

Aklavik

**Local and Traditional
Knowledge**

**about Grizzly Bears of
the Yukon North Slope**

December 2008





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PLEASE CITE AS

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Wildlife Management Advisory Council (North Slope)
Box 31539, Whitehorse, YT Y1A 6K8
www.wmacns.ca

Aklavik Hunters and Trappers Committee
Box 133, Aklavik, NT
X0E 0A0



November 7, 2008

The settlement of the Inuvialuit Final Agreement (IFA) in 1984 has changed the way fish and wildlife resources are managed on the Yukon's North Slope. The IFA established a special conservation regime to ensure that the area's wildlife populations, its unique arctic environment, and its traditional use by Inuvialuit people would be maintained for future generations. The Wildlife Management Advisory Council (North Slope) (WMAC (NS)) is a group of Inuvialuit and government representatives who work together and recommend ways to cooperatively and carefully manage wildlife on the Yukon's North Slope.

Grizzly bears are an important part of the arctic ecosystem. They are one of the main predators on the Yukon North Slope, and have been harvested by Inuvialuit people for centuries. Grizzly bear numbers appear to be healthy on the Yukon North Slope, but in other parts of North America, these bears are a disappearing species when viewed over the long term, although as a species at the moment, they appear to be stable in number. Nationally there is an obligation under the *Species at Risk Act* to carefully manage their populations.

In order to make sound management decisions, Yukon Department of Environment has initiated a six-year study on grizzly bears within the Yukon North Slope supported by WMAC (NS).

This report includes important information provided by community members and harvesters and will add to our collective understanding of this important species.

The Council appreciates the contributions and collaboration of many people and organizations associated with this study. The Aklavik Hunters and Trappers Committee (AHTC) provided community support, encouragement, and ideas. The Yukon Government Department of Environment provided study design, interviewing, and writing support. Community experts provided the information and reviewed the results. WMAC (NS) provided funding and logistical support, offered technical advice, coordinated the report production, and hosted public meetings. In particular, the Council extends its gratitude and thanks to Ramona Maraj, Kyle Russell, and Barney Smith of Yukon Government's Fish and Wildlife Branch for their work on this study and their thoughtfulness in collaborating with Aklavik Inuvialuit.

Sincerely,

A handwritten signature in black ink that reads "Lindsay Staples". The signature is written in a cursive, flowing style.

Lindsay Staples
Chair
WMAC (NS)



March 20, 2009

The Aklavik Hunters and Trappers Committee speaks for Aklavik Inuvialuit active on the land. We provide community-based advice to, the Inuvialuit Game Council, and other groups in the Inuvialuit Final Agreement and Settlement Region.

This report is important to us. A significant number of interviews have been done over the years. However, only a few of the many reports about the region include the knowledge and experience of hunters and trappers from Aklavik. As you are aware, the Aklavik Inuvialuit have always stated that traditional knowledge has to be included in any research being conducted to get a holistic view of research projects.

We appreciate the support and commitment of Yukon Government who conducted the interviews and prepared the write-up, and WMAC (NS) who facilitated and contributed to the project and prepared the report.

William Storr
President
Aklavik Hunters and Trappers Committee

***This report is dedicated to the memory
of Danny A. Gordon, of Aklavik, N.W.T.***

Danny enjoyed his life out on the land and was well known and highly respected for his skills and knowledge of the Inuvialuit traditions and culture in which he was raised. This report serves as just one example of the many contributions Danny made to his community and to wildlife management in the Inuvialuit Settlement Region.

THANK YOU / QUYANAQTUQ

Aasman Design Inc.	Michelle Gruben	Lee John Meeyok
Barbara Allen	Kelly Hayes	Mary Ruth Meeyok
Jacob Archie	Troy Hegel	Richard Papik
Billy Archie	Aileen Horler	Gerry Perrier
Carol Arey	The staff at the	Ernest Pokiak
Dennis Arey	Inuvialuit Cultural	The staff at the Prince
Nellie Arey	Resource Centre	of Wales Northern
Donald Aviugana	Ricky Joe	Heritage Centre
Marsha Branigan	Mervin Joe	Kelsey Russell
Christian Bucher	Moses Kayotuk	Kyle Russell
Michelle Christensen	Doug Larsen	Michelle Sicotte
Annie B. Gordon	Wilson Malegana	Barney Smith
Annie C. Gordon	Ramona Maraj	Lindsay Staples
Danny A. Gordon	Shelley Marshall	Evelyn Storr
Danny C. Gordon	Ian McDonald	Agnes Tardiff
Richard Gordon	Jonas Meeyok	Marissa Whiting

About the Yukon North Slope

The Yukon North Slope is the northern portion of the Yukon Territory. Bordered by Alaska and the Northwest Territories, it includes the watersheds of all Yukon rivers that drain into the Beaufort Sea. Herschel Island-Qikiqtaruk Territorial Park (Qikiqtaruk) and several other small arctic islands, as well as the Yukon's offshore waters, are also included in the Yukon's North Slope region.

This area is one of Canada's most diverse arctic environments. It is also the home of the Inuvialuit people, who have relied on the region's abundant wildlife for hundreds of years. There are no permanent settlements on the North Slope.

The remains of old whaling stations, abandoned military and exploration sites, and parks facilities in Ivvavik National Park and Qikiqtaruk are the only reminders of the region's non-aboriginal occupancy. What persists are the seasonal harvesting camps of the Inuvialuit. Most Inuvialuit who use the Yukon North Slope now live in the nearby communities of Aklavik and Inuvik, Northwest Territories. But many continue to return to the North Slope throughout much of the year to harvest fish and wildlife, and to travel to traditional places in the mountains or along the coast. Many Inupiat also travel to the Yukon North Slope from Kaktovik, Alaska, to share in the use of the land with their Inuvialuit relatives.





The North Slope Grizzly Bear Study

PROJECT PARTNERS

- Polar Continental Shelf Project
- Habitat Stewardship Program
- Species-at-Risk Program
- Yukon Government Fish and Wildlife Branch
- WMAC (NS)
- Parks Canada
- Qikiqtaruk Territorial Park
- Aklavik Hunters and Trappers Committee
- Government of Northwest Territories
- Department of Environment and Natural Resources

Grizzly bears are an important species. As an animal that eats both plants and other animals, they are essential to the functioning of healthy ecosystems. For the Inuvialuit, they are also an important species that is harvested each year. The Inuvialuit Final Agreement recognizes the need to balance species conservation and the harvesting rights of the Inuvialuit. To make sure bear populations remain at a healthy level, wildlife managers and harvesters need to know as much as possible about grizzly bears in the region when they discuss harvest quotas.

It has been over 35 years since the last grizzly bear population surveys were done in the region. In May 2004, the Yukon Government Department of Environment, in partnership with Parks Canada (Western Arctic Field Unit), the Aklavik Hunters and Trappers Committee (AHTC), and the Wildlife Management Advisory Council (North Slope), began a six-year grizzly bear research project on the Yukon North Slope.

