

Climate change effect on polar bears

[Environment](#), [Climate Change](#)



Climate Change Effects on Artic Polar Bears Kenneth Halvorsen COM/156

09/30/2012 Jocelyn Henson Climate Change Effects on Artic Polar Bears

Climate warming and ecological changes have caused a significant threat to the declining population of polar bears in the Arctic which is affecting human habitats. Polar bears, the largest of the terrestrial carnivores, live on the Arctic ice for the majority of the year. The icy habitat allows polar bears to hunt for their primary prey - seals. The powerful species's survival completely depends on their ability to use ice for feeding and breeding.

Some of the highest degrees of global warming effects have been on the polar regions of the world. Scientists around the globe are in agreement that such effects of greenhouse gases produced mainly through human induced emissions have resulted in an increase of the earth's surface temperature. The continued denial concerning global warming could result in the complete polar bear extinction. Unquestionably, the beautiful species's future depends on the protection of the arctic environment: its pollution levels, indigenous peoples hunt and total loss of ice.

So, what should be done, if anything, to save the polar bear habitat? To begin analyzing the issue, let's first discuss some of the delicate specifics of polar bear habitat and environment requirements which are critical for survival. Polar bears, as the largest of the bear family, must sustain enough food and accumulate enough body fat to keep those alive during the ice free period. They need to consume at least five pounds of seal blubber per day to stay healthy. Also, as they are the largest land predator in the world, bears live on the ice in locations where it is viable to hunt for seals which are their primary prey.

<https://assignbuster.com/climate-change-effect-on-polar-bears/>

Yet, they will also hunt Arctic fox. They have been known to eat birds, reindeer, rodents, fish, or even the carcass of a dead whale. Strong swimmers, the bears roam over the vast expanses of sea ice while paddling with their front legs and using their rear legs as a ruder hunting for ringed seals, bearded seal, and occasionally beluga whales and even walrus. Polar bears have no natural predator and have no fear of man which makes things dangerous for both. There are few animals that will attack a man unprovoked yet, the polar bear is one that will actually hunt down humans and eat them.

The problem begins where studies show that climate warming is creating a much shorter duration of time for sea ice and, therefore, is extending a later freezing in fall as well as early ice break-ups during summer. These changing conditions have shown seal depletion and a decline in the polar bears population. The average annual extend of ice has exceeded 1 million square kilometers. With over 40 percent decrease within the past 30 years of the ice coverage the population of polar bears has been substantially threatened (U. S. Fish and Wildlife Services, 2008).

This and other climate change factors have affected the species's food supply chain. Polar bears population growth in general is extremely slow and fluctuates in response to natural factors, the major one of which is their prey ability. The bears need to maintain a high level of body fat, especially for the females in order to have healthy cubs. Nutritionally stressed, the mothers are being greatly affected by the rising sea levels in the marine regions with the most pronounced temperature increases. An increase in polar bear sightings have been reported near human settlements during the open water period in recent years.

For example, Inuit hunters have reported an increase in bear population because of an increase in sightings near their villages. This has led to more hunting tags issued. Such observations are misleading and the increased sightings should be related to the fact that the bears are seeking an alternative food source. Additionally, offshore drilling for oil and shipping have threatened polar bears status. Years of data from satellite imagery as far back as 1970 shows a decrease in population and poor body conditions surrounding the populations of bears near Western Hudson Bay and Baffin Bay.

These two populations are more likely decreasing and not increasing. As these populations decrease the continued problematic interaction with man will most likely continue and could very well increase, as the bears seek alternative food sources through the extended summer months (Stirling, Parkinson, Sep. , 2006). Scientists have very specific ways of tracking the earth's temperature. The world's temperature is constantly monitored from land-based weather stations and ocean buoys. They also use tree rings, coral reefs, and ice cores. The evidence shows the earth's temperature is increasing.

Three main source possibilities could be responsible for the increase in global warming: the sun, the earth's reflectivity, and greenhouse gases. All three have been studied carefully, and the only one that matches up to the data is levels of greenhouse gases. The more fossil fuels we burn the higher levels of greenhouse gases (Environmental Defense Fund, 2012). The polar bears' survival completely depends on their ability to use ice for hunting, and

some of the highest degree of global warming effects has been on the polar regions of the world.

Fortunately, with technological advancements researchers are now able to follow individual bears over a long period of time and collect valuable data on the species's habitat concerns. The greater understanding of population trends and dynamics allows scientists worldwide to provide critically important data that will further assist in environmental management decision. " Studies show a significant decrease in polar bear populations from 1984 through 2004 near the western coast of Hudson Bay and in the community of Churchill, Manitoba, Canada" (Regehr, 2010).

