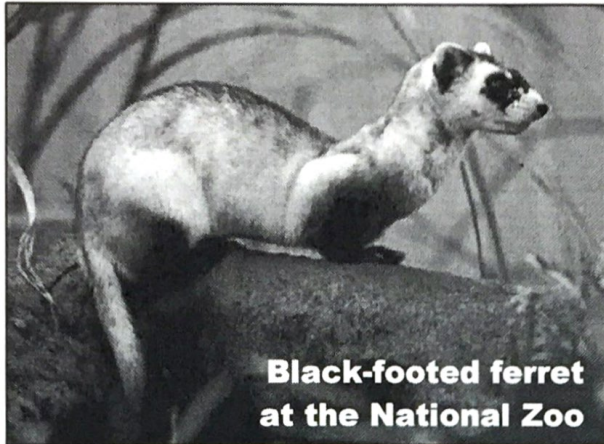


# Black-Footed Ferret Facts (May 2007)



**Black-footed ferret  
at the National Zoo**

## Phylogeny:

This ferret species is a member of the weasel family, *Mustelidae*, along with the badger, fisher, marten, otter, mink, wolverine and weasel.

There are three species of wild ferrets:

1. Black-footed ferret (*Mustela nigripes*)
2. European polecat (*Mustela putorius*)
3. Siberian polecat (*Mustela eversmanni*)

The black footed ferret is the only wild ferret native to North America. Once considered the

rarest mammal in North America, it remains endangered.

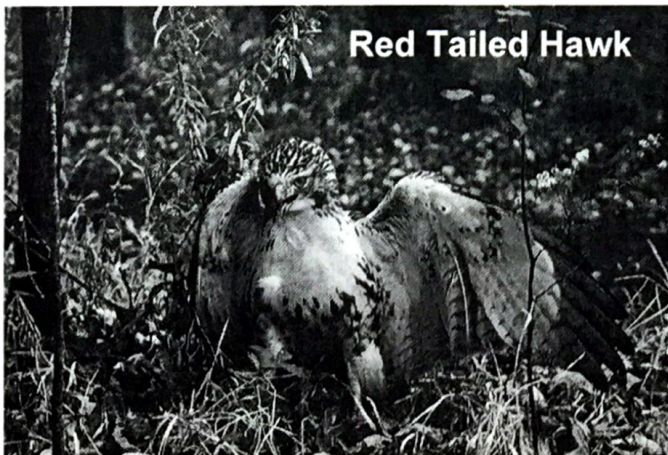
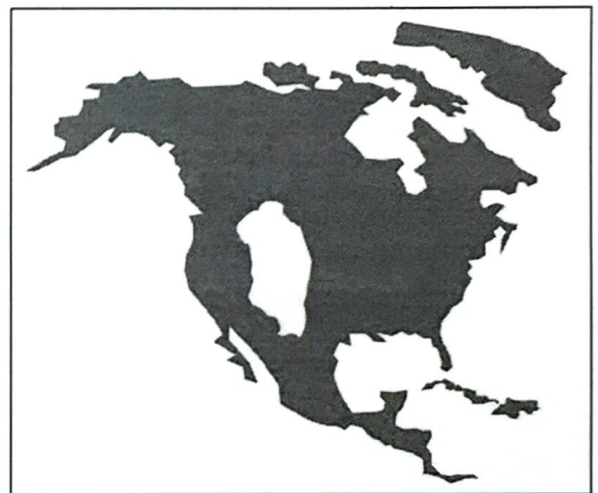
The domestic ferret (*Mustela putorius furo*), also found in North America, is a different species; it is a descendant of the European polecat.

## Habitat:

- North American Great Plains, from southern Saskatchewan, Canada to northern Mexico
- Grasslands ecosystem
- Anywhere you find prairie dogs (must have prairie dog towns to survive)
- Solitary except mother with her babies (called "kits")

## Description:

- 20 to 24 inches long
- Males weigh about 1 kg (2.2 lbs)
- Females are smaller and weigh about 800 grams (0.8 kg; 1.8 lbs)
- Black mask, feet and tipped tail



**Red Tailed Hawk**

## Lifespan:

- In the wild, black footed ferrets can live two to three years
- In captivity, black footed ferrets can live five to seven years

## Predators:

- Badgers
- Coyotes and swift foxes
- Owls, eagles and other birds of prey
- Snakes





#### Prairie Dog Facts

- Prairie dogs are large ground squirrels that eat grasses and forbs
- 5 species (black tailed, white tailed, Gunnison, Mexican and Utah)
- Prairie dogs play an important role in the prairie ecosystem
- They are the "landscapers" of the prairie; their constant clipping of the annual grasses encourages growth
- Prairie dogs aerate the prairie soil with the digging of their burrows
- Considered pests and are thought to compete with livestock for food

#### Diet:

- Considered a "specialist carnivore" (prairie dog equals 90% of its diet)
- Will kill and eat prairie dog and then live in prairie dog burrows
- Nocturnal carnivore

#### Breeding:

- Seasonal breeders (March-June)
- Females come into estrus (heat) only once a year (similar to giant pandas)
- Average litter size = three kits

- Both male and female are able to breed and produce offspring at one year of age
- Females produce offspring for first three years; fertility declines after three years of age
- Males produce sperm from maturity until death



#### Events leading to endangerment:

- Habitat lost due to agriculture, industrial growth and urban development
- Eradication of prairie dogs, with government aid
- Disease:
  - Sylvatic plague: similar to bubonic plague; transmitted by fleas; infects prairie dogs and ferrets directly; ferrets can also be infected by eating infected prairie dogs.
  - Canine distemper: dogs and other canids are carriers; ferrets are highly susceptible

#### Decline of black-footed ferrets in the wild:

Over the last century, populations of black-footed ferrets began to decline. A small population in Mellette County, South Dakota, was studied by the U.S. Fish and Wildlife Service from 1964 to 1974. Twenty of the 151 prairie dog colonies were inhabited by black-footed ferrets, and during this time it became evident that black-footed ferrets were dependent on large colonies of prairie dogs.

