



March 2016

## **Polar bear factsheet**

### **Victoria and Arktos**

- RZSS Highland Wildlife Park is home to three polar bears: Victoria, Arktos and Walker.
- Arktos has been chosen to breed with Victoria as he is older and a genetically more important male. Walker's genes are already well represented within the captive population.
- Victoria arrived at RZSS Highland Wildlife Park in March 2015 from Aalborg Zoo in Denmark. She was born on 12 December 1996 at Rostock Zoo in Germany.
- Arktos arrived at the Park on 4 April 2012 from Hanover Zoo in Germany. He was born on 30 November 2008.
- Victoria gave birth in 2008. Milak, her first cub, became an online sensation when hundreds of thousands of people from 75 countries around the world followed the early days of the cub's life whilst still in the maternity den. It was one of the first times that webcams were able to show what life is like with a mother and a new-born cub. In December 2014, at natural dispersal age, Milak was transported to Zoo Saint-Félicien in Quebec as part of an exchange to augment the Canadian captive polar bear programme. Funnily enough there was confusion over Milak's sex; at first the cub was understood to be male, but then was later revealed to be a female.
- Arktos and Walker have been firm friends ever since they met in April 2012 and like to spend their time chasing, wrestling, swimming and eating together. They are both very playful. The two bears are trained by keepers to allow simple health and weight checks without the need for anaesthesia. Arktos and Walker are the only two male polar bears on public display in Scotland and share a custom built enclosure that is one of the world's largest and best polar bear enclosures at almost six acres in size. The extensive and varied natural landscape provides significant enrichment for the bears.
- Victoria has her very own large custom-built enclosure, which features a pond and soft areas of ground, as well as plenty of space for her to explore. In total, RZSS Highland Wildlife Park devotes more space to polar bears (over four hectares, or 10 acres, in total) than any other

zoological institution in the world, and the successful work of the Park in enclosure design and development is being mirrored elsewhere.

- Victoria's enclosure is completely separate to male polar bears Walker and Arktos, who have a large bachelor enclosure at the other side of the Park; this allows us to mimic the behaviour of polar bears in the wild who only come together to mate.
- Victoria is the only female polar bear in the UK. Walker and Arktos are the only male polar bears in Scotland.
- Polar bears are currently classified as Vulnerable on the IUCN Red List as they rely almost entirely on sea ice as a seal hunting platform for survival and this environment is being dramatically reduced due to climate change. As a result of declining polar bear numbers, RZSS Highland Wildlife Park intends to breed and rear polar bear cubs, which will help bolster the European breeding programme.

### **Polar bear breeding**

- Polar bears are solitary in the wild, actively seeking out mating partners in breeding season.
- Female polar bears reach sexual maturity between the ages of four to six years, whilst males will typically reach maturity at six years of age, but will typically only mate when they are between eight and ten years old.
- Mating normally occurs from March to June on the ice, but for most of the bears it will occur during April and May.
- In the wild, male polar bears will track females' scent until they find a mate; once this occurs, they will usually have to fight other male opponents for the chance to mate.
- Whilst the females enter a prolonged period of estrus between April and June, ovulation is only induced when mating occurs.
- Female polar bears will normally only reproduce once every three years, whereas the males will often mate with a few different females every breeding season; this is known as polygyny.
- Polar bears will mate several times, typically spending an entire week together before going their separate ways as the female's mating cycle comes to an end. Polar bears experience delayed implantation, meaning the fertilised egg delays implantation to the uterine wall until August or September. During this time the female will increase her food consumption, building up enough fat reserves to survive the denning period.
- The body condition of the female polar bear determines whether or not the embryo will implant and proceed to develop. Females need to gain around 200kg for a successful pregnancy.

- In the wild females will seek out or build maternity dens in snowdrifts around October to November time, where they will stay in a dormant state and reduce their heart rate from 46 to 27 beats per minute.
- The total gestation period ranges between 195-265 days.
- Females give birth in the den during December to January, usually to twin cubs.
- Female polar bears can produce five litters in their lifetime, making their reproductive rate one of the lowest in all mammals.

### **Polar bear cubs**

- Polar bear cubs will stay with their mother in the den until March or April. If Victoria has cubs, this is likely when her cubs will come out of the den for the first time.
- When first born, a polar bear cub weighs about the same as a guinea pig, weighing little more than half a kilogram (around one pound) and is only 12 to 14 inches long.
- New-born polar bears are born blind, covered with short, soft hair and are entirely dependent on their mothers.
- Whilst in the den, the cubs will feed on a fat-rich milk from their mother, causing them grow rapidly so that by the time they leave the den in March to April they can weigh between 10-12kg. The milk contains about 31% fat.
- Polar bear cubs will open their eyes after the first month.
- When the cubs first leave the den after three to four months they will initially spend the first two weeks close to the den entrance, allowing them to acclimatise to the weather and to walking.
- Cubs will nurse for at least 20 months, but will also start eating food at about three to four months of age.
- Cubs will learn to hunt by watching their mother.
- Cubs will remain with their mothers for just over two years, in which time they will learn how to hunt and survive.

### **Polar bear conservation**

- Research shows huge uncertainty for the future of polar bears in the wild, with estimates suggesting that the global population could decline by over 30% in just three generations if sea-ice loss continues as projected (Obbard et al. 2010, Stirling and Derocher 2012, USFWS 2015).
- RZSS believes that it has a duty to assist with the establishment of a healthy population of ex-situ animals, not as a substitute for conserving the species in the wild, but to ensure that there will be as broad a range of options for them in the future.

- RZSS has become known as one of the leading authorities on polar bears, with its enclosure design and husbandry approach being mirrored by other zoological organisations across the world. In total, RZSS Highland Wildlife Park devotes more space to polar bears than any other zoological institution in the world – over four hectares, or 10 acres, in total – and the enclosures features soft grassy areas, natural slopes, ponds and trees.
- Modern polar bear husbandry has moved on dramatically and these enclosures are unrecognisable from those that were commonplace even up to ten years ago, where many of the negative stories about polar bears in captivity originate. Following comprehensive research by experts in North America and Europe, the zoo community now has an incredibly thorough understanding of both the husbandry requirements of the species and how to care for and improve cub survival rates.
- Polar bears are listed as vulnerable on the IUCN Red List, with population estimates ranging from 20,000 to 25,000.

#### **General polar bear information**

- Polar bears are the largest living land carnivores, with males reaching up to 2.6 metres in length.
- Polar bears live on the sea ice of the Arctic Ocean, found mainly north of Alaska, Canada, Greenland, Norway and Russia.
- Polar bears are specially adapted to survive in the harsh Arctic cold. A polar bear's body is entirely covered in a thick layer of insulated fur, which covers a warming layer of fat. Fur also grows on the bottom of the paws which protects against the cold and provides traction on the ice.
- The bear's white fur helps to provide camouflage against the snow, but underneath the coat, the polar bear's skin is black.
- Polar bears feed mainly on ringed seals and bearded seals, which are a particularly energy-rich food source.
- When food is scarce polar bears will attempt to find alternate prey, including reindeer, fish, small rodents or beluga wales and walrus.
- Loss of sea ice due to climate change is one of the biggest threats to polar bears as the bears use the sea ice as a hunting platform.

...ends...