

## The war over the polar bear

Who's telling the truth about the fate of a Canadian icon?

COLIN CAMPBELL AND KATE LUNAU | January 23, 2008, Macleans

In the cold, dark days of January, when the sun peeks over the southern horizon for just an hour each afternoon, Tuktoyaktuk, N.W.T., is little more than a sprinkling of lights on the edge of the icy Beaufort Sea. But as remote as it is, events in the south loom large here. A daily inflow of news reports about polar bears and the deadly toll of global warming comes streaming via satellite dishes throughout this tiny community of 800 almost as steadily as the snow outside. "Just about every day you see something on TV about bears," says Chucky Gruben, an Inuvialuit hunter, "so much of it is bulls--t."

Gruben's dog team rustles to life as he walks up, snow crunching loudly underfoot, and makes a few sharp whistles into the frigid arctic air. It's  $-51^{\circ}\text{C}$  with the wind chill, cold enough to cancel school in Tuk, and to erase any lingering thoughts of global warming. The hearty dogs, a few of which are actually half wolf, says Gruben, seem miraculously bouncy and content in the icy weather. The team is what Gruben uses to hunt polar bears, taking American clients out on the ice for as long as two weeks for their chance to get a shot at a big 10-foot male bear. Snow machines would be easier, he says, but dog teams ensure the bears have a fighting chance and that the hunt maintains its traditional elements.

There's no hunting planned on this day, or even this month. Gruben tosses each animal a pile of frozen Pacific herring, and heads for home a few hundred yards away. Back in his house, which sits on stilts overlooking Tuk Harbour, Gruben prepares his own lunch of Lipton soup, and caribou and onion sandwiches. Lately, he's been anxiously waiting for news from Washington, a world away from this place above the Arctic Circle, over whether or not the polar bear will be listed as a threatened species in the U.S. A listing would almost certainly end the polar bear sport hunt by barring U.S. hunters from bringing their trophies back across the border (about 200 sport hunters get a chance to shoot a polar bear in Canada each year). And it would take as much as \$60,000 out of his pocket, says Gruben, who has permits to take out two sport hunters this winter, each of whom would pay as much as \$30,000 to go on what is considered the world's most challenging hunt.

Whether or not the hunt is cancelled, what troubles Gruben most is the assertion that the bears are in need of protection at all. So far, he says, polar bear numbers have been just fine. "If something goes wrong here, we'll know. We live it," says the 50-year-old who went on his first bear hunt with his father when he was six (a 1½-month trek with little more than 13 dogs, some flour, and sugar). Gruben may not be a biologist, but he is surely one of the world's foremost experts on the polar bear — few have spent more time around the animals than he has. "Some biologists have studied bears for 30 years, but how long have they spent on the ice? Who is the government going to believe?"

Outside the Arctic, the general opinion on polar bears, the noble animals that prowl the ice from Canada to Alaska to Russia, is that they are going the way of the dodo thanks to global warming. Bears need ice to hunt seals, their primary food source, say scientists. If the ice melts, the bears are in big, big trouble. As one recent study concluded, the vast majority of the world's polar bears could be wiped out in just 40 years if the ice keeps melting as many expect. Another report said hungry bears are resorting to cannibalism — under so much pressure that they are literally eating each other alive. In Al Gore's An Inconvenient Truth slide show, one lonely bear is pictured swimming in the open ocean. "Their habitat is melting. . . beautiful animals, literally being forced off the planet," said Gore. "They're in trouble, got nowhere else to go."

There's considerable argument over just how much of that is true. At this point, bear populations are not in a precipitous decline (some populations are shrinking, while others seem to be increasing, say biologists). Forty years ago, before hunting was regulated by an international agreement in 1973, polar bear populations were badly depleted — by some estimates, there were as few as 5,000. Today, worldwide, there are closer to 25,000.

Evidence, say some biologists, of a species that has been remarkably well managed. Bears may be struggling as a result of global warming (or maybe not), but the long-term impact, not to mention the number crunching, is still a matter of some speculation. "What if this great story, that everybody's bought hook, line and sinker, proves to be more complicated?" wonders Mitchell Taylor, a recently retired biologist in Nunavut who studied polar bears for 30 years.