In 1966, the Endangered Species Preservation Act was passed, and in 1967, the black-footed ferret was declared an endangered species.

In 1971, six ferrets were brought to the U.S. Fish and Wildlife Service Research Center in Patuxent, MD, to initiate a captive breeding program; however, these first attempts at captive breeding proved unsuccessful and the last captive black-footed ferret died in January 1979.

By the mid-70's, the black-footed ferret was thought to be extinct.

#### A fortunate discovery:

In 1981, a dog named Shep killed an animal on a ranch in Meeteetse, Wyoming. Shep's owner took this animal to a taxidermist for identification, and it turned out that it was a black footed ferret! This precipitated the discovery of the last known wild population of black footed ferrets.

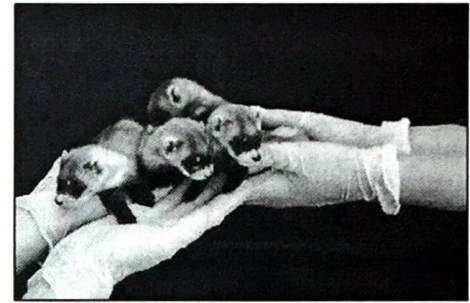


This newly-discovered population peaked at around 130 animals in 1984, but then declined. In 1985, outbreaks of both canine distemper and sylvatic plague further decimated the population.

Between 1985 and 1987, the last 18 black-footed ferrets were brought into a captive breeding facility near Laramie, WY in a last-ditch effort to keep the species from going extinct. This first facility in Wyoming became the National Black-Footed Ferret Conservation Center, and is managed by the U.S. Fish and Wildlife Service. This facility was subsequently moved to Carr, Colorado (near Fort Collins) and houses approximately 60% of all captive black-footed ferrets.

Other facilities joined the breeding program, including:

- Smithsonian's National Zoo, Conservation and Research Center, Front Royal, VA
- Henry Doorly Zoo, Omaha, NE (now not in program)
- Toronto Zoo, Toronto, Canada
- Phoenix Zoo, Phoenix, AZ
- Louisville Zoo, Louisville, KY
- Cheyenne Mountain Zoo, Colorado Springs, CO



### Recovery Goals:

The goal of the 1988 Black-Footed Ferret Recovery Plan is to provide sufficient animals for reintroduction and recovery of black-footed ferrets in the wild, while maintaining a self-sustaining captive population. The Plan emphasizes natural breeding, as well as the development of assisted reproductive techniques (such as artificial insemination). Between 1987 and 2007, more than 6,000 kits have been born in the captive-breeding program. The captive population size at the beginning of the 2007 breeding season was 271 animals (108 males; 163 females).



### Reintroduction:

The 1988 Recovery Plan called for establishing at least 1,500 breeding adults in ten wild populations by 2010. The captive-breeding program has been successful at producing a high number of black-footed ferrets for reintroduction. Over 2,500 ferrets have been released since 1991. It was estimated that in 2006 there were 850 black-footed ferrets surviving in the wild. While much progress has been made, the fate of the species still hangs in the balance, as the prairie ecosystem continues to vanish. Persistent political and social issues also hamper recovery efforts.

### Reintroduction sites as of 2007 (and the year they were established):

- Shirley Basin, WY (1991)
- Charles M. Russell National Wildlife Refuge, MT (1994)
- Conata Basin/Badlands National Park, SD (1994/1996)
- Aubrey Valley, AZ (1996)
- Fort Belknap Indian Reservation, MT (1997)
- Coyote Basin, UT (1999)
- Bureau of Land Management 40 complex, MT (2000)
- Janos, Mexico (2000)
- Cheyenne River Sioux Tribe, SD (2001)
- Northwest/Wolf Creek CO (2001)
- Rosebud Sioux Tribe, SD (2004)
- Lower Brule Sioux Tribe, SD (2006)



**Smithsonian's National Zoo, Conservation and Research Center (CRC), Front Royal, Virginia:**

CRC has one of the world's most extensive programs in conservation biology research, training and education. Because of the unique facilities and limited public access, CRC became the first USFWS partner in the captive breeding program, in 1988.

The 1988 Black-Footed Ferret Recovery Plan emphasized natural breeding to maintain the captive individuals, but it also recognized the potential benefits of assisted reproductive technology, especially artificial insemination (AI). Scientists from CRC started studying the basic biology of the domestic ferret and the Siberian polecat to develop techniques that could be applied to the black-footed ferret.

**Milestones:**

In 1995, it was discovered that more than 50% of the black-footed ferret males had failed to sire offspring due to a combination of behavioral and physiological factors, but sperm quality was not compromised.

In 1996, scientists at the Conservation and Research Center began using artificial insemination in black-footed ferrets to maintain genetic diversity. Laparoscopy is used to visualize the reproductive tract; then sperm is deposited directly into the uterus. For artificial insemination, semen can be collected from a male or frozen/thawed semen stored in the Black-Footed Ferret Genome Resource Bank (repository of frozen sperm) can be used.



- From 1988 through 2006, 354 kits were born from natural breeding at CRC.
- From 1996 to 2004, 133 kits were born from artificial insemination.
- Since 1991, over 200 black-footed ferrets from the National Zoo's Conservation and Research Center have been released into the wild.

