

Swift Fox

Vulpes velox

Class: Mammalia **Order:** Carnivora **Family:** Canidae (coyotes, dogs, foxes, wolves)

Other names: Northern Kit Fox, Prairie Kit Fox, Swift Kit Fox [1]

Other subspecies: In 1902, the swift fox was split into 2 subspecies, *Vulpes velox velox* and *Vulpes velox hebes* [2].

Different sources list anywhere between 2-10 subspecies, including listing of swift foxes and kit foxes as subspecies of the same species [2].

Other Relatives: There is disagreement regarding the taxonomic status of the swift fox. As of 2008, most literature considers the swift fox (*Vulpes velox*) and kit fox (*Vulpes macrotis*) separate species, however, some evidence suggests that swift fox and kit fox should be considered subspecies, *Vulpes velox velox* and *Vulpes velox macrotis*, respectively [2].



Zoo Swift Foxes 1.1

'Dakota' 0.1 – female

DOB: 04/28/2005 AQ: 5/16/2007

About Dakota

Dakota was born at the Dakota Zoo and weighs around 5 lbs. She lived at the Brandywine Zoo with her sisters, Montana and Sioux, until their passing.

'Chuck' 1.0 – male

DOB: 05/15/2009 AQ: 01/28/16

About Chuck

Chuck was born at the Riverside Discovery Center, in Nebraska, but was transferred to the Great Plains Zoo (SD), then Hershey Zoo before coming to the Brandywine from the Hershey Zoo, where he lived since 2013. His dam was born at Sioux Falls (last checked, still alive at 16 years!), and his sire was wild born (now deceased).



Species Survival Plan

Status

Least Concern*

*Current estimates for the United States suggest that Swift Foxes are located in 39–42% of their historic range [3]. The Swift Fox has been down-listed from '**extirpated**' to 'endangered' in Canada as a result of the Swift Fox reintroduction program [3]. In the United States, the Swift Fox was petitioned for listing under the Endangered Species Act but in 2001 the US Fish and Wildlife Service determined listing to be unwarranted [3]. In 2003, the Canadian federal government passed the country's first 'Species at Risk Act', which will provide greater legal protection of Swift Foxes and promote landowner stewardship programs facilitating local conservation efforts [3].

** *Vulpes velox hebes* is listed as Endangered [2]

Geographic Region

Small pocket populations in western Canada and Montana, across the Great Plains of North America, to Texas. The southern periphery of the range is still central New Mexico and north-western Texas [3].

Habitat

Prairie specialists; Native to short-grass and mixed-grass prairies of the Great Plains in North America [3]

Characteristics

Size: *Height:* 12 inches (30 cm) tall at the shoulders [2] *Length:* 33 inches (84 cm) (head to tail) [2] *Weight:* 3 to 7 pounds (1.4-3.0 kg) [2]

Longevity: **Wild** 5-7+ years [2] **Captivity** probably in the range of about 15 years

Physical Description

- The swift fox is the smallest of the wild dogs in North America [4].
- The fur of a swift fox is light grey with orange-tan coloring on the sides and legs. The throat, chest, underside and inside of the ears are creamy white. The tail is bushy and marked with black at the tip. There are also black patches on either side of the snout [4].
- In the winter, their fur becomes thick and soft [5].

Dimorphism

Males: Males are slightly larger than females [2]

Females:

Diet: Omnivore

Diet in the Wild: Opportunistic foragers. The diet of the swift fox varies seasonally, depending on what is available. It typically eats whatever live prey it can catch. Its diet includes small mammals, birds, reptiles, amphibians, fish, insects, but also includes berries and grasses [4].

The swift fox's native habitat is generally semi-arid where freestanding water is often rare. Therefore, the swift fox can remain in water balance with food alone and can probably survive without freestanding water. However, water may be necessary for the survival of particular mammals and birds on which the swift fox preys [5].