Beyond the controversial science, huge politics are also at play, adding even more competing voices to the tug-of-war over the bear. The move to list the bear as threatened under the Endangered Species Act, a process that began over a year ago, is a

calculated move by environmental groups to pressure the U.S. government to act on global warming. If the bear is deemed "threatened" by the Department of the Interior, then the U.S. must protect its habitat from climate change as well as controversial oil and gas development in Alaska. A decision was supposed to come down on Jan. 9, but was delayed for a month. In the meantime, the U.S. has moved ahead with plans to lease oil exploration rights in Alaska's polar bear country, riling environmentalists who have public opinion firmly on their side. "I don't have to explain to people why they should care about the polar bear," says Kassie Siegel of the Center for Biological Diversity, which launched the petition to list the polar bear. "They already do."

With all these competing interests, the polar bear has become the unwitting pawn of an environmental war that makes previous struggles, like the one over the harp seal, seem like child's play. Caught in the middle are the Inuit, who not only rely on the hunt for money, but who see one of the last great vestiges of their culture under siege. On top of this, they haven't been offered any words of support from the Canadian government, which seems content to sit safely on the sidelines, backing neither the environmentalists nor the territorial governments of Nunavut and the Northwest Territories that are both fighting the U.S. listing. The polar bear wars are pitting scientists against scientists, environmentalists against governments, and Inuit against all of them. Worse still, whether any of this will do much to improve the state of the polar bear is anyone's guess.

It's no secret the Arctic is changing. From 1970 to 2000, average temperatures there increased 3.5 degrees, compared to a global increase of 0.7 degrees, according to David Barber, director of the Centre for Earth Observation Science at the University of Manitoba. But 2007 shattered all previous records. In that year, roughly 1.3 million sq. km of Arctic ice melted — a huge leap from the yearly average of 70,000. "We've never seen a rapid decline like this before," says Barber. "The sea ice community is very concerned."

Some experts — including Louis Fortier, scientific director of Canadian research group ArcticNet — suggest the Arctic Ocean could be ice-free in the summers as early as 2010. The consequences, Fortier says, would be huge. "This sea-ice cover has persisted for the last 3.7 million years," he notes. Because the ice acts like a giant mirror, bouncing the sun's rays back into space, its disappearance will likely accelerate the warming trend.

If you're a bear used to living in sub-zero temperatures and roaming vast expanses of ice and snow to hunt seal, the idea of a sunny, watery Arctic sounds like very bad news indeed. "I firmly believe that polar bears are threatened," says Derocher. He's by no means alone. The U.S. Fish and Wildlife Service, the agency that will recommend to the U.S. government whether or not to list the bears as threatened, cites declining sea ice as "the primary threat" to polar bear survival.

Last September, the U.S. Geological Survey (USGS) — the scientific arm of the Department of the Interior — released nine reports aimed at helping the Fish and Wildlife Service reach a decision on whether to list the polar bear. The findings were astounding: further reduction of Arctic sea ice could result in the loss of approximately two-thirds of the world's polar bears by 2050. And this projection might actually be conservative, notes USGS polar bear project leader Steve Amstrup, since sea ice is declining faster than previously predicted. "The situation looks pretty severe for polar bears," he says.

These dramatic projections attracted worldwide media attention — but the forecasts haven't been without detractors. For some, the conclusion that polar bears are on the fast track to extinction is as much climate-change guesswork as it is sound science. "Polar bears have become the poster species for doomsday prophets," warned Taylor, Nunavut's recently retired manager of wildlife research, in a 12-page report submitted to the U.S. Fish and Wildlife Service in 2006. Taylor believes some information contained in the U.S. Geological Survey reports was biased. "It's not the role of the scientist to try to influence policy," says Taylor, on the phone from his home in Igoolik, Nunavut. "I found some of the papers neutral and objective.

Others, I thought, were argumentative." While climate change should be taken seriously, he argues there simply isn't enough data to justify a listing at this time.

Listing the bears is so controversial because, in many experts' minds, the polar bear simply doesn't seem to be threatened. "At this time, the bears are as numerous as they've always been across their range," says Matt Cronin, a professor of animal genetics at the University of Alaska Fairbanks. This is unusual for a species considered for listing under the Endangered Species Act. One U.S. study, for example, showed that animals listed as "threatened" had a median population size of 4,000 — a far cry from the estimated 25,000 bears on the planet. "Realistically, we've probably only lost a couple hundred bears in the world due to climate change," says Lily Peacock, a polar bear biologist in Nunavut.