The research project is made up of several different studies and activities, and is designed to help develop a better understanding of grizzly bear population size, birth rate, death rate, where bears can be found at different times of year, and how much they move around. It also includes a review of harvest activity. Together, the various activities will give wildlife managers the kind of information they need to know when determining the conservation requirements of this population and in reviewing harvest quotas. All research activities are partly funded through the Inuvialuit Final Agreement.

After four years of study, much information has already been gathered. This report only includes information gathered through interviews with local harvesters and others who spend considerable time on the land.

How Local and Traditional Knowledge was Gathered

In February 2005 Ramona Maraj, the principal researcher, Barney Smith, Marsha Branigan, and Mervin Joe conducted an initial focus group with three residents of Aklavik. These residents were recommended by the AHTC because they had extensive experience observing, hunting and living with grizzly bears. This focus group provided key guidance on project study design and grizzly bear management issues. An ethics review of focus group activities was completed by the Aurora Research Institute. Additional information was also gathered from previous publications or archive materials. A full annotated bibliography is included at the end of this report (Appendix A). This was done to familiarize researchers with the breadth of existing knowledge and to identify gaps in existing records of traditional knowledge. Information from the focus group and the publications and archives review was used to help formulate interview questions.

Researchers also conducted an exploratory analysis of map-based data from previous interviews.¹ These interviews were conducted by the GNWT in the late 1990's. Information from this analysis was used to identify areas that are used by hunters, places where bears feed and den, and places where conflicts happen. Information from these analyses was also used to formulate questions for the interviews.

Subsequent to the focus group, two rounds of interviews were conducted. An ethics review of the program was completed by the Aurora Research Institute and research licenses for conducting interview work were provided for 2006 and 2007 interviews. All survey questions were reviewed by project partners for appropriateness.

The first round of interviews was designed for a cursory survey of the information. Ideal interview candidates had extensive knowledge about grizzly bears, gained either through hunting or other time spent on the land, and were actively involved observing or hunting bears for at least the past 5 years. Hunter names were obtained from hunter submission records. The AHTC was consulted to ensure that hunters from each of the three harvest zones were represented and to identify any additional participants who could contribute to the project.

The first survey (Appendix D) contained questions about key areas of knowledge that the project partners considered of primary importance for grizzly bear management purposes. The questions were designed to gather information on hunter land use, bear population status, habitat use, harvest management, habitat protection and human-bear conflicts.

¹ Hegel, T. 2006. *Aklavik-HTC Grizzly Bear Traditional Knowledge GIS Data: Data Summary and Preliminary Analyses*. Report Prepared for: Wildlife Management Advisory Council (North Slope), Whitehorse, YT. This report was also created in conjunction with this project and is available from the WMAC (NS).

The second round of interviews was designed for a more in-depth survey of information than the first interviews. We broadened these interviews to include individuals that may have had knowledge of past traditions and techniques pertaining to grizzly bear harvest, and consequently historical knowledge of grizzly bear ecology and habitat or changes in climate or the landscape that might affect bear habitat. We started by interviewing the same interviewees from the previous year, and using a key informant technique, these individuals were asked to supply names of additional individuals who could contribute to the project.

The second survey (Appendix D) contains questions addressing key areas that were not identified in the previous survey, or for which we did not obtain an appropriate response (i.e., the question was deemed to have failed). The questions were designed to gather information on topics similar to the previous interview, but focused more on changes to bear populations and habitat, and changes in human-bear interactions.

In both rounds of interviews the interviewees were asked a question from the survey instrument; however, the instrument was used as a guide for discussions and interviews often flowed in an open-ended format. Both rounds of interviews were carried out in Aklavik over a week and a half period in late February. A letter explaining the project and thanking participants was given to each interviewee (Appendix B as well as an informed consent release which was then signed and returned to the interviewer (Appendix C). The interviews were conducted in English and lasted approximately one hour. Based on consent, interviews were audio-taped, and transcribed. Copies of the transcripts were returned to interviewees so that they could make changes or corrections and are housed at the AHTC.

Some interviewees were unable to respond to all questions in our interviews because:

- 1) a question may not have been formulated in a manner conducive to obtaining the information (and hence was subsequently discarded),
- 2) they had not made observations specific to that question, or
- 3) because their knowledge relating to that question was specific to geographical areas outside of the scope of this study (e.g., Barter Island).

How Local and Traditional Knowledge was Summarized

This report summarizes the responses of both rounds of interviews. Interviewee comments are not directly attributed to any one person. The information collected through the interviews, combined with information from the literature review is summarized in a narrative format. This report does not intend to provide detailed records of individual responses: instead, it reports on

the common threads among interviewee responses, and interprets the information in relation to the study objectives. Connections were drawn between different ideas or processes that were mentioned during the interviews, and may not have been explicitly noted by interviewees. This report was reviewed by several interviewees to check that the analysis of the information reflects the intent of the responses.



Ernest Pokiak



Inuvialuit: the People of the North Slope

INUVIALUIT (UUMMARMUIT DIALECT) NAMES

- Grizzly bear
Aktaq
- Old male grizzly bear
Aktaaluq
- Male grizzly bear,
young or old
Angnuhalluq
- Young bear,
male or female
Akaiyaaq
- Mother with cub(s)
Piatyaliq

The Inuvialuit people are one of the closely related groups of Inuit living across Canada’s arctic regions. Inuvialuit are believed to be descendants of the ancient Thule people who migrated from Siberia thousands of years ago. Inuvialuit culture evolved as Inuvialuit people moved along the Yukon North Slope coast and the Mackenzie Delta, harvesting and fishing throughout the year. During the winter, Inuvialuit gathered in places such as Qikiqtaruk, Escape Reef, Shingle Point, King Point, Stokes Point, and Avadelek Spit.

For hundreds of years, the Inuvialuit traded with their neighbours: the Inupiat to the west, the Inuit to the east, and the Gwich’in to the south. Direct contact with European culture did not happen until the late nineteenth century when the Inuvialuit guided whalers to the safe moorings of Pauline Cove on Qikiqtaruk. As a result, Qikiqtaruk became the centre for whaling in the Western Arctic. At the peak of the whaling era, nearly 2,000 people lived at Pauline Cove.

When the whaling industry collapsed in the early 1900s, many Inuvialuit focused on the trapping industry and several trading posts were established. By the mid-1930s, Aklavik, which was originally the site of a Hudson’s Bay Company trading post, had become the main settlement in the region. Both the Anglican and Catholic churches established missions in the community. It was also the headquarters for the RCMP in the western Arctic. Mission hospitals and residential schools attracted people from the surrounding region, and the smaller communities on the North Slope were eventually abandoned.

In the 1950s, concerns about flooding and erosion led to the construction of a new government centre, Inuvik. Although most services were moved, many residents decided to stay in Aklavik. Today, Aklavik is a community of some 750 Gwich’in and Inuvialuit, most of whom are still active harvesters.



Local Experts Interviewed for this Report

Many of the individuals who were interviewed for this project were born and raised on the Yukon North Slope. Others came from nearby areas like Fort McPherson and Barter Island. All the individuals who participated in the project have considerable experience using the Yukon North Slope. One interviewee is not listed below, as they wished to remain anonymous.

