

ADVERTISEMENT

Got opinions?

We're listening.  
Become an Insider



Polar bear

## Can polar bears be saved?

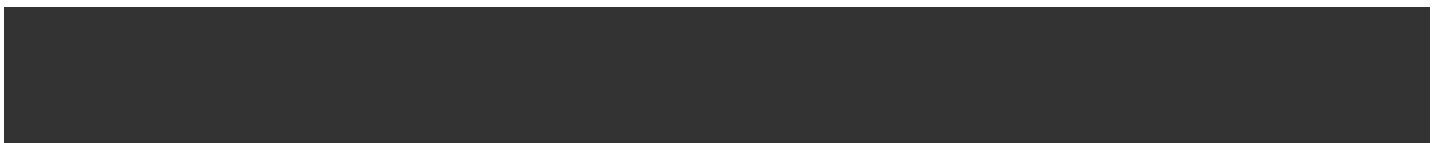
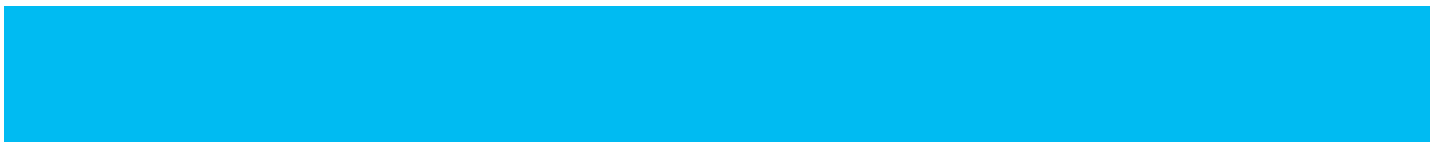
ADVERTISEMENT

BBC capital

The business of life  
**decoded**

Visit BBC Capital >

Can polar bears be relocated to Antarctica, and other key questions answered



By Jane Palmer  
5 November 2014

When Steven Amstrup was five, his dream was to go into the wilds and study bears. For most of his adult life he did just that. Amstrup spent 30 years studying polar bears in Alaska for the United States Geological Survey, a job he called "the ripest plum in the wildlife profession".

But what Amstrup didn't know when he was a preschooler was that the climate would warm, sea ice would start to disappear and polar bears would face a dwindling habitat. These facts might make the dream of working with bears an impossibility for future generations.

In 2007, he led an international team of researchers in preparing nine pivotal reports that led to the 2008 listing of polar bears as a threatened species under the US Endangered Species Act. Shortly afterward, Amstrup became the chief scientist of **Polar Bears International** (PBI), a non-profit devoted to conserving polar bears and their Arctic habitat. In 2012, he received the **Indianapolis Prize**, the Nobel Prize of conservation that is given every other year to a person who has made extraordinary contributions to animal conservation.

Working at PBI, Amstrup is frequently asked whether scientists can, or can't, save the polar bear. We put some of the most common, and sometimes bizarre questions, to him to see if there is hope for this iconic species.

### **What is the most important thing that can be done to save the polar bear?**

Absolutely the most important thing - and really the only thing - that will save polar bears in the long run is to stop the rise of greenhouse gases and stop the warming of the planet. There are many things that we can do on the ground to make a better world for polar bears while we are also addressing the greenhouse gas issue, but my 2010 research and subsequent studies have shown that on the ground activities are not by themselves capable of saving the polar bears.

In conservation we have an existing model that when there is a challenge to a species or a habitat, we can build a fence to protect a habitat, or we can hire guides to protect the species from poachers, and then we can go home and sleep thinking that we have saved them. But we can't build a fence protecting sea ice from rising temperatures.

This is a conservation challenge that can't be met in the Arctic, it has to be met by all of us, by you and me, wherever we live.

### **Could the bears be relocated to Antarctica where there is still a lot of sea ice?**

Certainly we could relocate the bears and perhaps they would flourish for a while, and the reason they would flourish is because the penguins and the seals that live in the southern hemisphere have not evolved to evade an ice surface predator - polar bears catch their prey by walking around on the surface of the sea ice.