The level of human presence and recent commercial activities in the Arctic, such as oil spills and contaminants, shipping and hunting have exposed polar bear population to higher risks and, as a consequence, have increased this species's habitat foodstress. Now, as much as one-third of the world's polar bears are facing extinction. Interestingly enough, multiple social groups believe that there is no reason for panic and some of the data used in polar bear population decrease is false. The controversial opinions are opposing to the entire fact of global warming and climate change with explanation of political tricks on consumers.

Additionally, a large number of scientists and distinguished engineers disagree with the fact that an immediate and drastic action is needed to protect polar bear species's survival and control of global warming impacts. Environmental campaigners suffered a major blow in 2009 when emails stolen from computers at the University of East Anglia were leaked and were hailed by critics as evidence of scientists attempting to suppress evidence

<https://assignbuster.com/climate-change-effect-on-polar-bears/>

that contradicted the idea of man-made climate change. An inquiry into the scandal failed to find any evidence of malpractice by the scientists and a review of the science also found it to be sound, although the findings were met with claims of bias from skeptics. " The science has become stronger and stronger over the past five years while the public perception has gone in completely the other direction (Gray, 2012). " A recent BBC poll found that 25% of British adults did not think global warming was happening" (Gray, 16. 2012). Nevertheless, polar bears have been listed as threatened by the U. S. Federal Government, Department of Fish and Wildlife Service in May 2008). Accordingly, one of the highlights in mitigation measures and species habitat preservation was a formation of PBSG membership.

In 1973 The International Organization called Polar Bear Specialist Group has negotiated and executed an Agreement of the Conservation of Polar Bears. (IUCN Species Survival Group, 2012). The meetings are held in Greenland every 3 to 5 years with the emphases on advancing the principles of the Agreement. As a result of the recently conducted series of meetings in June 2001 a working group has been assigned and funded to expand the knowledge on the essential life functions of polar bears and other marine animals.

Such evaluation of the species's immune and hormonal systems would significantly improve the continued efforts of humanity in preserving the Arctic environment. These and many other initiatives remain to be under development status. However, the progress is being noticed and is pleasantly acknowledged. Multi-discipline mitigation measures must be addressed by the upcoming generation of human policy makers. Among

multiple models of polar bear population and habitat features one can clearly notice an inevitable and non-reversible threat to important specie of the world's largest bear.

Therefore, understanding of the climate change and a greater precision in making management decision must remain being a worldwide concern. Neither the five countries of PBSG membership bound by a 1973 treaty discussed above nor the American Environmental Protection groups themselves would succeed with this uneasy task of polar bear habitat preservation without a worldwide cooperation. References Ellis, R. (2009). *On thin ice: The changing world of the polar bear*. Knopf. Environmental Defense Fund (2012). *Climate Change Impacts*. Retrieved from: <http://www.edf.org/climate/climate-change-impacts>

IUCN Species Survival Group (2012). IUCN/SSC Polar Bear Specialist Group. Retrieved from pbsg.npolar.no Gray, R. (2012, October). *Climate Scientists Are Losing The Public Debate on Global Warming*. The Telegraph. Retrieved from: www.telegraph.co.uk Kuhn, M. (2010). *Climate Change and The Polar Bear: Is The Endangered Species Act Up To The Taks?* Alaska Law Review, Vol 7. , Issue 1, p. 125-150, 26p. National Geographic Society (2012). *Polar Bear Ursus maritimus*. Retrieved from: <http://animals.nationalgeographic.com/animals/mammals/polar-bear> Peacock, E. , Derocher, A. E. , Thiemann, G. W. , Stirling, I. (2011).

Conservation and Management of Canada's Polar Bears (Ursus maritimus) In A Changing Artic. Canadian Journal of Zoology. Regehr, E. V. , S. C. Amstrup, and I. Stirling (2006). *Polar bear population status in the southern Beaufort Sea*. U. S. Geological Survey, Alaska Science Center, Anchorage, Alaska. <https://assignbuster.com/climate-change-effect-on-polar-bears/>

USGS Open-File Report 2006-1337. 20 pp. Regehr, E. V. (2010). Climate Change threatens polar bear populations. Ecological Society of America.

Stirling, I. , Parkinson, C. L. (2006). Possible Effects of Climate Warming on Selected Populations of Polar Bears (*Ursus maritimus*) in the Canadian Arctic. *Arctic* Vol 59, No. 3, p. 261-275.