The knowledge provided by these individuals reflects their years of experience on the land and the expertise and wisdom that has been passed on to them by their ancestors. All have spent time with parents or grandparents at camps along the coast from Herschel to Aklavik, and today they have their own camps in the region. Some spent time in the Firth River Valley area when placer gold mining and prospecting was a more common activity.

Most have or visit camps at Shingle Point or the Running River in the summer months, when these areas become more like communities as several families have camps in the area. Others have camps spread out across the North Slope, between Ptarmigan Bay to the west and the Delta region immediately surrounding Aklavik to the east. These camps are located in the Richardson Mountains, the western edge of the Mackenzie Delta, or lakes and rivers near the coast, and are used as a base for shorter harvesting trips.

Inuvialuit are also employed as stewards of the land. They work as rangers at Qikiqtaruk and as wardens at Ivvavik National Park. They record their observations of plants and animals on an ongoing basis during patrols by plane, boat, snow machine, and foot noting changes over the years.



Annie B. Gordon Annie was born in Aklavik and spent most of her time out on the land with her family. They always moved around, staying in one place only during freeze-up in the fall and break-up in the spring, when travel was made difficult. She has been a community monitor in Aklavik for the Arctic Borderlands Ecological Knowledge Co-op for a number of years, interviewing locals about their observations of change on the land.

Danny A. Gordon Danny was born in 1935 at Barter Island, Alaska. His family moved east along the coast in 1942-1943, living at Qikiqtaruk and other locations while trapping all over the area. Danny settled in Aklavik in 1943 and began trapping as a young man. He harvests most species in the region, including polar bear, from his camps at Shingle Point and in the Mackenzie Delta. Danny was a bowhead whaling captain and was part of the crew that harvested the bowhead at Shingle Point. Danny served for many years on the Aklavik HTC. Danny passed away in January 2007 while out on the land with his family near Aklavik. This report is dedicated to his memory.



Jacob Archie Jacob was born at Kay Point on the north coast of the Yukon in 1932. His family moved to Shingle Point in 1938 and the Delta, about 30 miles south of Aklavik in 1940. In 1966, he and his family moved to Aklavik. He has trapped all his life, mainly from his camps near Aklavik on the Fish River and at Shingle Point. Jacob harvests moose, caribou, ducks, geese, rabbits, ptarmigan, and grizzly bear. He once harvested a polar bear near Qikiqtaruk. He served on the Aklavik HTC for many years.



Donald Aviugana Donald was born in Aklavik. He spent 28 years in Inuvik, but has been living back home in Aklavik since 1982. Donald spends time in the summer fishing at Shingle Point or whaling at Bird Camp. He harvests caribou and geese and has spent many years trapping. Donald is a member of the Inuvialuit Game Council, the Aklavik Elders Committee, and the Aklavik HTC. He spent six years on WMAC (NS) and 10 years on the Porcupine Caribou Management Board.



Danny C. Gordon and Annie Gordon Danny was born at Barter Island, on the Alaska North Slope, and spent some of his childhood at Point Barrow. When he was 10 years old, his family travelled by dogsled to Canada. For two years, they lived at a number of places along the coast, including Qikiqtaruk. Danny arrived in Aklavik in 1948 where he has lived ever since. He has four cabins along the coast that he uses when travelling and harvesting in the summer and winter. He also has a cabin in the Delta that he uses every fall when he and his wife, Annie, are trapping. Danny served on the Inuvialuit Game Council and is currently a member of the WMAC (NS) and the Aklavik HTC.



Mervin Joe Mervin was born in Inuvik. He grew up in Aklavik, harvesting and fishing with his family on the west side of the Delta as well as trapping above Aklavik into the Richardson Mountains. He lived in Inuvik at various times as he grew older. Mervin has been working for Parks Canada since 1993. His work includes patrols in Ivvavik National Park from March to October. Mervin continues to spend time at his family camps between Aklavik and Inuvik.



Ricky Joe Ricky was born and raised in Aklavik, where he has spent most of his life. He has camps at Shingle Point and on the Napayuk Channel in the Mackenzie Delta. Ricky harvests many wildlife species, including polar bears, seals, and beluga whales. He has been a trapper, but has stopped for now until fur prices improve. Ricky worked as a ranger on Qikiqtaruk for three seasons and has also been an employee of Parks Canada. He has experience working in the field on grizzly bears and sheep and has served on the Aklavik HTC.



Wilson Malegana Wilson was born at Shingle Point in 1948. He was raised and has lived all of his life in and around Aklavik. Wilson lives most of the year at his camp 23 miles downriver from Aklavik, where he harvests and traps. He does not get out to the coast much, but does travel into the north Richardson Mountains. He is currently one of the last full-time trappers living out of town. Wilson has occasionally worked as a wildlife monitor at industrial camps.



Lee John Meeyok Lee John was born on the coast near the Komakuk DEW Line site. His family moved to Aklavik when he was a baby and he has lived there ever since. Lee John's main camp is at Shingle Point. From there he does a lot of boating in the summer, and harvesting in the spring and fall. Lee John harvests polar bears, grizzlies, caribou, and other species. He has been working as a ranger on Qikiqtaruk since 1988. He is skilled in bird, animal, and plant identification.



Billy Archie Billy was born and raised in Aklavik, and spent much of his time following his parents on the land, hunting and trapping. He shot his first caribou at the age of 10. Billy studied at the University of Alaska Fairbanks for two semesters and was one of the founding directors of the Aklavik Hunters and Trappers Committee. He has served on and off as the president from 1988 to 2008. Billy believes very strongly in the knowledge of his elders and promotes traditional knowledge as one of the most critical wildlife management tools.



Nellie Arey Nellie was born in Aklavik and raised by her grandad in the area around Qikiqtaruk and Ptarmigan Bay. They spent a lot of time hunting, trapping, and prospecting for gold, travelling up the Firth River valley every summer. Since 1959 Nellie has remained in Aklavik, but still manages to get up to the coast. In the summer of 2006 Nellie travelled up the Firth River as part of a research team investigating the presence of Alaskan Marmots in Ivvavik National Park.

Moses Kayotuk Moses was born and raised in Aklavik, where he spent a great deal of time out on the land. He has great memories hunting seals and fishing for char and herring in the areas around Shingle Point, Qikiqtaruk, and Ptarmigan Bay. He often visited his sister on Barter Island in the winter time, where they would exchange caribou meat for whale meat. The trip took three days by snowmobile, give or take, depending on the weather and how much meat was in the sled. Moses worked as a wildlife monitor on Qikiqtaruk for a few years, where he kept many a polar bear away from camps.



Dennis Arey Dennis was born in Inuvik and raised in Aklavik, though his family is from Barter Island, Alaska. He spends a lot of time out on the land hunting, especially up in the mountains and on Qikiqtaruk. Dennis is very active in his community; he is currently the vice president of the Aklavik Hunters and Trappers Committee, the Aklavik representative for the Inuvialuit Land Administration Commission, and was a member of the Aklavik Community Corporation.



