

**ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM**

**Animal Abstract**

**Element Code:** AMAJF02040

**Data Sensitivity:** YES

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Mustela nigripes* (Audubon and Bachman, 1851)

**COMMON NAME:** Black-footed Ferret

**SYNONYMS:** *Putorius nigripes* Audubon and Bachman, 1851

**FAMILY:** Mustelidae

**AUTHOR, PLACE OF PUBLICATION:** Audubon and Bachman, 1851. Vivip. Quad. No. Amer, 2:297. *Mustela nigripes* Miller and Bull, 1912. U.S. Nat. Mus., 79:102.

**TYPE LOCALITY:** Fort Laramie, Goshen County, Wyoming.

**TYPE SPECIMEN:**

**TAXONOMIC UNIQUENESS:** One of 14 living species in genus *Mustela*; 1 of 2 species found in Arizona, the other being *M. frenata* (long tailed weasel). There are no subspecies in the species *M. nigripes*.

**DESCRIPTION:** A mink-like shaped mammal that is yellowish brown or buffy above, with brownish wash on back. The underparts are a lighter cream or buff color. It has a black forehead, black-tipped tail, black feet and legs, and a black mask covering its face. Winter pelage is slightly longer. Young ferrets are slightly lighter in color. They have well-developed claws on the front paws, large ears, and relatively large eyes that give off a green reflection at night from artificial light. The head and body are 15-18 in (38-46 cm), AGFD (1987) reports lengths of 18- 24 inches not including tail; tail 5-6 in (13-15 cm); hind foot 2-2.875 in (5.08-7.3 cm). They can weigh up to 3.5 lbs, although they average 1-2 lbs; females average 10% smaller than males in linear measurement. Mastoid process is notably angular. Skull has 34 teeth.

**AIDS TO IDENTIFICATION:** The Kit fox has a bushy tail and its feet are not black; weasels and mink lack the dark mask; weasels are brown above and white below; mink are uniformly dark brown or black.

**ILLUSTRATIONS:**

Color photo (Whitaker, 1996: plate 249).

Color photos (BFFRIT, 1998: 1-4).

Color photos (Line, 1997: 21,26).

Color photos (Belitsky, 1993: 19-20).

Color drawing (Burt and Grossenheider, 1980: plate 6).

**TOTAL RANGE:** Formerly the Great Plains from South Alberta and South Saskatchewan South to west Oklahoma, Texas, New Mexico and Arizona. Currently: reintroduced into Arizona, Colorado, Montana, South Dakota, Utah, and Wyoming.

**RANGE WITHIN ARIZONA:** Current: Reintroduced into Aubrey Valley, Coconino County. Historical: Western Coconino County eastward north of the Mogollon Rim in the range of the Gunnison's prairie dog; possibly ranged south of the Rim in the habitat of the Black-Tailed Prairie Dog in Graham, Apache, and Cochise Counties.

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**BIOLOGY:** Primarily a solitary nocturnal animal, active 2-3 hours after sundown and early in the morning before dawn. They hunt primarily at night. Less active in winter; inactive for periods of up to 6 nights and days (Rickart 1987 in NatureServe 1999). They are nearly always associated with prairie dogs, and live in prairie dog towns and raise their young in the prairie dog burrows. Fresh, untamped earth at entrance of prairie dog burrow often indicates occupancy by ferrets (Prairie dogs tamp down mounds of excavated earth). (Whitaker 1996). Ferrets avoid spending long periods of time above ground, instead, bounding in zigzag fashion from burrow to burrow, stopping frequently to peer suspiciously about. An individual can visit as many as 400 burrows a night. This behavior helps ferrets dodge a multitude of predators including: coyotes, badgers, golden eagles, great horned owls, and other raptors (Richardson 1986). Their relatively large ears suggest their hearing is well developed, also the sense of smell is dominant. Sight is relied upon at a close range, but does not seem important further than 300 ft. Their vocalization includes calls for threat, defense, greeting, mating, and sounds by young. Calls heard often are labeled as "bark", "huff-hiss", "growls", "ung", and "chattering-bark" (Clark et al 1986). When aroused or frightened they emit an odor.

**REPRODUCTION:** Mating occurs in spring (March -April); gestation 42-45 days; Litter size of 2-5, with an average of 3. Young are born in June, and stay with their mother until they reach the adult stage in August; disperse in fall. At birth, they resemble small mice, their eyes are tight shut, their markings are not evident. Both sexes reach sexual maturity at one year.

**FOOD HABITS:** Prairie dogs make up 91% of their diet, and only when necessary do they prey on alternate animals that they can overpower, such as ground squirrels, cottontail rabbits, and deer mice.

