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Arctic Fox

Vulpes lagopus



Photo credit: Bill Keay

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While it is the smallest species of wild canine in Canada, the arctic fox is a stealthy hunter that tolerates the same icy climate as the polar bear and arctic wolf. Its pure white coat allows the fox to stay active during the winter season, providing ideal camouflage in the arctic tundra. Their dense fur is said to be the warmest of any land mammal.

Scientific name: *Vulpes lagopus* (formerly *Alopex lagopus*)

Family: Canidae (foxes, coyotes, wolves and dogs)

Other names: the polar fox or white fox

Characteristics

Close in size to the domestic cat, an average adult arctic fox measures between 80-110 cm (2.5-3.5 ft) from its snout to the tip of its tail and weighs around 3.6 kg (8 lbs). Females are generally smaller and lighter than the males, with an average length between 71.3 to 85 cm (28.1 to 33 in) and weighing around 2.9 kg (6.4 lb).

Physically, the fox is well-adapted for survival in the severe arctic environment where temperatures can drop as low as -70 degrees Celsius. Their dense coat of lush white fur extends to the very soles of their feet, providing a deep layer of insulation during the winter season. Its short snout, ears and limbs reduce the amount of surface area exposed to the cold climate, helping to retain body heat. Their voluminous tail comprises close to 35% of their total length and provides added insulation when used to shield the body from the cold climate.

The arctic fox is the only canine species capable of changing its coat color according to the season. With the onset of warmer weather, beginning in May, their coat takes on brown, grey and tan hues to camouflage with rockier landscapes. In the summer, their coat will turn to bluish grey. Some of the southern-ranging populations of arctic fox will keep this brown-grey coat year-round.

Life Cycle

As the winter comes to an end in March and April, the arctic fox will begin to look for a mating partner. The initial courtship between female and male foxes involves a period of play-fighting and chasing, followed by mating.

During the breeding season, the pair will nest in a den burrowed into a gravelled ridge or along a river bank in sandy, dry, frost-free soil. These den sites can be very complex, with multiple entrances, and can be reused from generation to generation. After a gestation period of 51-57 days, the female will give birth to litters averaging between 7-14 young. The litters are typically born between late May and early June. The pups are born blind with a light coat of fur, weighing about 57g.

Both male and female foxes are involved in raising the offspring. The male fox plays a critical role in supplying food for the mother and litter during the nesting period. The mother will nurse the litter for 5-6 weeks, after which she will resume hunting to provide food for her pups. When the litter reaches 14-15 weeks old, the young pups begin to leave the den. After one year, the pups are sufficiently developed to live independently and form their own mating pairs.

The average lifespan of an arctic fox is 3-6 years, but they can live up to 14 years in captivity. In periods where prey are scarce and there is insufficient food to feed their growing pups, the parents may abandon the nest and their young.

Habitat

The arctic fox inhabits a vast circumpolar range, including the arctic region of Northern Canada, Alaska, Russia, Northern Europe, Greenland and Iceland. In Canada they are found as far north as Ellesmere Island and as far south as James Bay.

Depending on their location, they sometimes dwell in burrows, and will tunnel into the snow cover to shelter themselves from stormy weather. Southern-ranging populations of arctic fox compete for prey and den sites with their larger relative, the red fox. In some cases the red fox will attack younger, more vulnerable individuals of arctic fox. Researchers are concerned that the red fox is expanding its northern range, putting new survival pressures on native populations of arctic fox.

Behaviour

Arctic fox primarily hunt small rodents called lemmings, which make up the majority of their diet. However, their eating habits will change throughout the year according to the seasonal abundance of prey. Populations of arctic fox are known to fluctuate with changes in lemming populations.

During the winter months when lemmings are scarce, the arctic fox will travel great distances, foraging for alternative food sources. They are described as "opportunistic" predators and will scavenge on scraps of carrion left behind by other wildlife. They will often trail behind larger predators in their vicinity - such as the polar bear and arctic wolf - to feed from their leftovers. In coastal regions, they will eat fish, seaweed and other marine species. Their omnivorous diet can include birds, eggs, ground squirrels, tundra voles, berries and vegetation. They also demonstrate a careful survival instinct by storing surplus food in caches during the summer season, to be retrieved later in the year.

When hunting in the arctic tundra, the fox listens carefully as it walks atop the snow cover, keenly perceiving the movements of prey up to 1.5 metres below the surface. It will then use its front paws to break through the snow and burrow down to retrieve its prey.

The arctic fox will make particular vocalizations depending on the social situation. During the mating season, they use a barking yowl to communicate with potential mates across great distances. They will yelp to warn their young of impending danger and use a high-pitched whine to defend their territorial boundaries.

Threats

At present, the global population of arctic fox has a healthy status, estimated to be several hundred thousand individuals. They are listed as a species of "least concern" on the IUNC Red List. There are two endangered sub-populations in Russia and Scandinavia. There is an estimated 120 individuals remaining in Sweden, Norway and Finland combined.

These sensitive, unstable populations are attributed to periods of intense hunting, and the spread of diseases such as rabies and mange.

While they have few natural predators, including wolves and polar bears, the arctic fox has historically been an important game species for human hunters. Early records of fox populations come from the fur trading industry, indicating the yearly pelt harvests. Traplines (leg-hold traps) are still used in regions where fox pelts retain some of their market value, as with some native communities in northern Canada. According to the International Union for Conservation of Nature (IUNC), the arctic fox is the most valuable game species in the Arctic region. Despite these practices, populations of arctic fox have largely proven resilient to hunting pressures.

Other factors in mortality rate include intense cold, fatigue, insufficient prey (particularly during the crash of lemming populations) and declining numbers of large predators, whose leftover scraps of prey provide the fox with critical sustenance in periods of winter scarcity.

What We Can Do To Help

Fortunately, hunting of the arctic fox is on the decline in many countries, as is the market value of their pelts. In the most cases there are restrictions in place on the hunting season, and limitations on hunting licenses. In countries where populations remain sensitive, there are legal regulations and conservation measures in place to protect the species and its habitat, as in Sweden, Finland and Norway.

Other Interesting Facts

- ^ The arctic fox is the only species of canine capable of changing its coat color with the seasons.
- ^ They are the most northerly ranging species of all foxes.
- ^ The fur covering the pads of their paws provides insulation as well as traction against the icy surface of the arctic tundra. It's scientific name *Vulpes lagopus* refers to this cold weather adaptation, *lagopus* meaning "hare-foot."
- ^ Some of the fox's breeding dens that are reused annually may be up to 300 years old.
- ^ The arctic fox's thick white fur has historically been of great value to indigenous cultures such as the Inuit people of northern Canada. It was a lucrative resource for the early fur trading economy in Canada, Alaska and Russia. In Canada, large harvests of arctic fox were traded with the Hudson's Bay Company.

Where & When to view the Arctic fox?

Tourism in the arctic will sometimes allow visitors to catch a glimpse of the arctic fox. Wildlife officials make sure that visitors keep sufficient distance from the animals, so the foxes do not become reliant upon human campsites and artificial foods. This is also a preventative measure against the transmission of diseases.

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