Richard Gordon Richard was born and raised in Aklavik, where he spent a great deal of time out on the land. He remembers the days when his family travelled out to their bush camp with dog teams. All of his experiences out on the land are remembered very fondly and were shared with his parents and friends. Richard has experience hunting all wildlife in the Aklavik area, mostly caribou. As Senior Park Ranger for Qikiqtaruk, Richard spends most of his time in the summer months on the beautiful Yukon coast.



About Grizzly Bears

"I think a lot of time it is where they find themselves, that's where they are going to hibernate... They just find a cliff and go underneath and make a den and that's where they sleep."

"Bears always seem to come down Babbage River in the fall time, because they always start harvesting for ground squirrels, and there will always be dead caribou carcasses left from the fall time. And they always seem to come down along the beach all the time and head to the ocean, because for some reason, they always find dead animals along the beach."



Where grizzlies live

Those interviewed said they saw grizzly bears everywhere on the North Slope: from the coastal plains, to the mountain ridges, valleys, and plateaus, to the Delta lowlands. Because bears use so many different parts of the landscape during different times of the year, the people interviewed for this project didn't think there was one area that was more important than others: the bears use the entire landscape, so the entire landscape is important.

Interviewees did say that some places are important to bears at different times of the year. They agreed that, in the spring and fall, mountain areas where grizzlies could find ground squirrels and over-wintered berries were very important. One interviewee told a story of seeing a grizzly taking seals out on the ice in the spring. Another interviewee described how bears look for low-lying duck or geese nests in the spring and eat the eggs. A few interviewees also mentioned how bears like to eat bear root (*Hedysarum alpinum*) found in river or creek valleys in the spring.

Most interviewees talked about how bears moved out into the river valleys and onto the coast, where they can find lots of food and build up their fat stores for the winter. Some of the interviewees also noted that during the summer, bears moved into windy areas such as the coast or higher in the mountains where it was cooler and there were fewer bugs.

Two interviewees noted that bears are often seen on the coast during whaling season or when seal carcasses wash up on shore. Aklavik Inuvialuit interviewees said they saw bears getting fattest in August and September.

There were a few places that interviewees thought might be of particular interest to bears. At Spruce Creek, just off the Babbage River, one harvester said they saw more bears than in other places. Another interviewee said they often saw females with young along the Rapid River. These interviewees thought bears might be in these areas because char spawn in these creeks. Again, areas with lots of ground squirrels were mentioned by many interviewees as places that were important to grizzlies. However, they did not necessarily describe specific locations.

By October, most bears are in their winter dens. Aklavik Inuvialuit interviewed for this project knew the location of only one or two dens: many den sites are unknown. Interviewees suggested that bears did not always den in the same area. The dens that people did know about were in the mountains, under cliffs or rocks, and in the Delta area. As for nursery sites, no one interviewed knew of a specific place, but some interviewees said they often saw females and cubs on the coastal plains during the summer.

Yukon North Slope grizzly populations

“Nowadays, you don’t see too many big bears. You see a lot of small bears, but all the big bears always seem to be staying up in the rocks now, up in the high places.”



There are differing opinions on the current number of grizzly bears that live on the Yukon North Slope. Most Aklavik Inuvialuit interviewed said that, overall, they felt the population had not changed very much over the past 20 years, and that they saw the same number of bears each year when they were on the land. None of the interviewees believed that grizzly numbers were too low or that the population was in any danger. Some interviewees even speculated that the population might be growing or that there might be too many bears, as the quota system has reduced the total number of bears harvested each year.

There were some specific areas where Inuvialuit felt the local populations might have changed. Some of the interviewees were concerned that the number of bears around Aklavik and in the Richardson Mountains had decreased, and that the bears in this area were smaller than people remembered them being. They suggested that when harvesters remove all the large, old males, younger and smaller bears move into the vacant territory.

Some of the interviewees noted that it was hard to know how many bears there really were because they moved around so much and it was hard to tell bears apart. It was suggested that while people in general might be reporting more sightings, they might actually be counting the same bear two or three times in one day.

Some of the interviewees noted that silvertip bears were seen regularly in the area around Qikiqtaruk. Another interviewee said that he almost always saw grizzlies and wolves in the same area, and that bears used the trails made by wolf packs to travel across the snow more easily.

Grizzly bears and climate change

"I find they're...like with all the weather changes they're... starting to stay out. They're not going in to the den earlier. Like they're staying out a lot longer then, then they're also coming out a lot earlier too, eh?"



The Aklavik Inuvialuit interviewed were not sure if changes on the land were causing changes within the grizzly population. Five interviewees talked about changes in grizzly hibernation patterns and suggested that the bears might be emerging earlier and hibernating later. Some interviewees did mention that when there was a poor berry crop, more bears were seen scavenging whale carcasses on the coast.

One of the interviewees suggested that Inuvialuit might not see a connection between changes in climate and bear populations in part because harvesters get to know one small area around their camps or where they have tags, but may have no idea what is happening in another area. Bears, however, travel over a much larger area, so something might affect them in a different area and no one may know about it. Berry crops have significant annual variability, making it hard for the Inuvialuit to distinguish long-term trends in berry availability.



