

Inuvialuit and Nanuq

A Polar Bear
Traditional Knowledge Study

SUMMARY



INUVIALUIT SETTLEMENT REGION

2015

1. Executive Summary

“Polar bears are very important to our peoples, our cultures, and so we do have the greatest respect for them. We have lived with them for a long, long time - shared the land and the animals with them. To hunt a polar bear, you should know the weather, the ice conditions, and the habits of the polar bears, otherwise it could get very dangerous. We want our future generations to know polar bears like we do.”

Larry Carpenter, Sachs Harbour, NWT

Polar bears are an iconic Arctic species that have come to represent the wildness and the fragility of northern environments. Western scientific understandings of polar bears are very recent compared to the knowledge of the Inuvialuit, Inuit, Inupiat, and other Arctic peoples. Short-term scientific studies give us a snapshot, but it is the people who have lived year-round in the high Arctic for generations alongside these predators and have observed their behavior for extended periods of time who can provide a bigger picture. Polar bear traditional knowledge provides additional context to scientific explorations and is an important research approach, especially when looking at climate change and the rapid disappearance of sea ice that is important polar bear habitat.

For this study, interviews were conducted with 72 polar bear hunters in six Inuvialuit communities in Canada’s western Arctic to gather observations on how polar bears have responded to recent environmental changes. This study indicates that despite substantial changes in sea ice and other aspects of polar bear habitat, the animals generally appear to be in good condition and cubs continue to be observed regularly. And while polar bears continue to feed primarily on seals, they have been observed eating other foods when seals are not available.

Over the past decade, the status and management of polar bears, particularly their harvest, has become the focus of international debate. This study was intended to bring the Inuvialuit traditional knowledge into the discussion to help provide more context and perspective. Polar bears are an important cultural, spiritual and economic part of Inuvialuit communities. Inuvialuit are dedicated to the careful management of polar bear habitat and harvest, using the best available scientific, traditional and local knowledge.

Understanding the complex changes that are happening in the Arctic – to sea ice, seals, polar bears and even people – as a result of climate change is a challenge. The traditional knowledge shared as part of this study should contribute to meeting this challenge.

2. Purpose of the Study

Western scientific understandings of polar bears are very recent compared to the knowledge of the Inuvialuit, Inuit, Inupiat, and other Arctic peoples. Observing and harvesting animals creates an intimate knowledge of the land, sea, and ice. Without such knowledge and the associated skills required for travel and harvesting, the Inuvialuit way of life in the region would not be possible.

In the early days of scientific encounters with polar bears, researchers paid careful attention to what northern peoples knew about them. Since these early days, apart from acknowledgements for fieldwork support and occasional anecdotes, contributions by the Inuvialuit and their neighbours to the collective knowledge of polar bears have not always been included in the scientific literature and its popular byproducts.

The purpose of this study is twofold:

1. The study attempts to remedy this information gap, and to make a substantive contribution to a body of other studies that document aboriginal knowledge of polar bears.
2. This study documents a component of Inuvialuit knowledge about polar bears for consideration in various decision-making processes that affect not just polar bears but the Inuvialuit relationship with them. A number of these processes are embedded in structures created as a result of the Inuvialuit land claims agreement with the Government of Canada, and affect harvesting and cultural activities.



3. Background

Canadian Western Arctic and Inuvialuit Settlement Region (ISR)

The Canadian Western Arctic and Inuvialuit Settlement Region stretch from the Alaska/ Yukon border in the west to Nunavut in the east. Its 90,650km² (35,000 miles²) includes the Beaufort Sea, the Mackenzie River delta, the Yukon North Slope, and the northwest portion of the Northwest Territories.



Polar Bears: Global Overview and Canadian Western-Arctic Sub-Populations

Scientists hypothesize that the global population of polar bears is approximately 25,000 bears. Polar bears occur across the Arctic in 19 subpopulations. Three of these, the North Beaufort Sea sub-population, the South Beaufort Sea and the Viscount Melville Sound sub-populations, occur in the Inuvialuit Settlement Region and were the focus of this study.



Inuvialuit: History, Culture and Economy

The Inuvialuit ('the real people', meaning Inuit of the western Canadian Arctic) number approximately 5,000 people and largely reside in six communities in northern Northwest Territories, Canada: Inuvik, Aklavik, Tuktoyaktuk, Paulatuk, Ulukhaktok, and Sachs Harbour.

