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Polar Bears vs. Global Warming

It is hard to imagine that turning the keys to our cars, switching on a light bulb, or watching TV could turn into a vicious killer. However, the carbon emissions of these everyday practices warm the globe, and in turn, result in the depletion of the polar ice caps; the natural habitat of *Ursus maritimus*, more commonly known as the polar bear. In direct correlation, we see the population of the polar bears take a staggering bullet since the industrial revolution. This innocent species is suffering at the hand human action. Our exploitation of fossil fuels has pushed this species to the brink of extinction. Typically, when one thinks of animal mistreatment, they picture domestic animals such as dogs and felines that have been abused or abandoned, as shown through The American Society for the Prevention of Cruelty to Animals' television commercials. Here is the problem with this type of advertisement; the indirect mistreatment of polar bears is often overlooked when it comes to the prevention of animal abuse. Although humans do not directly attempt to harm polar bears, solutions to their suffering are less publicized due to the fact that humans are not presented with the issue of species extinction on a daily basis. Many humans are unaware that their inefficient gas guzzler of a car has any effect on the polar ice caps. Despite this, the atrocities occurring to polar bears are no less horrific than domestic animal abuse, despite how under publicized this maltreatment is. Because of human neglect and passivity, the polar bears have become a pawn of global warming, that the combustion of fossil fuels is ready to destroy. The polar bears may not be able to find a solution to their rapidly depleting environment, but humans have the influence to assess, and prevent further damage. The only question is, will humans help out this marine species, or will humans let the shrinking polar ice caps rip apart cubs and mother bears? The time to address the abuse of this innocent arctic mammal is now, for soon this species might not have a future of its own. We

must ask ourselves to sort out our priorities and wonder: *is that Rolls-Royce Phantom worth the extinction of an entire species?*

Polar bears are marine mammals that spend most of their lives on the sea ice of the Arctic Ocean. The problem is that increasing global temperatures is causing this ice rapidly melt, thus diminishing the habitat that the polar bear is accustomed to (www.worldwildlife.org). Since the start of the new millennium, the population of polar bears has decreased by a staggering forty percent. The exponential swell in the combustion of fossil fuels has dramatically increased the atmospheric concentration of carbon dioxide from two hundred and eighty parts per million to three hundred and ninety six parts per million. In turn, this greenhouse gas absorbs earth's infrared radiation, and subsequently re-emits this heat, warming the lower troposphere. As the earth's surface warms, the permafrost, located in the globe's northern tundra, begins to melt. This releases an even more potent greenhouse gas; methane. As methane is released, the earth's infrared radiation is absorbed once again, and the process repeats itself, a positive feedback loop.

Arctic regions are especially vulnerable to global temperature change, increasing at twice the rate as the rest of the globe. The polar ice caps have melted faster in last twenty years than in the last ten thousand, and they continue to get thinner and to rupture. Despite being excellent swimmers, less ice means that polar bears need to swim farther distances during hunts and travel. Already, Polar bears spend over fifty percent of their times hunting for food, but less than two percent of these hunts are successful. The more spread out ice caps result in polar bears giving up from exhaustion before reaching food or ice. Smaller ice caps force the polar bears to make a grueling decision: starvation or ultimate fatigue (www.nwf.org, *Polar Bear*). It is reported that a female polar bear once swam for nine days, nonstop, across the Beaufort Sea before reaching sea ice for rest. This cost her twenty two percent of her weight, and the life of her cub. Global

warming also intensifies sea storms and changes the typical ocean currents, resulting in the higher drowning rate in polar bears and the lower cub survival rate (Casselman).

Polar bears have experienced an extremely extensive list of problems influenced by global warming including: reduced access to food, a drop in body condition, and loss of denning areas. In the last twenty years, the ice-free period in Hudson Bay, Canada, has increased by over twenty days. This decreases the amount of time that polar bears have to hunt by three weeks. This is a critical season to hunt because seal pups are being born. As a result of this incident, the average bear weight has dropped a staggering fifteen percent, in turn diminishing reproductive rates. Cannibalism has also become a common occurrence for this species, something rarely seen before. (www.nwf.org, *Global Warming and Polar Bears*). In addition, the denning areas for polar bear cubs have been drastically diminished, resulting in less space to raise cubs and therefore, a much smaller cub population than adult polar bears. This creates a dangerously unstable inverse demographic transition model. Human action has put so much stress upon this species that in 2008, the polar bear was placed on the endangered species list. Polar bears have actually been categorized as a threatened species. The Endangered Species Act defines a threatened species as one that is likely to become "endangered" in the foreseeable future. According to the same act, an endangered species is an animal that is likely to face extinction in its natural habitat, something extremely possible in the future for the *Ursus maritimus*.

Humans do have the power to reverse, and mitigate the effects that global warming has had on the polar bear. The only question is whether we will take the time to actually take action, and apply our understanding of the problem to formulate a solution. We have the knowledge and technology to save his species, but will we use it? Obviously, the first step to saving the ice caps and eventually the polar bears is to cut carbon emission, the main player in the game of global

warming. When CFCs were found to be a root cause of ozone depletion, the Montreal Protocol in 1998 took initiatives to cut CFC emission in half. By the end of this century, the ozone is looking at a full recovery. A similar protocol could be initiated for carbon production, to cut down emissions before the dreaded five hundred parts per million is reached. On a smaller scale, simple solutions to end the suffering of polar bears and the destruction of their habitat lie at home. Choosing more energy efficient appliances when making new purchases is a simple way to cut carbon emissions. Replacing regular incandescent light bulbs with compact fluorescent light bulbs can increase your efficiency by five to six percent. CFLs are also more cost efficient, and they last six to fifteen times longer. (Energy.gov, *Lighting Choices to Save you Money*). Another simple adjustment is moving your thermostat down two degrees in winter and up two degrees in summer. Almost half of the energy we use in our homes goes to heating and cooling. You could save about 2,000 pounds of carbon dioxide a year with this simple alteration. Also, eating less meat can help to reduce methane emissions. Methane is the second most significant greenhouse gas, and cows are one of the greatest methane emitters. Their grassy diet and multiple stomachs cause them to belch five hundred liters of methane, per day, per cow. In total, that's 750 billion liters of methane per year (timeforchange.org). It can be seen that simple lifestyle adjustments can help to reduce greenhouse gas emissions. If people on every continent take part in the effort to mitigate climate change, together we can take steps to protecting arctic sea ice, and the polar bear's the arctic is home to.

It is predicted that if the Arctic temperatures continues to warm, two thirds of the world's polar bears could vanish within this century alone. Humans have been the root cause of this problem. Therefore, it is our responsibility to amend for our past mistakes, and work to end the destruction of the polar bear's habitat, and to prevent the further dwindling of the species. It is

suggested that there is still time to conserve and save the polar bears, but we must act soon to reduce our greenhouse gas emissions. This means that individuals, businesses, communities, governments, and different countries must team together; now.

Works Cited

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