Grizzly Bear Harvesting Areas

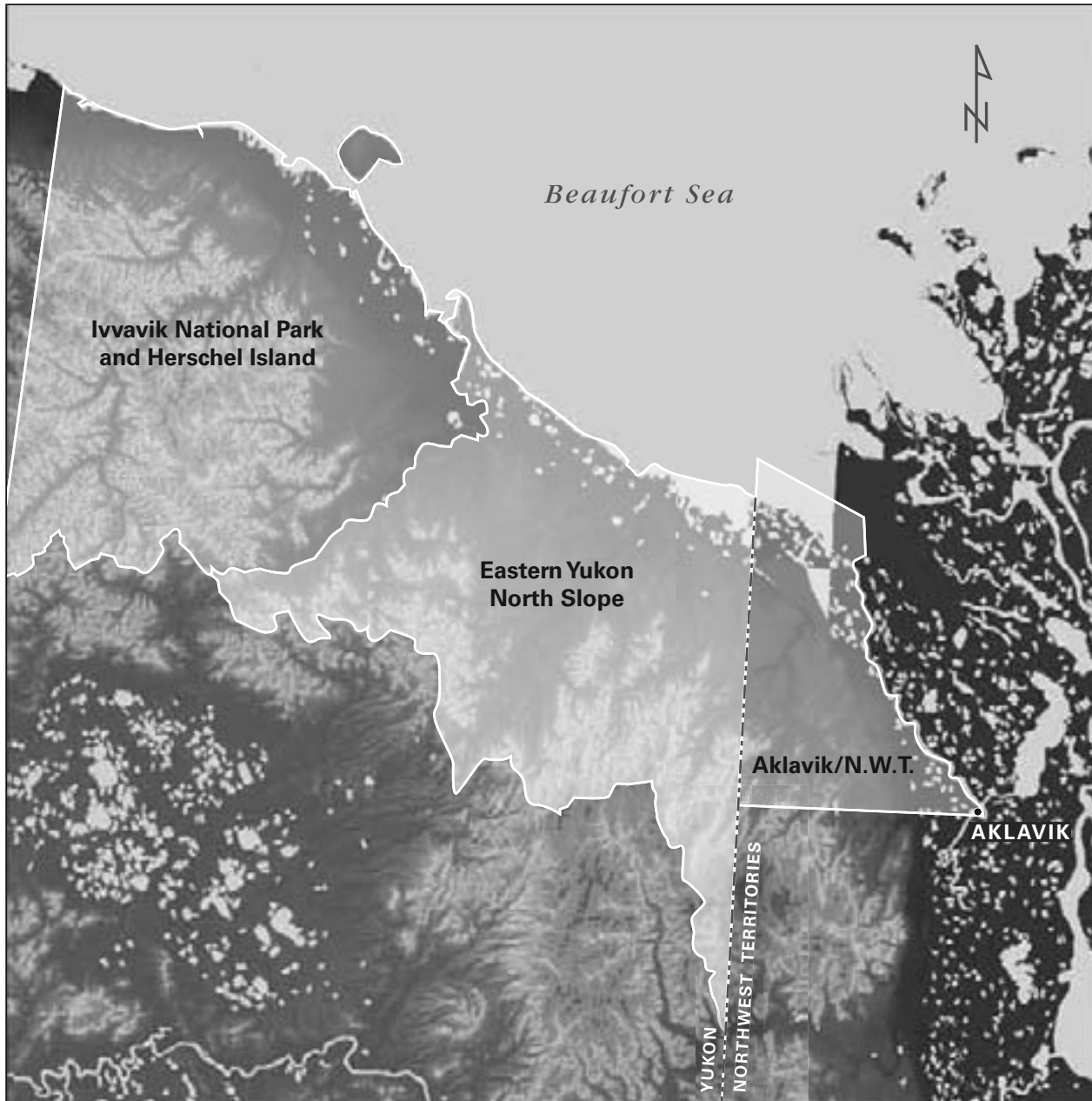
Pursuant to the 1984 Inuvialuit Final Agreement (IFA), the Western Arctic Settlement Act established in law the Inuvialuit Settlement Region (ISR) –the traditional territory of the Inuvialuit. The ISR encompasses lands in the Northwest Territories and the Yukon and all six Inuvialuit communities: Paulatuk, Ulukhaktok (Holman), Sachs Harbour, Tuktoyaktuk, Aklavik, and Inuvik. Under the IFA, in the Northwest Territories, Inuvialuit hold the exclusive right to harvest grizzly bears. This also applies to Ivvavik National Park and Qikiqtaruk in the Yukon North Slope. In the remainder of the Yukon North Slope, Inuvialuit hold a preferential right for the harvest of grizzly bears. Conservation measures are in place limiting the number of grizzly bears that can be harvested in specific locations; this right entitles the Inuvialuit to have their subsistence harvest needs for grizzly bears met before allocating any remaining grizzly bears to other harvesters.

The IFA also established the right for the direct participation of the Inuvialuit and the application of Inuvialuit knowledge in the management of wildlife. On the Yukon North Slope, Inuvialuit knowledge has played and will continue to play an important role in the management of grizzly bear populations.

In the late 1970s, government researchers estimated that 340 grizzlies of harvestable age inhabited these three zones. Using this estimate, a total allowable harvest was calculated and a quota system for the Inuvialuit was introduced. The primary purpose of the quota system is to limit the number of bears taken from the region to ensure that healthy grizzly populations are maintained.

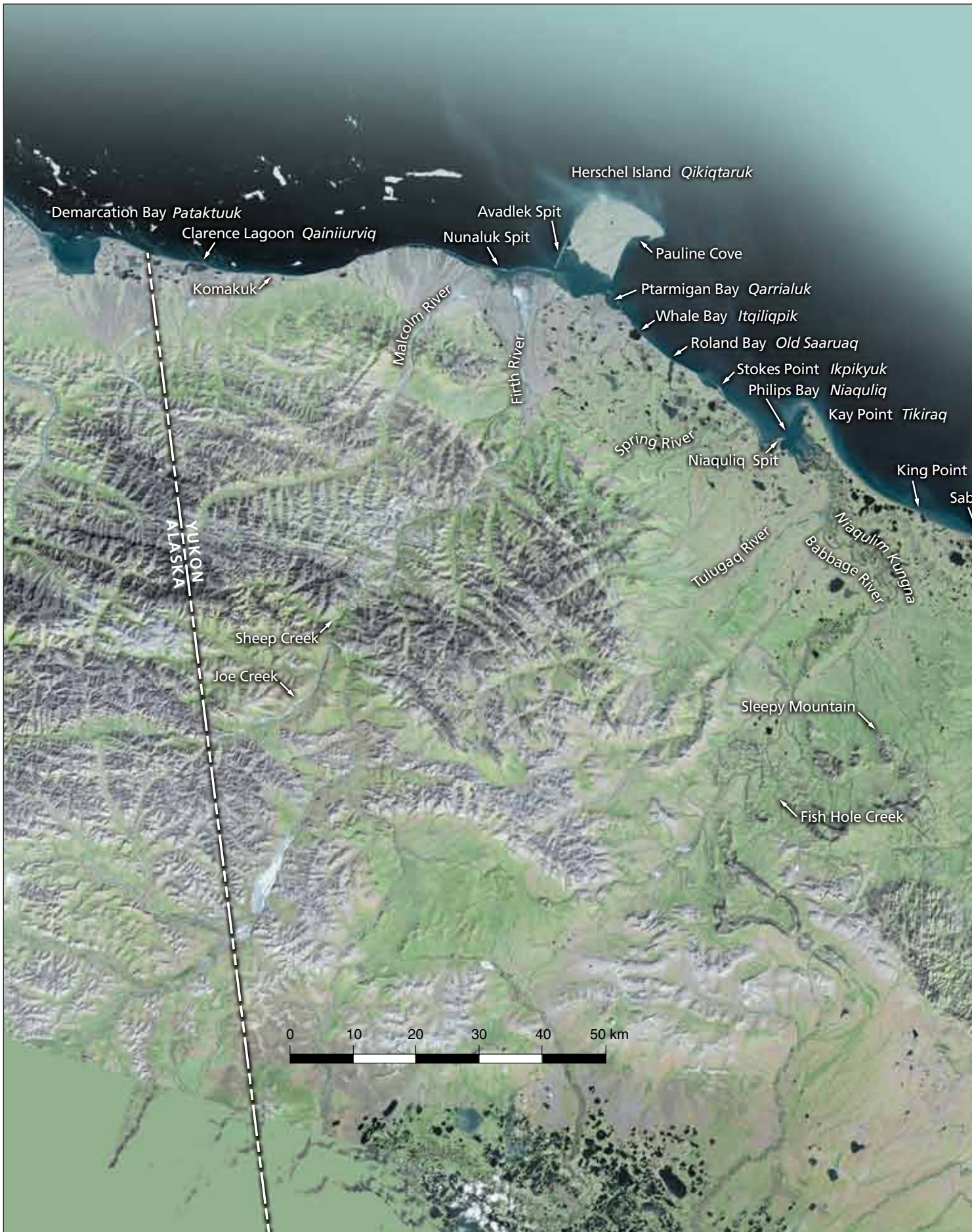
In the late 1980s, Aklavik Inuvialuit became concerned that the harvest of grizzly bears in their harvesting areas in the Yukon North Slope and the Northwest Territories might be too high, which might undermine the productivity and long-term abundance of grizzly bear populations. To address this issue, a grizzly bear harvesting area was created for the community of Aklavik by the Inuvialuit Game Council (IGC) in 1994. This harvesting area is divided into three zones: Ivvavik National Park and Qikiqtaruk; the Yukon North Slope east of the Babbage River; and an area in the N.W.T. adjacent to Aklavik.