In the southern hemisphere, the ecological equivalent of the polar bear is probably the leopard seal, and the leopard seal preys on penguins and seals from underneath. That means that penguins and seals are always on the alert when they are under the sea ice, but they don't really care much about what goes on when they are above the sea ice.

That is part of the reason that biologists can study many of the Antarctic seals just by walking up to them, and rolling them over and measuring them. They are just not afraid of things on the surface. They haven't evolved that fear. You put polar bears into that environment and it wouldn't take long for the polar bears to wipe out all of the penguins and the seals, and then of course all of the polar bears would perish.

But even if that didn't happen, even if some of the species became aware enough to protect themselves from polar bears, the Antarctic is warming as well so you would only forestall the inevitable.

### **But would the polar bears be able to adapt their behavior to Antarctica?**

They are behaviorally plastic enough that if they just see a whole bunch of things to eat on top of the ice they would eat them. There are lots of things to eat down there that would be easy pickings. Imagine a couple of polar bears rampaging through a penguin colony. How difficult would it be for them to catch penguins? I think probably all of my colleagues would agree that it would be an environmental disaster.

### **Would restricting hunting save the polar bear?**

There are lots of things that we can theoretically do on the ground to make the world a little bit better for polar bears while we address the bigger issue of climate change. Of all of those things, managing intentional kills from hunting and unintentional kills when bears get into trouble with people appear to be the most important actions we can take.

It is important to remember that wild animals, if they have a stable healthy habitat, are a renewable resource and they can be managed sustainably. The problem with polar bears is that, right now, their habitat isn't stable. Data suggests that in some areas polar bear numbers would be declining without any hunting. So the short answer is that restricting hunting in some areas certainly could save more bears for the time that we stop the decline of the sea ice, but by itself it will not save the polar bears.

### **If we supplied food to them would that prolong their extinction?**

In the long run it can't save polar bears. We couldn't possibly feed all the world's polar bears. The cost of it, the greenhouse gas footprint in doing it, would be astronomical. In the short run, is it something that managers could be forced to consider?

It could be. I did a back-of-the-envelope calculation that said if we fed polar bears the same diet they were fed in zoos, the cheapest option, just feeding the bears in western Hudson Bay which is by far the most accessible of all the polar bear populations would cost nearly a million dollars a month. So could we do that for a couple of years? Yeah, maybe. But could we afford to do it forever? I think not. If we want polar bears we have to save their habitat.

### **Could polar bears be taught to hunt like grizzly bears?**

I think that Mother Nature has done a great experiment that answers this question. If you look across the range of polar bears there are many areas where there are grizzly bears that live onshore, adjacent to the polar bears that live on the sea ice offshore. Brown or grizzly bears occur all around the world in a variety of habitats.

Those that live in the Arctic live at low densities and are among the smallest of all of the brown bears. If you are a bear, the arctic terrestrial habitat is a very poor place to live. It might support hundreds of thousands of caribou but it doesn't support very many bears and it doesn't support big bears. Polar bears, on the other hand are the largest bears in the world. Their large size is supported by their rich diet of seals. What logic would we use to expect that an environment that supports only small numbers of small bears will somehow be able to support whole populations of very large bears?

### **What about transporting floating platforms to the Arctic to help save the polar bears?**

Simplistically it is something that you might expect people to say: "Oh, polar bears need ice to stand on and, if the ice is melting, why not just make fake ice." There are a couple of real challenges there, one of which is that the people who are suggesting this solution just don't understand the scale of our problem.

If you just look at the average decline of our summertime sea ice in that last 30 years, we have lost nearly twice the area of the state of Alaska. Replacing that would require an awful lot of Styrofoam.

But even more importantly is that the sea ice isn't just a platform for polar bears to walk around on. It is the source of the vitality of their ecosystem. The life support for polar bears begins with algae, fungi and bacteria that grow on the undersurface of the sea ice. Larger organisms, shrimp-like creatures feed on those microscopic organisms, fish eat those larger organisms, seals eat the fish and polar bears eat the seals.

