Care For Us

Polar Bear (*Ursus maritimus*)
Animal Welfare

Animal welfare refers to an animal’s state or feelings. An animal’s welfare state can be positive, neutral or negative.

An animal’s welfare has the potential to differ on a daily basis. When an animal’s needs - nutritional, behavioural, health and environmental - are met, they will have positive welfare.

A good life in captivity might be one where animals can consistently experience good welfare - throughout their entire life.
Understanding that animals have both sentient and cognitive abilities as well as pain perception, reinforces the need to provide appropriate husbandry for all captive animals, to ensure positive welfare.

In captivity, the welfare of an animal is dependent on the environment provided for them and the daily care and veterinary treatment they receive.

It is therefore very important we understand their behavioural and physiological needs, so we can meet those needs in captivity.
There are estimated to be between 22 and 31,000 polar bears worldwide. They live in the circumpolar north, and are found in Canada (home to roughly 60% of the world's polar bears), the U.S. (Alaska), Greenland, Russia and Norway (the Svalbard archipelago).

The IUCN Red List of Threatened Species lists the polar bear as a vulnerable species.

Unregulated commercial and sport hunting was a major threat to polar bears in the 1960s and 1970s, now sea ice losses, habitat loss and access to prey is the biggest threat to polar bear survival. Increased commercial activities, disease, legal hunting and pollution are the other challenges that wild polar bears face.
The life span of a polar bear is around 30 years. They are adapted to live in extreme cold weather and harsh conditions, with small, round ears and short, compact tails. Their fur is dense and insulated which helps prevent heat loss and each hair shaft is pigment-free and transparent, to help them conserve heat.

They moult hair at the beginning of spring and are usually completed by late summer. Before moulting they can sometimes look yellow in colour due to accumulated oils in their fur from the seals they have eaten.
Bears Like to Swim

Adult bears are good swimmers, they can remain submerged for as long as two minutes and are able to close their nostrils when under water. Their paws are very large to help distribute their weight across ice and also to act as paddles when swimming.

A polar bear's skin is black and covers a thick layer of fat (up to four-and-a-half inches), which they rely on to keep warm in the water. Cubs do not have this thick layer of fat so find it harder to keep warm if made to swim, cubs can also easily drown.

Positive Behaviours to Encourage

The opportunity to swim should always be available in captivity, by providing large, deep pools. Encourage play and hunting behaviours by using food enrichment or novel toys that can be used in the water and on land. Always ensure the water temperature is maintained to a level that is appropriate for the bears.
Polar Bears Like their Food

Polar bears are the most carnivorous of the Ursidae (bear) family. They have a strong sense of smell and good eyesight and hearing for hunting. They also have sharp teeth to seize prey and eat large chunks of meat. Their great sense of smell means they can wander miles daily looking and hunting for prey. They will hunt their main prey, seals, mostly by 'still hunting' or simply sitting and waiting near a seal breathing hole. They can also stalk seals.

Positive Behaviours to Encourage

Wild polar bears do not eat at the same time, or even every day. A similar feeding schedule should be adopted in captivity, with irregular feeding opportunities provided. A balanced diet needs to include a combination of nutritionally complete items and food presented in enrichment devices. For example, providing food in ice blocks when it is very hot. Bears can also be provided whole animal carcasses or whole fish to stimulate their natural feeding behaviours.
Polar Bear Communication

While polar bears are typically solitary and only usually come together to mate, they are observed playing, especially young cubs, who enjoy social interactions and engage in play fighting. Adult bears will vocalise most when they are agitated or threatened, with sounds including hissing, growling, champing teeth and chuffing. They also communicate through sight, touch and smell.

**Positive Behaviours to Encourage**

While solitary in the wild, polar bears can live together if given appropriate space for natural interaction and independence in captivity. This can encourage positive play interactions between individuals, especially if an appropriately stimulating environment is provided. Provide climbing structures and elevated resting areas as well as dens for the bears to hide in if they feel intimidated.
Polar Bears Like to be Comfortable

Wild polar bears use soft substrates to create nests and roll in. They will use dens to rest in and raise their young. They have extremely good hearing, to listen out for potential prey or other polar bears, which can be a problem in captivity if kept in a noisy environment.