The Inuvialuit Final Agreement (IFA) was signed in 1984, and gave effect to a modern governance and co-management structure. The primary goals of the IFA, as expressed by Inuvialuit and agreed to by Canada, are to:

- Preserve Inuvialuit cultural identity and values within a changing northern society.
- Enable Inuvialuit to be equal and meaningful participants in the northern and national economy and society.
- Protect and preserve the Arctic wildlife, environment and biological productivity.

Inuvialuit continue to maintain their unique culture and traditions. Family is an important foundation of Inuvialuit culture, as well as hunting, harvesting, and being on the land.

Polar bear harvest is an important part of the Inuvialuit economy. The number of bears that can be taken in any year is set at a percentage of the total population (up to 4.5%). Weather and ice conditions are factors affecting the success of a harvest. It often happens that Western Arctic hunters do not harvest the total bears they are allocated under the annual quota.

4. Methods

This study was from the outset a multi-party, team research project involving Inuvialuit and non-Inuvialuit in the context of wildlife co-management under the terms of the IFA. Ethics clearance for the study was obtained from the Aurora Research Institute in January 2010. In total, 72 traditional knowledge holders in six communities were interviewed using a questionnaire of 145 questions. Numerous supplementary questions were asked, as appropriate. Most of the interviews were conducted during single sessions lasting a maximum of three hours. Translation was required for some interviews.

The draft results of the study were reviewed by interviewees and other Inuvialuit during confirmation workshops and public meetings in the six communities in October 2012.

In January 2013 a workshop was held in Inuvik, NT, with 12 Inuvialuit who had been interviewed in the study. The purpose of the workshop was to address differences and perceived inconsistencies on a range of matters related to changes in polar bear demographics, behaviour, habitat, and ecology. In December 2013 a draft of the study report was sent to interviewees for their review and comment.

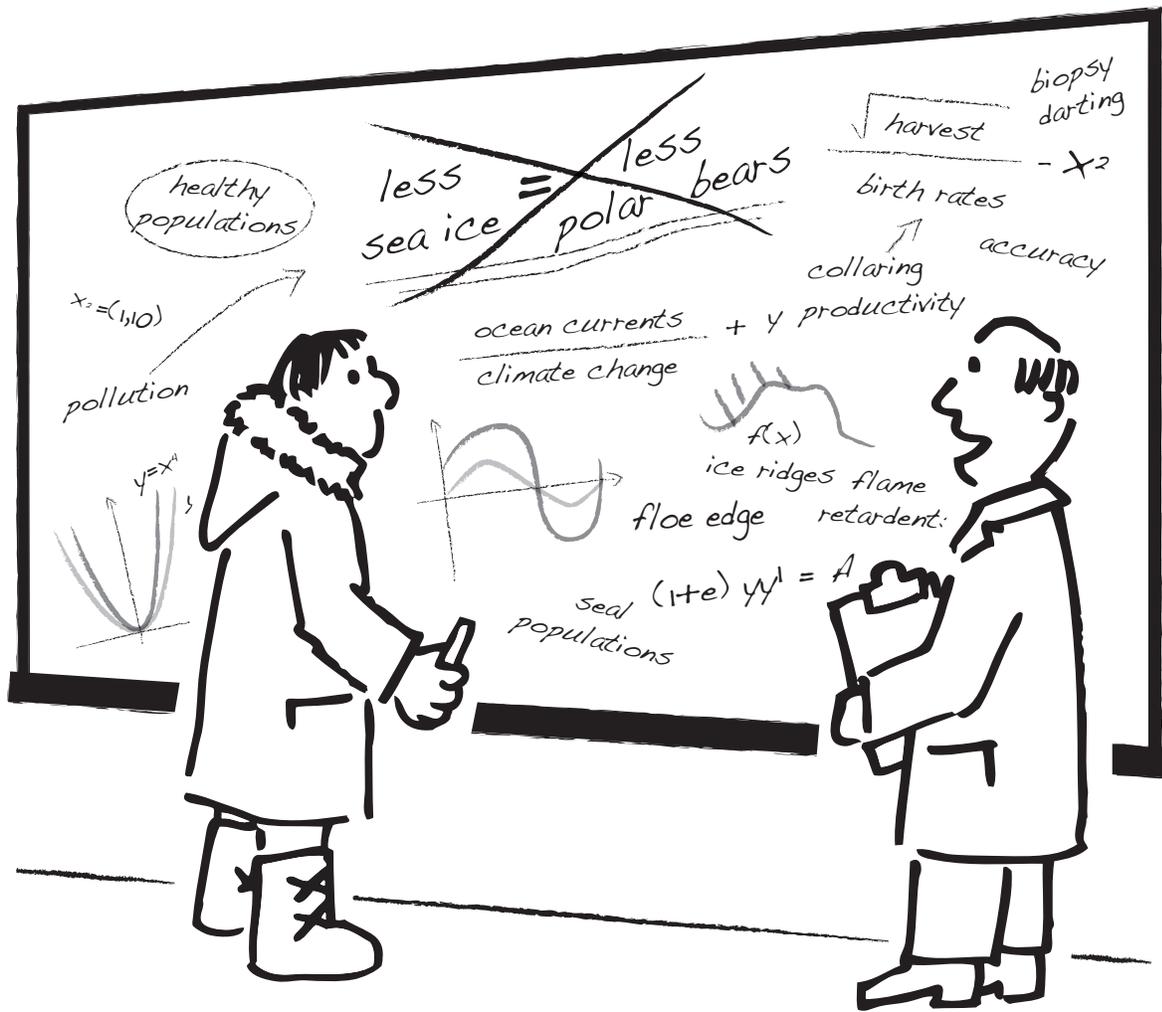
A major strength of the study method is the large number of traditional knowledge holders who were interviewed from all six Inuvialuit communities.

