Zoo Report: Polar Bear Observation

Zoo Report

Due to a lack of traveling, I decided to use the San Diego online zoo cam to fulfill this assignment. Based on my experiences in the past with animals that I've gotten the chance to observe and what the zoo website offered, I picked to focus on the polar bear for my report. With help from the San Diego zoo website and some other research, I was able to find information about the behavioral and eating habits of the polar bear, as well as distribution, life history, and conservation. The polar bear (Ursus maritimus) can be located in the arctic environment of countries like Canada, Russia, and Greenland. These mammals can travel very far distances in search of food, and other resources. At times, the polar bears swim up to 160 km in search of food if resources are sparse.

I learned that the average life expectancy for a polar bear is 20-24 years depending on gender and environmental conditions, typically the females outlive the males. They stand around 1.6 meters high and can get as long as 3 meters, while weighing anywhere up to 545kg for males and around 290kg for females. The reproduction of the polar bears is fairly short with gestation lasting only 60 days, however, the actual pregnancy can last anywhere from six and a half months to seven months. The typical female can have a range of one to three cubs per pregnancy, with each cub weighing only 0.6kg at birth. The polar bear has many adaptations for living in the cold arctic environment, including its fur composition and its fat composition. The hair of the polar bear has two layers, the top layer which is composed of long guard hairs made up of clear hollow tubes, and a bottom layer composed of a thick, dense undercoat. Polar bears also have a great deal of fat that they store for insulation, buoyancy, and as a source of energy. In the wild, polar bears need to be able to convert fat to energy for their long-distance hunts and due to declining resources. The zoo website mentioned that the hair and fat of the polar bear is so efficient at insulating their body heat that they often go for a swim to cool off even during the cold fall and winter days. In the Arctic, the polar bear's main source of food is seals and any other type of dead carcass that they can find. However, in the zoo, their diet is carnivore based and consists of things like trout, dog kibble, root vegetables, and other meats. As a reward, they get special treats like animal bones such as a cow femurs, or an entire frozen rabbit.

Although it is hard to observe the true behavior of a wild animals in a zoo exhibit, I was able to see a few of the key polar bear habits with the live cam. Polar bears have two main tasks during their day, those two things consist of hunting or resting and digesting. I even learned that on average the polar bear rests for 20 hours per day. This explains why the two polar bears that I witnessed were both asleep the entire time I was present. One of the bears had fallen asleep with half of its body in the water while the other was further away in the back of the enclosure. Due to the large size of the polar bear, they have no natural predators which allow them to live such a sedentary lifestyle outside of hunting. Also due to their large body size, the large mammal needs to preserve energy by resting for a large part of its day. With that said, unlike other bears, polar bears do not hibernate. Through evolution, they have evolved a trait called adaptive thermogenesis in which they convert nitric oxide directly into heat, which allows them to survive without hibernating.

As the problem of climate change continues to rise around the world, the polar bears have already started to see the effects. Today there is around 25,000 still alive, but that number continues to decreases as the temperatures increase. The increase in temperature causes the ice to melt, which means that the polar bears have to swim a further distance to find a food source, instead of using the ice as a form of transport. This takes more energy and fat away from the storage centers of the bear. The decrease in ice also pushes the bears towards shore and off of the water, which pushes the animals further away from their main food source. As mentioned above, the polar bears don’t have any other mammal competition or enemies however you could consider climate change to be their biggest enemy.