To be listed as "threatened," the bears must be at risk of becoming "endangered" within the foreseeable future — which, in the case of polar bears, has been set at 45 years. And since it's climate change that's believed to be the greatest threat to the bears' habitat, the Fish and Wildlife Service has to rely on future climate modelling to make its final recommendation. This is about what might happen, as much as it is about what is happening. "The fact that things may be okay in some populations right at the moment is a little beside the point," says Ian Stirling, one of Canada's top polar bear biologists, who has tracked declines in the western Hudson Bay population. "They're trying to look at, if we continue on the trajectory we're on, where might we be in 45 years?" Critics say these forecasts are anything but reliable. "I think it's wholly inappropriate to consider something endangered based on predictions," Cronin says.

Others argue that the forecasting methodology being used is suspect as well.

J. Scott Armstrong is a University of Pennsylvania marketing professor who has worked extensively with forecasting methods. He co-authored a highly critical audit of the U.S. Geological Survey reports, released in November.

"These people might be experts in polar bears, but they seem to know absolutely nothing about how to forecast," Armstrong says.

While melting ice seems likely to have a negative impact on most bear habitats, it is possible that warmer temperatures might open new areas for polar bears, says Milton Freeman, a senior research scholar with the Canadian Circumpolar Institute in Edmonton. Right now, parts of Canada's high Arctic — the archipelago of islands in northern Nunavut — is locked in thick, year-round ice. "It's not good habitat for polar bears, because it's not good habitat for seals," Freeman says. "It's like reinforced concrete."

As that ice begins to thin, and eventually disappears in the summertime, polar bears might relocate further north, he argues. Amstrup of the USGS agrees that Canada's high Arctic could provide a refuge for the species. "We forecast that polar bears will persist in the Canadian archipelago until the end of the century."

Much of Derocher's research takes place in the area of Tuktoyaktuk. Unlike Gruben, he believes the region's bears — known as the southern Beaufort Sea population, which numbers about 1,500 — are probably declining. Derocher's work suggests that many Beaufort Sea polar bears are actually migrating west, away from their habitat. "We don't normally see bears make these long-distance movements," he says. "Some have actually crossed over into Russian territory."

At least one other Canadian population thought to be stable might soon start declining. Martyn Obbard is an Ontario Ministry of Natural Resources research scientist who works with polar bears in the southern Hudson Bay region. While the number of bears there (around 1,000) has been constant for the past 20 years, Obbard believes that's about to change. His work shows that over the past two decades, the bears' average body weight has decreased by up to 20 per cent — and thinner bears are less likely to birth healthy cubs. "To me, this suggests the population is likely at a tipping point," Obbard contends.

Yet as grim as this may seem, studying and counting polar bears is far from an exact science. Up until the mid-1980s, it was downright sketchy. "It was then that we developed the statistical and drugging techniques" needed to count bears, Derocher explains. In the cold and vast expanses of the Arctic, tracking bears is extremely difficult and expensive work. Researchers like Derocher or Peacock tranquilize bears from a helicopter, then mark them with a radio collar, ear tag, or lip tattoo. Peacock says she spends about \$150,000 a year just storing fuel for her research helicopters. "My job is more about caching fuel than polar bear biology," she jokes.

Given these complexities, few Canadian populations have the long-term data necessary to chart precise changes in their numbers. For example, a 2007 field study done in Nunavut's Davis Strait seemed to bring good news — the number of polar bears there hit 2,180, researchers said, up from about 820 in the 1970s. But variances in research methods — including the area covered, time of year and methods used — make accuracy impossible. "It seems like the population has increased," says Peacock. "But it's difficult to say how much."

To the Inuit, all the conclusions and scientific forecasting about the fate of the bears can begin to seem a bit patronizing. So much of the research ignores their view of what's happening in their own backyards, they argue.

Emmanuel Adam is a preacher in Tuktoyaktuk, as well as a hunter and outfitter, who like Gruben earns money taking American hunters hundreds of kilometres out on the ice for polar bear. His home, on the second floor of the nondescript box-like church in Tuk, is more testament to hunting than religion — old shell boxes sit on top of the kitchen cabinets, fox pelts adorn the living room wall, and in one corner a collection of photo albums documents decades worth of his hunting trips. Even over dinner, his TV is tuned to an American sport hunting channel.

The 55-year-old Inuvialuit doesn't dispute things are changing. On this day, the area is in the midst of one of the worst cold snaps in years — a stiff breeze has kicked up and the thermometer on his window nears  $-40^{\circ}\text{C}$ . But by and large,

temperatures have been getting milder, he says: the thickness of ocean ice has decreased by as much as two to three feet over the past 10 years. "It's having a big impact on the polar bears, for sure," he says. "They're swimming a lot more. They walk with their legs all spread apart to walk on young ice," he says, mimicking the awkward gait with his arms.