Diet in the Zoo: canine raw meat, dry dog food, mixed fruit and vegetables, whole prey (chick or mouse), hard boiled eggs

Behavior

- *Nocturnal*, night-active
- Daytime activities are confined to dens and vary seasonally. In winter, foxes may sun bathe during the warm midday period, while in summer they only spend early evenings and nighttime above ground [2].
- The swift fox is indeed rather swift, reaching speeds of over 50 km/h (37mph). Their speed helps them catch food and avoid predators. Swift foxes also avoid predators by seeking shelter in burrows. [4]

Social Structure and Communication

- Typically monogamy is most common, but social units with nonbreeding adults as well as trios were observed, as well as extrapair mating and mate switching [2]

Home Life

- Their dens are burrows underground, usually two to four meters in length with four entrances [4].
- Home ranges average from 1,900 to 7,900 acres [2] In Kansas, Swift Foxes have been found to den and forage in fallow cropland fields such as wheat [3]
- Swift foxes will excavate their own dens or enlarge burrows of ground squirrels, prairie dogs, badgers, or other animals. Dens can be located by looking for mounds of earth in front of each entrance. Entrances are circular or keyhole in shape, approximately 7 to 9 inches in diameter, and there may be more than one entrance to a given den [5].
- Pup-rearing dens have numerous entrances, whereas, dens used to escape from predators frequently have only one opening [5].
- Each family group often has a number of clustered den sites. The maximum span between dens is approximately 550 yards [5].

Reproduction

- Generally *monogamous* [2]
- May breed in their 1st year [2]
- Low density of populations has resulted in typically monogamous mating, however, the occurrence of trios including 2 males or 2 females has been noted [2]
- The breeding season for individuals in Canada begins in March, breeding season for individuals farther south in the United States begins in late December, early January, gestation period is 49-55 days, and litters of 8 pups (though 3-6 is more common) are born in March and early April [2].
- Swift foxes have only one litter annually, with a litter size ranging anywhere from two to six.
- Pups are born in an underground den and typically remain there for about one month. After birth, the eyes and ears of the pups remain closed for 10 to 15 days, thus leaving them dependent on the mother for food and protection. Pups are weaned when six to seven weeks old but usually remain with the mother and father until the fall [4].

Conservation

In the 1930s, the swift fox was nearly extinct due to an attempt to control predator populations. By 1938, there were no foxes left in Canada. Thanks to a reintroduction program starting in 1983, the foxes have been successfully living in Alberta and Saskatchewan, as well as Montana [3].

- **Use & Trade:** In the past, the fur of the swift fox was a valued commodity [4].
- **Threats:**
- Historically, the Swift Fox was considered an abundant predator of the prairies, but numbers were severely depleted by the late 1880s and early 1900s due to predator control programs. In Canada, the last recorded specimen was collected in 1928 [3]. Where previously abundant in the 1800s, species was probably extirpated from Kansas by the 1940s [3]. Following approximately 50 years of extirpation, a Swift Fox reintroduction program was initiated in Canada in 1983, and by 1997, 942 foxes had been released, primarily utilizing captive breeding but also through the use of translocations and by 2000/2001, census studies shows their populations had tripled in reintroduction areas [3]
- In the United States, Swift Fox populations are believed to be stable in Texas, New Mexico, Oklahoma, Colorado, and Kansas. The population in Wyoming is relatively stable but fragmented [3].

- Since Swift Foxes are primarily prairie specialists, ongoing conversion of grassland to cropland threatens to reduce population sizes and further fragment populations [3]. Alteration of the landscape likely influences local and seasonal prey availability, increases risk of predation on Swift Foxes, and leads to interspecific competition with other predators such as the Coyote and Red Fox [3].
- An increasing trend towards irrigation of crops from the dry-land farming practices of fallow cropland every other year could exclude Swift Foxes that have adapted to den and forage successfully under the dryland farming rotational practices [3].
- In Canada, the oil and gas industry is expanding dramatically and previously isolated prairie areas are now targeted for exploration [3]. Greater urbanization coupled with coyote control may facilitate Red Fox expansion, which could lead to the competitive exclusion of Swift Foxes in established prairie areas [3].
- Landowners that are attempting to protect their livestock from Coyote depredation use poisons illegally and swift foxes readily consume such baits [3]
- **Predators:** coyotes prey on swift foxes, and red foxes are competitors for den sites and territory [3]. Other predators include golden eagles, American badgers, bobcats, large hawks, and great horned owls [5].

Did You Know?/Fun Facts

- Swift foxes use dens year-round, unlike other members of the canid family [5].

Glossary: List of definitions of the most important recurrent technical terms used in the text.

Extirpated – eradicated, to root out and destroy completely.

Opportunistic foragers- they can successfully adapt their diet to the availability of food items.

References

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