Grizzly Bear Harvesting Zones on Yukon North Slope and adjoining N.W.T. Harvesting Zone

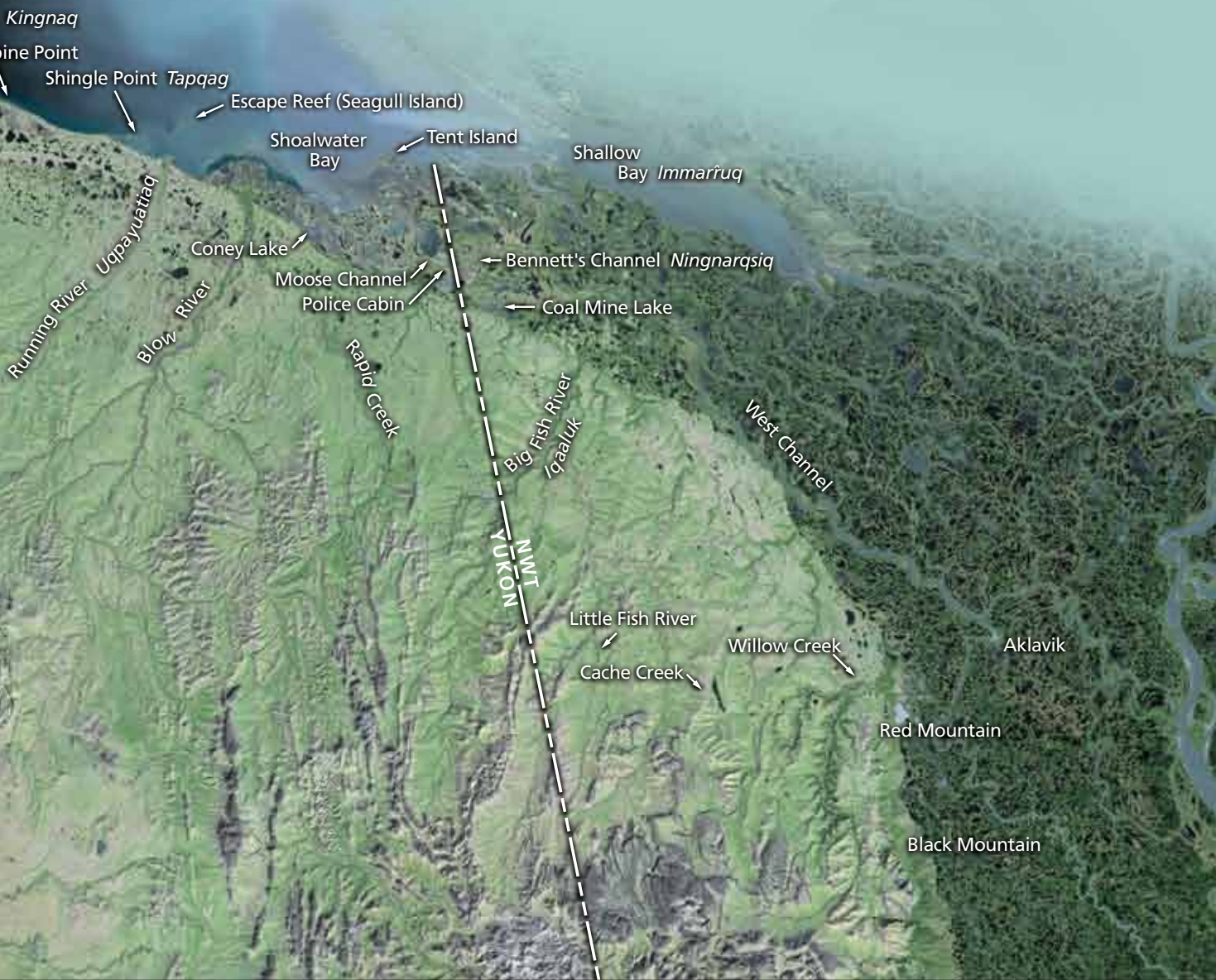
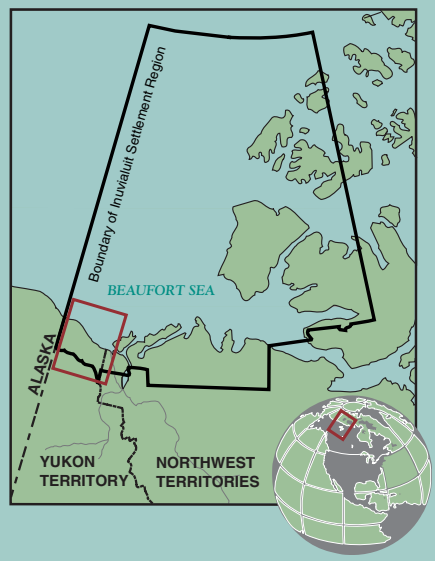


GRIZZLY PERMIT NUMBERS PER HARVEST ZONE AS OF 2007

- 3 - Ivvavik National Park and Herschel Island Territorial Park
- 6 - Eastern Yukon North Slope
- 4 - Aklavik/N.W.T.



Yukon North Slope





Harvesting Grizzly Bears

Why people harvest grizzly bears

SELLING GRIZZLY HIDES

Hides are skinned, cleaned, and frozen for shipment to southern fur markets, where a prime grizzly skin sells for around \$3,000 or \$4,000 (2007 dollars).

Size, colour, fur, and claw condition are the primary factors that influence price. Large dark or silvertip skins with thick fur and long, undamaged claws bring the best price.

“Fifty years ago when everyone was on the land, there was no work. Your income was harvesting and trapping. Now everyone is working and we just do that on the weekends. It’s a second income, or, you know, a bonus if you get a grizzly bear.”

The Aklavik Inuvialuit have always harvested grizzly bears, but not always in the same manner or for the same reasons. Grizzlies have never been as associated with the daily Inuvialuit way of life as other species, such as caribou, muskrat, arctic fox, beluga, or polar bear. In the past, when grizzlies were harvested it was for their meat, fat, hides, and claws. Meat was eaten, especially in the years when other food sources were scarce. The fat was used in baking—especially bread—or mixed with certain roots to make “moo shoo” [*sic*]. Rendered fat was used to treat skins so they could be used as tarps. It was also used for oil for lamps and for cooking because it was odorless. Some of the interviewees explained that grizzly paws were an especially good part of the bear to eat. Grizzly hides were used to make shoes or as sleeping mattresses.