Traditional Knowledge

The most important aspects of Inuvialuit knowledge concerning polar bears are intergenerational knowledge (acquired from parents, grandparents, and others) combined with direct experience, observations, perceptions, and theories. In general, this is what Inuvialuit mean by Traditional Knowledge (TK): personal knowledge acquired by travelling across the ice, hunting seals and polar bears, running dog teams, reading wind directions, snow and cloud patterns, geographic features, currents and stars, and by inter-generational transmission. A fully modern people, the Inuvialuit have added to their repertoire of traditional techniques for wayfinding across ice and hunting polar bears. Although reading tracks and studying wind-driven snow patterns on the ice are still important, GPS, computers, camp radios and satellite maps are now considered useful additions to their toolkits, if not essential for safety reasons.

The social, economic, cultural and environmental conditions in which Inuvialuit gather environmental knowledge useful to polar bear hunting have changed over the years. Nonetheless, hunters continue to talk to one another informally about seasonal information and ice conditions, tracks, signs of seals, foxes, wolves and wolverines, and other information that may have a bearing on the presence and location of polar bears. Hunters may also monitor seasonal temperatures, wind directions, and storm patterns that pile up or rubble the ice, because they are a key part in determining the location and extent of pressure ridges and open leads. Information gathering is continuous.

It is clear that while the 'traditional' component of TK remains strong, Inuvialuit knowledge about polar bears is now blended with information from multiple sources, not only from direct experience and what elders have shared in the past. Some interviewees for the study have participated in the co-management boards and committees that manage polar bears, bringing them into contact with biologists and researchers. Others have provided field support and advice on research projects and been exposed to other views and ideas from scientists and scientific studies.



“You’re right. This isn’t so simple.”

5. Key Findings

Changing Sea Ice and Weather Conditions

Virtually all the Traditional Knowledge holders from all the communities interviewed for this study spoke of profound changes in sea ice conditions starting in the late 1980s. These changes have impacted Inuvialuit travel and harvesting on sea ice. Inuvialuit are unanimous in their observations about various climate change effects, such as late freeze-up and early break-up. TK holders noted that the relationship between these effects and polar bears is complex and were reluctant to hypothesize about future trends.

While TK Holders stated repeatedly that ice conditions are changing, they also stated with equal vigor that ice conditions have always been highly variable.

