



BLACK-BELLIED ARCTIC FOX

Nigrum Ventriosus Alopex Vulpes

Mammal

Carnivore



Musculoskeletal system

A muscular animal, with many 'fast twitch' fibres- like a cheetah. This allows the Black bellied arctic foxes to run at speeds of up to 30km/hr from an almost standing start- to catch seals basking by the shore. It also has a flexible spine that allows its back to act as a spring for faster speeds and springing on prey. It cannot run fast for long -about 3 minutes. Its feet are big with sharp claws like a cat. This helps it grip glacial ice in a similar fashion to crampons. Large feet with thick fur between the pads allows it to walk on soft snow as people do when wearing snow shoes. Multiple nerve endings in muscle allow very fast reaction times.

Respiratory system

The black-bellied arctic fox's respiratory system is useful in the arctic conditions. The fox breathes in oxygen through the back of its moist adenoid glands which moisturises and warms the air as it travels through the respiratory system.

It can close its nostrils when diving after seals to stop water entering the nose, using powerful alae nasae muscles

Senses

Eyes: Black bellied arctic foxes have Excellent binocular vision. Rapid image acquisition and processing in the brain helps the Black bellied arctic fox to see in slow motion like a bird and catch fast moving prey -such as arctic hares- with little difficulty. They are able to see underwater and can see in fifteen different colors similar to a butterfly.

Ears: Black bellied arctic foxes can hear 12 metres away like a bat. Their ears are pointed forwards so they can hear prey when hunting them

Smell: Black bellied arctic foxes can smell a drop of blood from 5 metres away and can smell it in 100 Litres of water if hunting. The other 2 senses touch and taste work like any human.

Appearance

The Black-bellied arctic fox is 2-3 meters long and is about the size of a polar bear. The adult female can weigh up to 500kg and the adult male up to 700kg. It has small amber eyes and long eyelashes that protect the eyes from damage caused by blizzards and snowstorms. The black-bellied arctic fox has a long snout with a black tip. It's body is fully covered in white fur apart from it's stomach which is black. Black-bellied arctic foxes have long and bushy tails that help warm its body.

Reproductive system

Black-bellied arctic foxes mate in spring. The gestation period is 5 months and each litter contains 3-5 young. The babies are fed by the mother's mammary glands for up to 1 year, during which time the young are gradually introduced to more solid food. The black-bellied arctic fox live in packs with usually one dominant male, who may mate with up to 3 females. In spring the males can be seen fighting within the pack for the position of the dominant male.

Excretion

Efficient kidneys retain water well - like a camel so it can go several days without drinking - useful when snow eating would cool the body

It marks territory by leaving urine markings- detectable by other Black bellied arctic foxes a long way away.

Diet and Predators

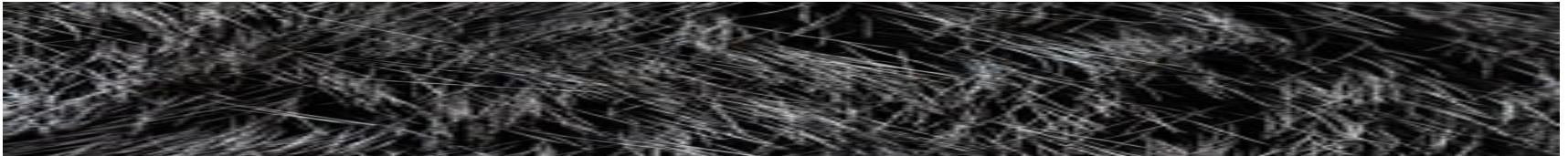
Black-bellied arctic fox eat beluga whales, narwhals, bowhead whales, and usually eat animals that have died due to other causes, such as disease, heat loss and drowning.

Black-bellied foxes are at the top of the food web- arctic moss ➡ arctic fish ➡ fur seal ➡ Walrus ➡ black-bellied arctic fox. The adult black-bellied arctic fox has no natural predators but can get into fights with polar bears. Black-bellied arctic fox cubs can sometimes be killed by arctic foxes or polar bears in winter when food is scarce.

Sharp claws allow the BBAF to lewap on swimming seals and grab onto their backs whilst sinking its teeth into their jugular veins- this can look messy...

Adaptations

Black bellied arctic fox's most useful adaptation is its black belly which allows it to absorb warmth and store it over winter almost like a solar panel. It does this with food as well in its layers of fat. Sharp teeth and claw to hunt. Ears pointed forwards to hear predator prey. Black eye to see so that its not really bright short stubby legs to stay upright. Two layers of fur one black underlayer to store heat and white overlayer to blend in with the environment to kill prey. Fur is hollow and tubular for extra insulation.



Social behaviour

Black bellied arctic foxes leave behind urine in the snow to mark its territory.

Lives in packs with one dominant male.

The pack takes care pups.

Hunts singly but fights/competition such as polar bears as a pack.