Initially, the fur trade did not have much of an impact on the grizzly bear harvest. In the early days, it cost too much to ship bear hides to southern markets. However, this began to change in the 1970s when transportation became easier and people realized grizzly hides were a prized commodity. Harvesting grizzlies could now generate a significant income, and as a result people began harvesting more bears to help supplement their incomes.

The Inuvialuit interviewed for this report said the main reason they harvested grizzlies nowadays was the money they received from the sale of the hides. They said they took some meat home—such as a hind-quarter—along with the skin, but the majority of the meat would be left at the kill site. Some fat is still used today as well. With plenty of caribou, moose, and store-bought meat available, not many of the Aklavik Inuvialuit eat grizzly meat today.

How people harvest grizzly bears

According to some of the people interviewed, harvesting bears used to happen primarily in the fall just before hibernation, or in winter during hibernation, when there was snow on the ground for tracking and the bears were at their fattest. Traditionally, when Inuvialuit harvested a grizzly, they would use dog teams to pursue down the bear or they would dig or smoke them out of their dens during the winter.

The introduction of snow machines during the last 50 years now allows people to travel further and faster, making harvesting much easier. Today, harvesters usually head into the mountains by snow machine

in early spring to look for bear tracks or other signs. The harvesters who were interviewed said they can tell the approximate size of the bear, and whether or not it is a female travelling with cubs, from a track. If a suitable track is found, harvesters will follow it until they spot a grizzly, and will then pursue it until they can get close enough for a shot. Harvesters will also go to high lookouts where they can survey valleys or lowlands for grizzly sign. The grizzly's dark coat makes it easy to spot in the spring snow. Big male bears with dark hides are the most desirable as their hides bring the best prices. Harvesting female bears with cubs is illegal.



Herschel Island Park Rangers

Where people harvest grizzly bears

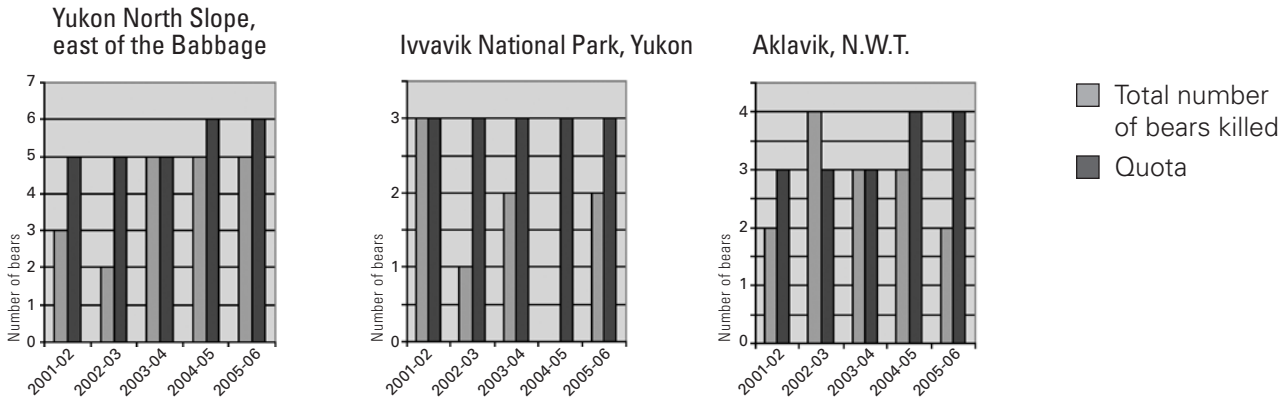
“We don’t even have a chance to go down there, because these other people, they go there; and they’re only supposed to hold that tag for a certain length of time when they go out harvesting, and if they don’t get anything, when they come back, they’re supposed to turn it back into the office. And then, they give it to the next person on the list. But sometimes, those people, they don’t do that. They hang on to that tag, and they go again. You know, that’s not fair.”



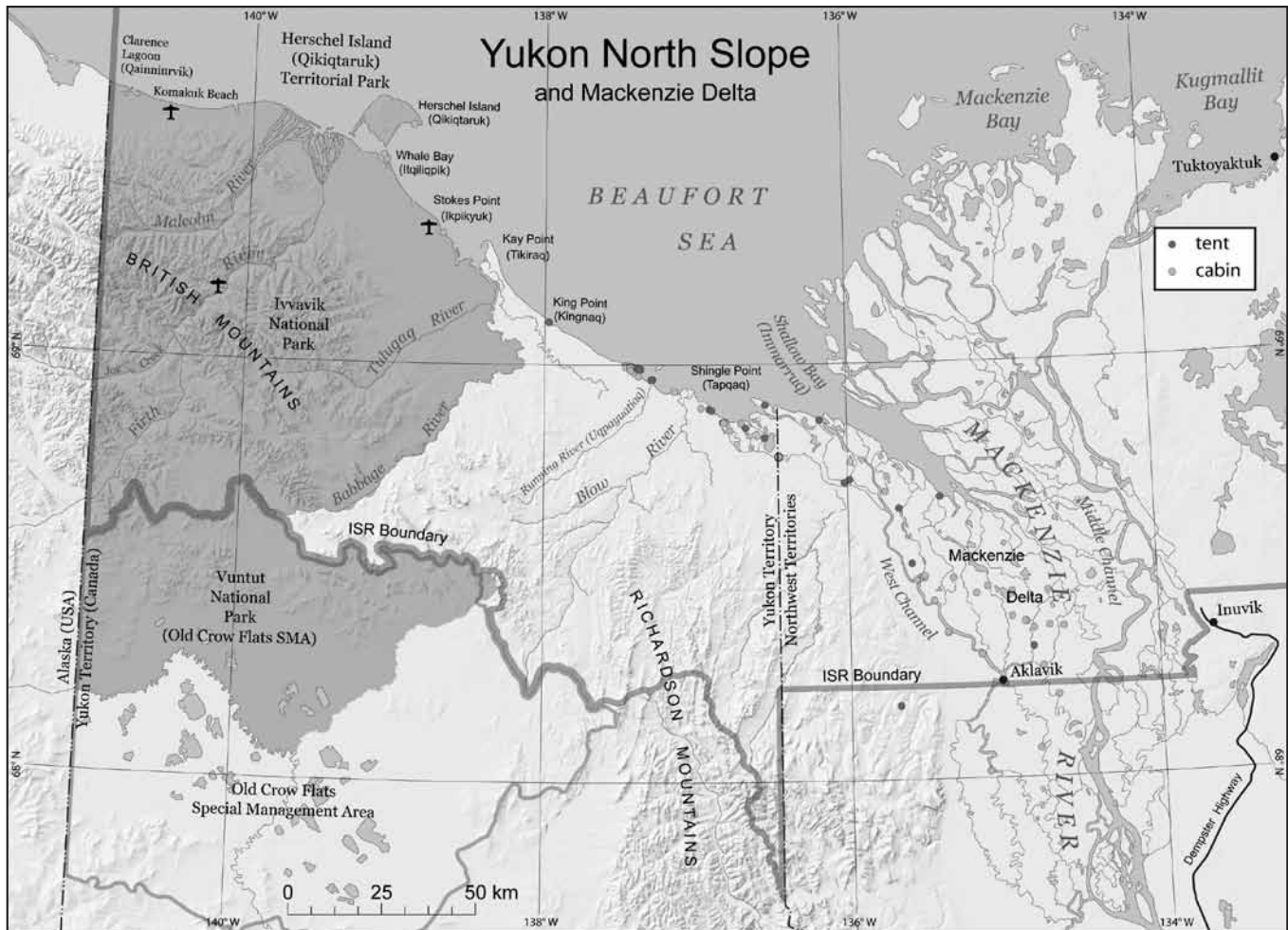
The places where people harvest grizzly bears have not changed much over the past 20 years. Most people go to the Richardson Mountains to the west of Aklavik, and the Barn Range behind Shingle Point. Many people choose these locations because they are on the way to or close to their seasonal camps and homes in Aklavik. A few harvesters travel to the British Mountains that skirt the Yukon–Alaska border in Ivvavik Park, south of Qikiqtaruk.