Climate Change

Inuvialuit observations of and concerns about the effects of climate change pre-date this study by over 20 years. The study documents Inuvialuit observations and knowledge about changing climate conditions including:

- ice break-up occurs earlier in spring and freeze-up later in the fall
- extreme low temperatures occur less frequently
- ice tends to be thinner, and wind and currents can easily break it up and rubble it
- pressure ridges that used to form predictably in the same location from one year to the next are no longer there
- winds shift direction unpredictably
- there is more open water than ever before.

The consequences of these changes includes observations that fewer Inuvialuit are seeing maternity dens in the same places as before due to changing wind and snow conditions; however, there is no evidence to support a change in the number of dens.

The emergence of females and cubs from dens is still within the normal time period.

A variety of observations concerning ringed seals emerged from the discussions about climate change. Ringed seals are a major food source for polar bears. Inuvialuit observed that these animals are highly mobile and go through cycles in terms of their local abundance. No connections can be made between these observations and polar bear abundance throughout the ISR.

The Traditional Knowledge Holders who participated in the study were emphatic about the importance of the ice-polar bear relationship. The question of what may happen in the future if ice conditions are consistently or frequently poor produced no definitive answer or prediction. Indeed, the Traditional Knowledge Holders did not wish to speculate much about the future and long-term polar bear survival trends. For study participants, much remains uncertain regarding changing ecological conditions and how they interact, as well as how polar bears and those who hunt them respond to those conditions.

In short, the study indicates that according to existing Inuvialuit traditional knowledge, it is premature to conclude that the abundance of polar bears in the Canadian Western Arctic has declined and that their overall condition has permanently deteriorated, given the complex nature of polar bear interactions with sea ice and seals.

“When I first started hunting, you’d have pretty solid ice pretty well right ‘til the first week of May. The ice was so thick then, not very long ago. Now the ice doesn’t get that thick anymore”

– Paulatuk Hunter

Polar Bear Body condition

The study findings indicate that the physical condition of polar bears in the Beaufort Sea has remained stable over time, although there is considerable variation from one year to the next and even within a given hunting season. However, there appear to be fewer really big bears and they are not as fat as they were prior to the mid-1980s, when apparent climate-related changes began happening.

“The bears that I do see are in good shape. They’re hunting and they are being successful and getting fed. If polar bears were starving, you think they would start to pop up here – they would be here and there. And that’s not happening.”

– Aklavik Hunter

Cultural Importance of Polar Bears

Polar bears and the harvest of them have been an important part of Inuvialuit culture and economy for generations. In the days before trade in industrially derived commodities took hold, and when Inuvialuit lived outside of settled communities, polar bear meat was a welcome addition to the family diet, nourishing people and their dog teams alike, especially at certain times of the year when other foods were in short supply. Furthermore, polar bear pelts provided clothing, mattresses, and tools for maintaining sled dog runners. Apart from the bears' economic contribution, they also nourished the Inuvialuit imagination, due in large measure to their strength, agility, and above all their great intelligence.

Polar bears could also be lethal to humans, especially in the days when hunters were armed with not more than bows and arrows, spears, and snow knives. Hunting polar bears in those days took great courage as well as skill in order to grapple with them in their ice environment. This remains true today, especially given the uncertain environmental conditions that exist as a result of climate change. There is little wonder, therefore, that polar bears feature prominently in Inuvialuit mythology, spirituality, storytelling, art, song, and other forms of social expression.

*"We are definitely going to change. We are good at that...
Everyone wants to live in the modern world. But you know, there's
things like polar bear hunting that is a part of our life, has been
part of our lives, and will be part of our lives for, I'm hoping,
forever and ever. Because it's a part of us, eh?"*

– Paulatuk Hunter

6. Next Steps

The starting point for the application of Polar Bear Traditional Knowledge and biological science in practical support of polar bear management begins with the conservation requirements as defined in the Inuvialuit land claim, where conservation "means the management of the wildlife populations and habitat to ensure the maintenance of the quality, including the long-term optimum productivity, of these resources and to ensure the efficient utilization of the available harvest."

Wildlife managers, including the Inuvialuit, do not in fact manage wildlife – they manage human activities that impact wildlife, including harvest, habitat disruption and destruction due to industrial development. The practical application of the PBTk study findings will be integrated with other information into the management regime described on the next page.

Inuvialuit Settlement Region (ISR) Co-management System for Polar Bear Research Monitoring and Harvest

