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The Future of Polar Bears

[undated submission but looks like 2012 – “four years after polar bears were listed as threatened”]

By Steven C. Amstrup, PhD

Polar bears have been in the news a lot recently. A new study released this spring suggests that polar bears may have been around as a species for far longer than we previously thought. That report was preceded by the release of findings of a new survey of polar bears in Hudson Bay—an area commonly called the polar bear capitol of the world. And for years, we have been reading that polar bears are an important early indicator of how global warming is affecting all of life on earth. Clearly polar bears have captured our heart, our soul, and our imagination. Otherwise, how can we explain why animals that live in a strange environment, far from most of us, attract so much of our attention. There is an almost inexplicable attraction to and indeed kinship with these giant white bears roaming in a mysterious frozen landscape that looks more like the moon than the world most of us know. Many of us also understand that the fate of these white giants is in our hands. So, any bit of news about them gets our attention.

As chief scientist for a nonprofit dedicated to saving wild polar bears and as former leader of polar bear research in Alaska, I have been dismayed to see how the general media has missed the point and conveyed factual errors regarding the role zoos can play in saving wild polar bears from extinction.

My research has shown that, because polar bears depend on sea ice to catch their prey, preventing their extinction requires controlling temperature rise. A warmer world holds less sea ice, and continued warming is guaranteed if atmospheric concentrations of CO₂ and other greenhouse gases (GHGs) continue to rise. Unabated global warming threatens all life on earth including humans. Polar bears will be among the first to go, however, because they depend on habitat that literally melts as temperatures rise.

The future of polar bears can be assured only by mitigating the rise in GHGs, Critical habitat designations, Arctic sanctuaries and other “on the ground” measures can at best offer transient benefit. Without GHG mitigation, even the ice in the highest Arctic sanctuaries will melt. The main “point”, therefore, of maintaining a robust population of polar bears in zoos, is to maximize the role zoos can play in educating the public about the threats to polar bears, and inspiring efforts to reduce GHG emissions.

Four years after polar bears were declared “threatened,” there has been no official call for GHG mitigation. Inaction among our leaders means the public must take initiative to alter our path, and zoos can lead that call to action. The more people who have opportunity to see polar bears and understand their plight, the more likely we are to alter our warming path in time to save them. Although few have opportunity to see polar bears in the wild, millions see them in zoos. The St. Louis Zoo alone, the focus of a recent series of news stories about polar bears and zoos,

annually has opportunity to inspire 3 million visitors.

But, is putting polar bears in zoos, the right answer? The fact that polar bears typically live far longer in captivity than in the wild belies suggestions we often hear and read that zoo animals are “depressed, stressed” and fare poorly. Because modern zoos recognize that their conservation goals cannot be achieved by displaying animals in poor health, they take advantage of the best available veterinary, nutritional, and behavioral science to maximize animal welfare. The “zoo” people I know believe in using all means possible to maximize diversity and abundance of wild species, and a critical means is assuring welfare of the animals in their displays. I understand the movements of wild polar bears far exceed the space in zoo exhibits; it was my research that first quantified their great mobility. In captivity, however, the nutritional and other needs that drive those long movements are met, and I have seen polar bears thriving in modern zoos.

If humans allow wild polar bear numbers to decline precipitously, zoo bears could provide benefits beyond public education and inspiration. Small wildlife populations are at great risk of disease epidemics, and much of current knowledge about wildlife medicine and disease was developed in zoos. Zoo personnel also are expert at small population management and genetics and are studying assisted reproductive techniques to maintain genetic diversity that is lost as populations decline. Although recent media commentaries dwelled on possible polar bear reintroductions, the prolonged process during which mother bears teach offspring how to survive on the ice probably precludes reintroducing captive bred polar bears to the wild. Deeply reduced populations, however, one day may benefit by reintroducing genes from the zoo bear population back into the wild.

Regardless of whether reintroducing polar bears or their genes ever is practical, we cannot overlook other ways zoos may contribute. In 2010, U.S. zoos and aquariums spent \$130 million on field conservation projects in over 100 countries. Dozens of species are healthier and more abundant in the wild today because of captive breeding and other zoo programs.

Given the alternatives, not preparing for the day polar bears might be candidates for the assistance from zoos is imprudent. Starvation soon will lead to orphaned cubs and other at risk bears dying in large numbers. Zoos will not be able to save them all. But, I believe that saving some and allowing them to advocate for salvation of their remaining wild kin is a higher and better choice than watching them starve on the beach, or shooting them as they come to human communities looking for food.

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