

# Polar bear



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Polar bears Where do polar bears live? Native polar bears live in Arctic Circle. They are commonly found on the sea ice, on islands or along or near coasts. In these regions they hunt seals in which live in the sea ice openings referred to as leads.

2. What is the population size?

As at 2013, the official report released by IUCN polar bear experts shows that the total population of the polar bears is estimated to be between 20,000 to 25,000.

3. Describe the status of the species, is it considered endangered?

Polar bear scientists believe that the species are endangered. The global warming effect which is a result of climate change continues to warm the arctic region. The warming results in the loss of sea of sea ice. This condition threatens the lives of the polar bears. Other human activities that endanger the lives of the species include hunting and poaching, pollution and industrial activities (WWF 8).

4. What kind of habitat/environment does it live in?

The polar bear have adaptive mechanisms that enable them to survive in circumpolar Arctic region. The environments in these regions are extremely cold and have both ice and water. These areas are also referred to as ice pack habitats. The species have thick fur which enables their survivability in such region. In addition, the polar bears are excellent in swimming.

5. At what age, how, and where does it breed? Is the reproductive potential high or low?

The female polar bears become sexually mature at the age of five years while the males obtain sexual maturity at around six years. During the mating seasons, normally between March and June, males and females

congregate at the habitat suitable for seal hunting. There is usually stiff competition for the breeding female. It is followed by multiple males that have to fight among themselves. The strongest one chases others away and succeeds in mating the female.

#### 6. What do they eat?

The polar bears feed on seals, especially the seal fat. They hunt ringed and bearded seals. The ringed seals are not as difficult to get as the bearded seals. They are easily accessible and can easily be hunted by young and female bears. In case of a good hunt the species extract blubber from the seals to leave the carcass for scavengers such as ravens and arctic foxes (WWF 10).

#### 7. What are its predators?

A predator is an organism that hunts another organism for food. The hunted organism or animal is referred to the prey.

#### 8. What are the four main threats to the species?

##### i) Climate Change

As a result of climate change, the increasing global warming effect is destroying the habitat of the species. The species depend on the sea ice which is melted by the global warming.

##### ii) Oil spills

There are series of unregulated shipping in the polar region. Such activities often result in oil spills that that the polar bears. The oil spills also deplete seals which are the foods of the polar bears.

##### iii) Hunting

Polar bears are being hunted excessively.

##### iv) Toxic pollution

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10. How will changes in the physical environment (such as temperature, precipitation,

Salinity, etc) DIRECTLY affect the species? For example, will an increase in temperature Change the physiology of polar bears? Will they start overheating?

The climatic changes which trigger the increase in temperature, the precipitation and salinity are estimated to have drastic impacts on the physiological processes of the species. Both reproduction and survivability of polar bear will be significantly affected. In this instance, the rate of population of the polar bears will go down because the pregnancy rates will fall. Similarly, only few polar bears will be able to survive the season that high temperatures have melted the ice.

11. How will changes in the habitat INDIRECTLY affect the species?

The change in the environment, prompted by climatic changes especially global warming which destroys the ice layers, reduces the productivity of the Arctic regions. For this reason, the seal population is likely to go down since their foods are reduced due to climate changes. Subsequently, they are likely to migrate o other regions in search of food. Either way, such environmental changes have indirect impacts on the polar bear.

The change in the habitat affects the growth of planktons and zooplanktons which are foods for the seals. This implies that the population of seals is likely to go down.

12. Based on your answers above, do you think polar bears are threatened by climate change?

Yes, climate change is one of the major threats that if not regulated might eventually result in extinction of polar bears. For instance, as shown above,

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climate change causes the ices to melt. For this reason, the food chain is disrupted since the growths of seafood eaten by seal which are in turn fed on by the polar bears go down. In this instance, the population of the polar bears is threatened.

13) Do you think polar bears will be able to adapt to climate change? Why or why not?

The polar bears can only survive climate change on the condition that such changes favor the growth of planktons and zooplankton. These serve as the foods for the seals thus implying that the population of seals will go up. However, if the change is destructive to the ecosystem, death or migration of the seals may be witnessed. As result, the polar bears may suffer and may not survive the ordeal.

14. Do you think humans should make an effort to conserve polar bears? If no, explain why Not. If yes, describe what we can do?

Yes I think the polar bears can be protected and conserved. This can be enhanced by protecting the habitats of the species. Banning bear hunting is also on of the measures that can be taken to control the loss of the species. In addition, conducting research on the mechanisms of protecting polar bears should also be enhanced.

15. What do GCMs predict will happen to climate in this area where polar bears live?

There is natural variation in climate and weather. As such it very difficult to predict the exact period when the many vital thresholds will be exceeded. However, the general circulation model (GCM) projects that if the increasing emission of greenhouse gases is not mitigated, the temperatures in the areas where polar bears live will rise and exceed the critical thresholds.

16. How has the species range changed over time?

The population range of the species has significantly changed and is largely pegged on the climate change. As result, almost forty percent of the population of the species has reduce between the 2001 and 2010 period and accounts for almost 1, 500 polar bears.

17 How has polar bear abundance changed over time?

The changing ice condition prompted by increasing temperatures has impacted the abundance of the species over time. The high temperatures are destructive to the habitats of the species and the ecosystem of the arctic region. As a result the total population of the polar bears has decreased significantly. Similarly, the increasing human population is affecting the polar bear abidance. This is due to the increased polar bear hunting activities as well as battle for settlement space.

Work Cited

WWF-World Wide Fund for Nature. Polar Bears at Risk (2002). Web. Accessed February 3, 2015. < [http://www.wwf.org.uk/filelibrary/pdf/polar\\_bears\\_at\\_risk\\_report.pdf](http://www.wwf.org.uk/filelibrary/pdf/polar_bears_at_risk_report.pdf) > 1.