**HABITAT:** Arid prairies, the same habitat used by prairie dogs: in Aubrey Valley, Arizona, it is characterized as Plains and Great Basin Grassland community where the annual precipitation is an average of 25-30 cm. An estimated 40-60 ha of prairie dog colony is needed to support 1 ferret.

**ELEVATION:** In Aubrey Valley they range from 5,250-6,234 ft (1600-1900 m).

**PLANT COMMUNITY:** The common vegetation in Aubrey Valley includes blue gramma (*Bouteloua gracilis*), broom snakeweed (*Gutierrezia sarothrae*), sagebrush (*Artemisia* sp.), four-wing saltbush (*Atriplex canescens*), and winter fat (*Eurotia lanata*), interspersed with forbs and bounded by pinyon-juniper (*Pinus edulis-Juniperus* sp.) ridges (Pender 1992). The common plant species of *Cynomys gunnisoni* (the ferrets main prey item) in New Mexico includes: blue grama grass, crested wheatgrass (*Agropyron cristatum*), red three-awn (*Aristida longiseta*), cheatgrass (*Bromus tectorum*), sixweeks fescue (*Vulpia octoflora*), Indian ricegrass (*Oryzopsis hymenoides*), squirreltail grass (*Sitanion hystrix*), sagebrush, broom snakeweed, and rabbitbrush (*Chrysothamnus* sp.) (BISON 2000). The distribution of many of these species range into Aubrey Valley, thus they could also occur at the introduction site in Arizona.

**POPULATION TRENDS:** Formerly through the Great Plains, mountain basins, and semi-arid grasslands throughout North America. Extirpated from virtually all of its range because of prairie dogs and predator control programs. Prairie dogs were poisoned relentlessly in the 1930's. Since that time, the prairie dog has been able to reestablish itself in areas poisoned decades ago. It is now locally common in areas like the Coconino Plateau. The ferret evidently was not able to survive this "bottleneck" in prairie dog numbers (Belitsky 1993). It was recently reintroduced to Aubrey Valley in Coconino County as a "nonessential experimental population" in 1996; 65 ferrets were placed in acclimation pens, and 40 ferrets were initially released into the wild. This release occurred during a time of drought in the area, which killed many prairie dogs (the ferrets' food source).

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** LE (USDI, FWS 1967), XN = None  
Essential

**STATE STATUS:** 1A (AGFD SWAP 2012)  
[WSC, AGFD, WSCA in prep]  
[Endangered, AGFD, TNW 1988]

**OTHER STATUS:** Group 2 (NNDFW, NESL 2000, 2005,  
2008)

**MANAGEMENT FACTORS:** Wildlife Research Program began a ferret captive propagation program. Release sights in several States: Arizona, Wyoming, Montana, South Dakota, Colorado, and Utah. Current threats to reintroduced populations include flea-borne sylvatic plague and canine distemper (Line 1997).

**PROTECTIVE MEASURES TAKEN:** Fitted stops on traps, snares, and tension springs on leghold traps should prevent inadvertent capture of ferrets. Were taken for captive breeding programs which have been highly successful. Use of acclimation pens at release sites.

**SUGGESTED PROJECTS:** Continue search for extant populations, and continue captive breeding and introduction programs.

**LAND MANAGEMENT/OWNERSHIP:** BIA - Navajo Nation (Aubrey Valley - Big Boquillas Ranch).

## **SOURCES OF FURTHER INFORMATION**

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**ADDITIONAL INFORMATION:**

State and federal agencies, in cooperation with Native Americans, private landowners, conservation groups, the North American zoo community and the Black-footed Ferret Recovery Implementation Team, have been actively reintroducing black-footed ferrets back into the wild. The goal is to establish 10 or more self-sustaining, black-footed ferret populations. By the year 2010, biologists hope to have 1,500 ferrets established in the wild (Black-footed Ferret Recovery Implementation Team 1998).

Efforts are being made to construct outdoor preconditioning pens at certain reintroduction sites. Ferrets housed in such pens will live and breed in natural prairie dog burrows and

encounter live prairie dogs. Studies have shown that such preconditioning significantly increases a black-footed ferret's chance of survival in the wild. (BFFRIT 1998)

In 1997, the Aubrey Valley prairie dog complex was comprised of 16 towns with a total acreage of 29,656 ac (12,001 ha). This is up from 19,368 ac (7838 ha) estimated in 1996 for 21 towns identified. Prairie dog density estimates ranged from 3.94 to 11.15 prairie dogs per hectare (mean = 6.52). (Van Pelt et al, 1998).

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