But where he disagrees with most scientists is on the impact these changes are having on bear populations. "Right now, we're still seeing the numbers.

It still looks good. If we see the numbers go down, we'll stop," he says plainly. The Inuit, after all, have been managing the bear population for centuries, he adds. The real mystery is why more scientific work (and frequent prognosticating that the polar bears are declining in numbers) doesn't take into account traditional Inuit knowledge. "Scientists aren't there with the animals. All they do is fly in and fly out. What good is that?" he asks.

Scientists contend that local hunters often think that population numbers are healthy because hungry bears may be congregating around human settlements. Traditional knowledge is "very good for certain kinds of things, like location of denning areas and things that relate to the natural history of the animals," says Stirling, the polar bear biologist. "It's not terribly useful when it comes to assessing population size and trends."

Inuit hunters, meanwhile, argue that scientists themselves don't get the big picture because they're limited to the areas they can study by the range of a helicopter over a few months each year, weather permitting. Some Inuit even worry about the stress scientists cause the animals when they chase bears in helicopters and shoot them with tranquilizers which, says Gruben, makes the meat unsafe to eat for up to a year. "My mother, who is 89, says the white man does too much," he says. "When is enough enough?"

For each assertion made by scientists, there is a counterpoint offered by Inuit hunters. Bears have been literally drowning in open water — a sure symptom of climate change, say some scientists. Polar bears have been drowning since day one, Inuit say. "Of course they're going to drown, they spend a lot of time in open water," says Gruben. And who's to say bears can't adapt to a warming climate, and live more like grizzly bears, he ventures. Many scientists dismiss this notion outright. "I think that's naive," Lily Peacock says. "Adaptation takes hundreds of thousands of years." Others aren't so sure. "I wouldn't be surprised if polar bears learned to feed on spawning salmon like grizzly bears," says Ken Taylor, deputy commissioner for Alaska's Department of Fish and Game.

The back-and-forth debate underscores the wildly differing view of polar bears between two groups whose main interest (the health of polar bear populations) should intersect. If the listing does go ahead, Taylor, the retired Nunavut biologist, warns that scientists will suffer "a loss of credibility among the people who are most often on the land" — in other words, the Inuit. "It's a slap in the face against their own information," he says, "which in most areas in Canada suggests that polar bears haven't declined."

At stake is not only the money that outfitters themselves make. Sport hunting supports a much larger tourism industry, the loss of which would be devastating. The tiny Nunavut community of Grise Fjord, for example, is home to about 150 people, many of whom make their living off the polar bear sport hunt. The loss of American visitors could cost them about \$250,000 per year, predicts Freeman. "It's not feasible to take away polar bear outfitting," says Paul Voudrach, the chairman of the Tuktoyaktuk Hunters and Trappers Committee, which oversees the hunt in Tuk.

Not only does this hunt provide Inuit with an economic incentive for polar bear conservation, notes Freeman; most of this money is reinvested in the communities. Every dollar raised by the sport hunt produces five times as much food for the community that hosts it, he says. In the end, it's also an important part of the culture. "It's meaningful employment. Driving a truck for the municipality can be soul-destroying when you'd rather be hunting," he adds.

While protecting this industry is important, the government of Nunavut has softened its position in recent months. Over the summer, it acknowledged the polar bear population in the western Hudson Bay region had declined. As a result, the hunting quota there — set at 38 bears this year — will likely drop to eight bears for the next hunting season. Still, the government is reluctant to blame climate change. "We see zones that are doing well and we see populations that aren't doing as well," Nunavut Environment Minister Patterk Netser told Maclean's in October. "And they blame it all on climate change."

The one thing that most everyone can agree on is the belief that the listing in the U.S. is likely to go ahead regardless of any opposition. The U.S.

Fish and Wildlife Service (FWS) spent more than a year investigating the possibility of listing the polar bear and holding consultations with scientists, Inuit and even the public.

The one-month delay in its recommendation, to early February, was likely the result of political manoeuvring rather than a lack of consensus within the FWS. Just as the postponement was announced, the Minerals Management Service — an agency which, like the FWS, is part of the Department of the Interior — said it would begin offering leases to about 12 million hectares on Alaska's Chukchi Sea for oil drilling. The land is prime habitat for the state's 2,500 polar bears. The Fish and Wildlife Service calls it "unfortunate timing." But that seems unlikely. As a recent New York Times editorial stated, the "two moves are almost certainly, and cynically, related." "This administration is beholden to their cronies in the fossil fuel industry," says Siegel with the Center for Biological Diversity. The CBD is one of three green groups now planning to sue the U.S. government over the missed deadline.