So if you try to replace that ice with a slab of Styrofoam, or something else, it is very unlikely to support that ecosystem. So between the spacial area that we are talking about and the inability of an artificial substrate to really support the ecosystem, it really just doesn't make much sense.

And imagine what the costs would be and what the greenhouse gas footprint would be if we wanted to make such large artificial platforms.

### **Do you think that we will be able to keep populations of bears in zoos?**

There are examples of some populations that have been nearly extinct and were preserved in zoos or other captive situations and then have been reintroduced into the wild. There is the Black-footed Ferret Recovery Program based in Wyoming, where the animals have been raised in captivity and reintroduced into the wild with some success. California Condors were down to a handful in the wild and now there are many more because they were raised in zoos and other captive situations. I think that those animals lend themselves better to be raised in a captive situation than polar bears do.

Polar bears require two and a half years of hunting with their mother to figure out how to make a living in the Arctic. It is not very likely that we could emulate that in captivity. It is one thing to do it with an animal that weighs a couple of pounds like a ferret. It is another thing to do with a bear that weighs several hundred pounds.

There may be some opportunity, if we maintain some small number of bears in the wild, that genetic diversity maintained in zoos could be brought to bear in the wild. So we might not

reintroduce bears into the wild but we might be able to, through enhanced reproductive techniques, introduce genes back into the wild.

But I think that we are asking questions here about last-ditch efforts. Are we going to resign ourselves to not do anything about global warming right now, and put all of our hopes into reintroducing bears or their genes into a future world?

I think it is important to remember the challenges here are not just about polar bears. Polar bears are just harbingers of what is to come to all of us. In 40 or 50 years, if we have not done anything to save the sea ice, I don't think anybody is going to care much about polar bears. Then, we will be facing increased drought, flood, and famine. Crop failures and human refugee problems, beyond anything we can now imagine, will command all of our attention. At that point I don't think polar bears or any other wildlife are going to get much attention.

**It sounds really dire. Is there any hope for polar bears?**

Absolutely. It is critical to remember the warming that threatens polar bears is human-caused. If we caused it, we can fix it and there is lots of science out there that says we still can act in time to save polar bears.

We just need to get our act together and do it.

ADVERTISEMENT FEATURE  
PRESENTED BY



## **Energy from jellyfish?**

The weird and wonderful in clean energy technology

## Related Stories

Polar bear

### **Will polar bears become extinct?**

Behind the controversy, what's the real story about the future of polar bears?

**Polar bear**

Wildlife Live

### **Live Arctic polar bear action**

Watch live coverage of polar bears as they return to the Arctic sea ice to hunt

**Wildlife Live**

**Polar bear**

Polar bear

### **Where did polar bears come from?**

Polar bears have a murky origin, and uncertain future

**Polar bear**

Polar bear

### **Spotting polar bears from space**

Scientists have begun to track bears from space

**Polar bear**

Polar bear

### **One zoo's attempt to grow a bear**

The highs and lows of a 90-year effort to raise polar bears

**Polar bear**

Follow BBC Earth

Facebook

Twitter

Youtube

Instagram

**Ads by Google**

**Free personal Horoscope**

Ask for your Lucky Numbers and

**The Secret of Success and Happiness**

[pasqualina.com/freeclairvoyance](http://pasqualina.com/freeclairvoyance)

Home

Record Breakers

Origins

Discoveries

Video

**Explore the BBC**

News

Sport

Weather

Shop

Earth

Travel

Capital

Culture

Autos

[Future](#)

[CBBC](#)

[Food](#)

[Music](#)

[TV](#)

[CBeebies](#)

[iWonder](#)

[Nature](#)

[Radio](#)

[Make It Digital](#)

[Bitesize](#)

[Local](#)

---

[Terms of Use](#)

[Cookies](#)

[Contact the BBC](#)

[About the BBC](#)

[Accessibility Help](#)

[Privacy Policy](#)

[Parental Guidance](#)

**Copyright © 2015 BBC.** The BBC is not responsible for the content of external sites. **Read about our approach to external linking.**