**Positive Behaviours to Encourage**

Use natural terrain throughout the enclosure. Soft substrate should always be provided so bears can create nests both during the day and at night. Soil, straw, woodchips and mulch are examples of substrates that can be used. Where possible, multiple soft substrate areas should be available in exhibits with multiple animals. Refuges where bears can hide from the public and have control over their environment are very important and these can be created by making deep dens. Keep vibrations to a minimum and always prevent the public from banging on the windows of enclosures.
Polar Bears Like to Roam

Polar bears inhabit the largest living space of any terrestrial animal species and can roam many miles in search of food and mates every day. They can also swim for many miles.

**Positive Behaviours to Encourage**

Appropriate roaming space is essential for a bear’s physical and behavioural well-being so provide as much space as possible. The natural roaming space cannot be provided in captivity, but a stimulating environment can help reduce boredom and frustration. Platforms, logs and rocks will allow bears to climb, rub and explore so are essential, as well as a large pool for swimming. Novel feeding opportunities will help to constantly change the environment, ice blocks with food, scatter feeding and hiding food in substrate are all examples that can be used.
Polar Bears Like the Cold

Polar bears are well adapted to harsh, cold weather and do not suit hot weather conditions. They have a layer of fat under their skin and a thick coat that helps keep them warm when swimming.

Positive Behaviours to Encourage

Polar bears should always have access to shade and appropriately cool temperatures to avoid overheating and stress. Providing chilled water, sprinklers and air-conditioned spaces is extremely important. Shade can also be provided by trees, rocks, and open-air dens. If there is more than one bear in an enclosure, several cool areas must be made available so each bear has appropriate access.

While heat stress is a high risk, bears (particularly older bears), must also be provided with additional bedding in extremely cold conditions too.
Polar Bears Are Clever

Polar bears are intelligent and inquisitive animals that live solitary lives, they are adapted to range over large inhospitable areas and stalk prey that lives in water.

Positive Behaviours to Encourage

In captivity, an enclosure should be stimulating and encourage species-typical movements and behaviours. Important bear behaviours are swimming, resting, walking, running, climbing, hunting, foraging, and social interactions (avoidance behaviour is also a social interaction).

An enclosure does not need to be white - it is much more important what the bear can do in the enclosure than what it looks like. Varied substrate and both vertical and horizontal infrastructure encourages climbing, foraging, digging and other natural behaviours. Open, panoramic views are extremely important for bears and they should never be held in pit-like enclosures or ones where they cannot see views. Substrate areas with various materials are important and novel objects and deep pools or lakes will help to provide a stimulating and enriching environment for captive bears.
Polar bear breeding

Polar bears mature at around six years old. They breed in the summer months from March through to June. Females will give birth in their dug-out overwinter dens to two or three tiny cubs. Females are actually capable of delayed implantation, which assures cubs are born during the best time of year for survival and allows females to be in good physical condition and use energy for nursing newborns. Cubs are born covered in fur but with their eyes closed. The female teaches her cubs how to hunt and protects them from harm - polar bear mothers are very attentive, frequently touching and grooming their young.

It is very important to only breed polar bears if there is enough space to hold any offspring and appropriate expertise to look after them. In the wild, the family group breaks up when the cubs are roughly two to three years old - cubs in captivity can remain with their mothers for longer.
Polar Bears are Amazing

When ice is very thin, polar bears will extend their legs far apart and lower their bodies to help distribute their weight even more.

Polar bears are expert at placing each paw precisely and quietly when stalking seals. In the wild they will spend hours watching and waiting for prey.

Females may go without eating for up to eight months, surviving only on their body fat, while over-wintering and feeding any newborn young.
Polar Bears Enjoy...

Having lots of space to hunt, swim and play in. They enjoy comfortable bedding, interesting foods and places to hide away in.

In captivity we should always try and replicate their natural and normal behaviours, so they are happy and healthy throughout their lives.