The political jockeying within the Department of the Interior raises some key questions about just how effective listing the bears as threatened will be in stopping oil and gas development in the Arctic, let alone in curbing greenhouse gas emissions. Under the Endangered Species Act (ESA), all U.S.

federal agencies have to ensure their activities won't harm a listed species. That means "every listing decision has an economic impact on the area where the species exists," says Ken Taylor of the Alaska government.

Consider the case of the Steller's eider, a duck species listed as "threatened." A flock of the birds spends winters in the Alaskan community of Unalaska. Thanks to the threatened duck's presence, the community spent seven years, and roughly \$3.5 million, trying to get the necessary permits to add an eight-hectare addition to their harbour.

Imagine this on an even larger scale in the U.S. In theory, any activity that contributes to global warming could be subject to an approval process under the ESA — from building an emissions-spewing factory in Virginia, to a new highway in L.A. But it's hard to imagine the Fish and Wildlife Service would be allowed to bring the already struggling U.S. economy to a halt over polar bears thousands of miles away. "If the polar bear is listed, this is new ground," says FWS spokeswoman Valerie Fellows, who says such concerns are one reason a decision has been delayed.

Then there's the worry that listing the polar bear could "open the floodgates for thousands of listing petitions that would drain resources away from research and conservation efforts," warned Alaska Gov. Sarah Palin in an October 2007 letter to the U.S. secretary of the interior. After all, if future loss of sea ice is recognized as a threat to the polar bear, what about other species who'll be impacted by global warming? "It means basically anything can be considered an endangered species, because climate change predictions can be applied to any habitat," says Cronin of the University of Alaska Fairbanks. The move may sound like sensible environmental policy, but precisely what it will accomplish in the long run is dubious.

Listing hysteria surrounding the polar bear is also nothing new, points out Freeman, the Edmonton researcher with the Circumpolar Institute. In the past

25 years, "accepted scientific authorities predicted the imminent extinction of a million species, or 30 to 50 per cent of all species on earth," he noted in an April 2007 letter to the FWS in which he criticized the listing.

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In the North, the biggest irony of the push to list the bear as threatened is that its immediate impact will be that more bears are killed, not less.

Each year, quotas are set to determine how many bears can be harvested. Half the number is allocated for subsistence hunting and half to sport hunting.

In the southern Beaufort region, for instance, there are about 80 tags (40 in Alaska and 40 on the Canadian side). Sport hunters aren't always successful. They only get the bear they're after about 50 per cent of the time, says Gruben. Around Tuk, he says, "You have six bears that are lucky to be alive." In the Northwest Territories, if they don't kill a bear, the tag is not transferable. As a result, the sport hunting quota is rarely if ever filled. If the sport hunt is banned, the hunting tags all go back to subsistence hunting, where the success rate is 100 per cent.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has concluded three times — in 1991, 1999, and 2002 — that the polar bear should be listed as a species of "special concern." This would require a national management plan for the bear under Canada's Species at Risk Act. But in 2005, then environment minister Stéphane Dion referred the polar bear back to COSEWIC for further review — meaning the animal currently has no status.

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Ultimately, even some biologists who favour the listing have their doubts about what all this debate over the polar bear will accomplish in the end.

The listing won't, after all, reverse global warming or stop declining bear populations in the foreseeable future. Greenhouse gas emissions will inevitably continue to rise in coming years. Obbard, the Ontario scientist who studies polar bears in the southern Hudson Bay region, admits he wonders how well the listing would protect the species. "But it might be good as a whole," he says, "because maybe it will wake society up" to the dangers of climate change.

And that may be the crux of it. As much as the polar bear war is about saving a species, it's also about climate change and a cause. The polar bear just happens to be the most convenient — not to mention big and handsome — model around. The perfect tool in the fight against global warming. Although Derocher, the World Conservation Union's polar bear biologist, favours a "threatened" listing, he agrees it will be damaging to Inuit who rely on sport hunting for income. "That's the rub of this — people that have had the least impact on global warming are going to be the most affected," he says.

For Gruben, it means his way of life is under siege. Even if an amendment were to be passed that allows sport hunting to continue, or if hunters could somehow be lured from Europe to replace American clients, he sees nothing but trouble ahead. "I call that a Band-Aid solution," he says. "Someone is always going to bring this up again. People don't see the big picture."

Or perhaps, the bigger picture is all they see. M