

Nighttime visitors

Story by Dana Nelson
Photos by Wyoming Game and
Fish Department remote cameras



Remote cameras have taken more than 100,000 photographs at burrows in black-footed ferret reintroduction areas, shedding new light on the behaviors of ferrets and showing how many species share space with these endangered animals.



Finding black-footed ferrets is no easy feat. These small, solitary and federally endangered members of the weasel family are nocturnal and spend a majority of their lives below ground in burrows dug by prairie dogs. Once thought to be extinct, black-footed ferrets have been the focus of a huge conservation effort by wildlife managers.

Since the species' storied rediscovery near Meeteetse in 1981, biologists with the Wyoming Game and Fish Department and partner agencies have expended many sleepless nights surveying for these elusive animals to measure the species' recovery progress. Using high-powered spotlights, surveyors search across prairie dog colonies from dusk until dawn hoping survey lights will reflect off a ferret's eyes precisely when it chooses to come above ground. Given the challenges and expenses associated with nighttime surveys, Game and Fish is attempting to expand the toolbox for finding ferrets.

Biologists deployed 150 remote cameras aimed at prairie dog burrows as part of the effort. The motion-activated cameras were intended to verify the presence of black-footed ferrets at burrows identified by scent-detection dogs in the Meeteetse reintroduction area. Detection dogs from the organization Working Dogs for Conservation alerted to the presence of ferrets at multiple burrows — most of which were within 200 meters of a known ferret location — and 33 of the cameras proved the dogs were correct in indicating the presence of ferrets. However, the cameras provided more than validation of scent dogs' selections; they produced an inside look at the daily lives and locations of wildlife within the reintroduction area.

IN THE COMPANY OF FERRETS

Each camera was aimed at a single burrow for about one week, allowing for observation of how many animals may use an individual prairie dog burrow for food or shelter. For example, a single camera placed at one of thousands of prairie dog burrows captured images of a swift fox, a prairie dog, which managed to escape predation, and photographs of three weasel species — ferret, long-tailed weasel and badger. This camera also got photos of passing pronghorn, foraging horned larks and a cottontail that effectively evaded predators.

With more than 109,000 photos taken on the remote cameras during the four-week study, researchers got a glimpse into the lives and activities of at least 23 other species at the reintroduction site. As one might expect, white-tailed prairie dogs were captured in more than 8,000 images and on a majority of cameras. Prairie dogs are the primary food source



Above: A swift fox stretches in front of the camera. At about the size of a house cat, swift fox are predators of prairie dogs and other small mammals.



Top Left: White-tailed jackrabbits frequently inhabit prairie dog towns and other open spaces in Wyoming. They sometimes use prairie dog burrows for shelter from predators. Top Center: North American badgers compete with black-footed ferrets for prairie dogs as a food source and also prey on ferrets themselves. Top Right: Due to their similar size and body shape, long-tailed weasels are commonly confused for black-footed ferrets during spotlight surveys. Above: Two nongame technicians with the Wyoming Game and Fish Department set a trap during overnight spotlight surveys to learn more about ferret populations in Wyoming.

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for black-footed ferrets, but these commonly observed rodents serve a larger and crucial role in the ecosystem. Prairie dogs provide habitat for numerous other wildlife species by creating burrows commonly used for shelter, changing the plant community through their diet choices and digging in the soil, and by serving as prey for many mammals, birds and reptiles.

Prey species such as deer mice, jackrabbits and cottontails use prairie dog burrows for protection from predators, and their images were captured at several locations. Prey animals weren't the only ones found at black-footed ferret burrows. Several birds were detected, including closely monitored Species of Greatest Conservation Need such as McCown's longspur, sage thrasher, and ferruginous hawk. Swift fox, another frequent inhabitant of prairie dog towns and a Species of Greatest Conservation Need in Wyoming, were photographed in 34 locations. Photos of swift fox provided concrete evidence that the species occurs outside of areas where biologists previously expected, adding to a growing list of swift fox sightings in the western part of the state.

In addition to swift fox, cameras captured images of many other predators of prairie dogs. Several photos depicted a successful hunt by a coyote as it passed with a prairie dog in its jaws. Coyotes and badgers are common predators of prairie dogs and also hunt ferrets. Since predation is the primary cause of death for reintroduced ferrets, locations of predators are useful when examining ferret population trends across the reintroduction area.

FERRET BEHAVIOR

Researchers were able to learn and verify several facets of ferret behavior as a result of the strategically-placed cameras. The timestamps of each ferret photo revealed peak hours when ferrets were active, indicating



A rare daytime photograph of a black-footed ferret highlights the dramatic scenery of the original ferret rediscovery site and current Meeteetse reintroduction area near the Absaroka Mountains.



A ferruginous hawk flies near a prairie dog burrow. These hawks are often seen near burrows and can be observed sitting on the ground waiting for their prey to emerge.



Relative to their black-tailed counterparts, white-tailed prairie dogs live in areas with more shrubs like sagebrush and rabbitbrush.



When common ravens inhabit prairie dog towns, these omnivores benefit from the high rodent abundance and take advantage of scavenging opportunities.



Black-footed ferrets often scan the horizon with part of their bodies still protected inside the burrow. While ferrets are fierce and effective prairie dog predators, ferrets are prey to other carnivores and must be aware of their surroundings.

two peaks in nighttime activity that is supported by researcher observations and data from over 23 years of spotlight surveys in Wyoming's Shirley Basin. While this data demonstrates that ferrets are primarily nocturnal, cameras recorded several instances of ferrets out of the burrow after sunrise. Researchers documented these morning emergences by ferrets in South Dakota in the 1960s, and recently this behavior has been associated with ambush attacks on waking prairie dogs.

Many of the postures exhibited by ferrets on camera match descriptions of the original Meeteetse population after rediscovery, including periods of play and several instances when the ferret positioned its body to assess potential threats aboveground, called alert postures. The most common alert posture involves a ferret scanning the landscape with only its head and upper torso visible,

called periscoping, possibly looking for some of the predators documented at the burrows.

Altogether, this collection of photographs illustrates the important contributions to biodiversity provided by prairie dog colonies. More than 130 plants and animals are associated with prairie dogs in native grassland and shrub steppe ecosystems. As prairie dog colonies are conserved to support and help recover ferret populations, a multitude of other species are guaranteed habitat. Charismatic and with a special tie to Wyoming, black-footed ferrets are a symbol of grassland conservation.

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