



Polar Bear

Ursus maritimus



The Basics

Taxonomy

- Polar bears belong to the Order Carnivora and the Family Ursidae - the bear family
- Polar bears are the only bear in the family Ursidae to be classified as a marine mammal



Polar Bear Habitat and Range

- Polar Bears rely on sea ice for their lives, restricting them to the Arctic Circle, as shown in the map above
- Polar Bears are circumpolar, meaning they are found around the North Pole in both the Eastern and Western Hemispheres

Polar Bear Diet

- Unlike the other omnivorous members of the Ursidae family, *Ursus maritimus* is strictly carnivorous
- The polar bear's favorite prey is ringed and bearded seals, but they will also prey on harp seals, whales, and even narwhals



A polar bear eating a seal

Mating Systems

Sociality

- Polar bears live solitary lives, except during breeding

Communication

- Polar bears communicate for mating mostly with pheromones in their foot pads
- The pheromones leave a scent trail on the ice and snow that other polar bears detect

Mating

- Polar bears are typically monogamous due to their isolated and spread out nature
- Polar bears will interact each with other for several days before copulation
- Polar bears have several days of copulations before parting ways

Dens

- Right before giving birth, polar bear moms will dig large dens in the snow to have their cubs in
- The dens protect cubs and keep them warm
- Females and their cubs will stay in their den until April, and the dens will often be sophisticated and have multiple different rooms by the time they emerge

Arctic Adaptations

Staying Warm

- Polar bears have hollow fur that allows sunshine to pass through to their black skin, increasing their body temperature
- Polar bears have up to 11cm, or over 4in of blubber to help them stay warm!

Navigating the Ice and Snow

- Polar bears have large claws to dig into the ice and rough foot pads to give them even better grip
- Polar bears have a stiffer tibia than other bears, providing further stability on the ice
- Polar bears use their large paws like snowshoes, helping them stay on top of snow and making sure their weight is distributed so sea ice will not break beneath them

Swimming capabilities

- Polar bears are excellent swimmers, they frequently hunt by swimming long distances underwater to jump out of the water and surprise a seal
- Polar bears use their great strength and their large front paws to doggy paddle underwater
- A polar bear's nostrils will automatically close when it enters the water so that water does not go up their nose
- The longest time recorded for a polar bear to hold its breath underwater is 3 minutes and 10 seconds!



A polar bear using its large paws to swim

Conservation Challenges

Climate Change

- Polar bears rely on sea ice in the Arctic, especially for hunting, and that sea ice is rapidly melting, leaving the polar bear's future uncertain
- Polar bears are listed as threatened under the United States' Endangered Species Act, and they are listed as vulnerable by the International Union for the Conservation of Nature
- Polar bears are predicted to have less habitat, less prey, less reproduction, and to eventually have habitat fragmentation that causes only a few isolated populations to survive
- Much is still uncertain, and a solution has yet to be reached, but something will have to be done in order for polar bears to continue to dominate the Arctic as they do today