efforts to reintroduce swift foxes, could provide information on where the foxes are trapped. Carcasses turned in by trappers could be studied by FWP biologists to learn more about swift fox populations and genetics.

Defenders of Wildlife denounces any trapping proposal. "We think it's premature to think of harvesting a species that's just getting a foothold in the state," says Minette Johnson, the conservation group's Northern Rockies field representative. But Giddings maintains that using trappers is a smart way to increase Montana's long-term understanding of swift fox behavior and populations.

Biologists continue to seek more information on the elusive prairie fox. FWP has conducted three statewide surveys of swift fox distribution, collects and investigates reports of swift fox sightings, and plans to team up with Canada soon to conduct a new census along the international border.

Carney says an ongoing study using radio-collared swift foxes on the Blackfoot

Reservation has shown that released foxes have established a thriving population.

"We wanted to learn if reproduction is greater than mortality, or if we were just dropping the released foxes into a black hole, so to speak," he says.

Another related study, funded by the federal State Wildlife Grant Program (through Montana FWP) and conducted by University of Montana professor Kerry Foresman, will gather information on the abundance of prey species available to swift foxes on the reservation.

All this work has reassured the USFWS that the swift fox is no longer in peril. In 2001, the agency removed the species as a candidate for federal listing, citing the work done by the Great Plains states through the conservation team to conserve swift foxes.

### THERE GOES THE HABITAT

One of the biggest obstacles to further swift fox population expansion is the continual conversion of grasslands to crop fields.

"Some prairies in north-central Montana are still being plowed up for crops," says Giddings.

Swift foxes also struggle to compete with coyotes and red foxes, which both appear

to do better than the tiny fox in lands disturbed by human development. Another threat is oil and gas leasing on the region's Bureau of Land Management holdings, which has potential to produce more roads and facilities. Because they den near roads to avoid coyotes, which shy away from traffic, swift foxes can be killed by vehicles. And new development could displace the animals and damage habitat.

As swift foxes have shown, the species is capable of expanding its range into suitable habitat if given the chance. Giddings says the area north of the Missouri River between Havre and Glasgow has one of the largest tracts of shortgrass prairie habitat in Montana and could support the expanding swift fox population.

He asks that anyone who sees a swift fox—identified by its catlike size, yellowish coat, large ears, black muzzle patches, and black-tipped tail—to report the sighting to the nearest FWP office.

"People need to know that swift foxes have returned to the north-central Montana prairie," Giddings says. "If you're anywhere between Great Falls and Glasgow, there's a chance you might see one, and we'd definitely like to hear about it." 🦊



**A LITTLE MYSTERY** Weighing just 5 pounds, the swift fox is the smallest canine in Montana, about half the size of a red fox. Once common across the Great Plains, the speedy predator disappeared from Montana in the mid-20th century and was declared extirpated in 1969. In recent years, biologists have been working to restore the species. On the Blackfoot Reservation (above), more than 100 swift foxes have been released. And in north-central Montana, scientists have found enough dens with pups (right)—successive generations of swift foxes released in Canada in the mid-1980s—to document a breeding population.

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