Most of those interviewed for this report said they usually harvested on the way to their camps. As most of the Yukon North Slope camps are located relatively close to the coast, most people travelling to them move north out of the Delta and travel along the coast until reaching their camp. If their camps are farther inland, in the Richardson Mountains or on the Fish River, people will travel directly inland through the mountains from Aklavik rather than going out to the coast. However, there are no set trails on the North Slope, so factors such as the destination, weather conditions, time of year and trip purpose will determine exactly how people get to their camp. For example, all harvesters interviewed said they set their travel route based on the harvesting zone for which their grizzly tag was issued.

USE OF GRIZZLY BEAR TAGS, 2001 to 2006



North Slope Camp Locations



Camp locations were provided by Aklavik residents interviewed as part of the Government of the Northwest Territories' grizzly bear traditional knowledge survey that took place from 1998-1999¹.

When people harvest grizzly bears

“Once we know the squirrels are out and we know the bear could dig, then we know the bears are going to come out. And as soon as we start seeing water and as soon as it starts getting foggy on the willows, then the old people always say, ‘Oh, the bear dens are open,’ you know, ‘they’re opening, because it’s so misty all over.’”

HARVESTING SUCCESS

The success of a grizzly harvesting season depends on the length of the spring. In years when there is a short spring, when snow and ice melt quickly, harvesters can only access the land for a few weeks and this usually results in a small bear harvest.

If there is a long spring, harvesters can access the land for a long period of time and the bear harvest increases.

“In the spring, for us it’s easier, because you can cross all the valleys, and there’s lots of snow. So, you’re not really scared to go anywhere. Some creeks in the fall time, we won’t even cross or we won’t even go beside, because we know—if we see an animal, we know if we get on that side of the creek, we know once we get into the creek, we can’t come out of it.”



In the past, the Inuvialuit usually harvested grizzlies for their personal use during the summer. Now most people harvest grizzlies in the spring when their hides are worth the most. During the spring, bears’ coats are thick and usually at their darkest and their claws also have grown out over the winter and are in good condition.

Some people do harvest bears in the late fall as well when their winter coats have come in. Very few bears are taken during the summer because their hides are worth less money and it is more difficult to travel on the land to the places where bears may be. During the warm days, the bears tend to shed and their coats become bleached by the sunlight. Digging and feeding also tend to make their claws more chipped and worn.



Spring is when most of the Aklavik Inuvialuit interviewees said they harvested grizzly bears. Bear hides from this time of year bring in the most money. The spring snow makes it easy to spot grizzly bears or follow their tracks, and people can still cover great distances on snow machine. A few of the interviewees suggested that male grizzlies emerge from hibernation before females, which make them easier to target during a spring bear harvest. Some said they watch for ground squirrel activity around Aklavik and use that as a cue for when bears may be leaving their dens, since bears need squirrels to eat.

For harvesters the spring bear season is a race against the clock, as the best bear harvesting conditions only last for a short period of time. Harvesting begins when the bears emerge from their dens.

At this time there is usually enough snow for snowmobile travel, and rivers are still frozen enough that they can be safely crossed. With the warmer days, snow melts and consolidates, which reduces the amount of loose blowing snow and increases visibility. As temperatures increase, receding snow cover and river break-up mark the end of the main bear harvesting season.

There is almost no active grizzly bear harvesting during the summer because their coats are not worth as much. However, some interviewees said they do take bears in the late fall when their winter coats have come in. During this time most people harvest bear by boat along the coast and the river mouths where arctic char spawn.

RECENT GRIZZLY BEAR HARVESTING CHANGES

In June 2003 WMAC (NS) passed a resolution removing the 0 quota for Qikiqtaruk and reassigning the quota of three bears for Ivavik National Park to include Qikiqtaruk.

From 2001/02 to 2004/05, Yukon issued tags to correspond with N.W.T.'s tag issuance dates: July 1 to June 30. Effective 2005/06, Yukon issued grizzly bear tags effective April 1 to March 31 to correspond with all other Yukon-issued tags.



Grizzly Bears and People

Attitudes towards bears

“Up here, we respect the animals everywhere, but we don’t really do it like that, you know. But when you kill a bear like that, you don’t waste anything. Even if it wasn’t for sale, long ago, if they get a good bear skin, you know, they use it for the mattress.”

The Aklavik Inuvialuit interviewed seem to have a range of opinions about the importance of grizzly bears to Inuvialuit people today. The way interviewees viewed grizzlies seemed to be related to their own relationship with bears. Interviewees who depend on grizzlies for part of their income indicated that the bears played an important role in their lives and the lives of all Inuvialuit.

Some of the interviewees indicated that grizzly bears were not as important as other species, such as caribou, char, or muskrat. They suggested that grizzlies were only harvested for income and were not essential to the Inuvialuit way of life. One of the interviewees was very concerned about the number of grizzlies around their camp, saying that they were just a nuisance and a safety concern.

Most interviewees did agree that the bears are an important part of the ecosystem and are needed to maintain the health of the land. A few interviewees said they felt grizzlies were a special species that should be given great respect. Interviewees who were raised on the land said their interactions with grizzly bears serve as important memories, and they hoped that their grandchildren would have the opportunity to grow up with grizzlies as well.



Aklavik Inuvialuit beliefs about grizzly bears

“One of the things that I was taught was never brag about being a good harvester. When I was growing up, I was told that bears could hear you talk. When you said, ‘Well I’m going to go out and get one’... it’s like they can hear you. You’d never be successful. It seems the relationship between our people and grizzlies is that respect. And that’s what I want to teach young people is that respect for that animal.”

Several different beliefs about grizzly bears and the harvesting of grizzlies were mentioned during the interviews. It is important to note that the beliefs described here do not represent the views of all Aklavik Inuvialuit. Many interviewees explained how they had been taught never to brag about being a good harvester before heading out on a harvest because the bears could hear you talking and, as a result, you would never be successful. To get a grizzly, harvesters had to have respect for the bear. Bragging conveyed disrespect and was considered to be very bad luck.

The first thing successful harvesters were taught to do was to cut out a little muscle under the bear’s tongue. Hunters believed that if this was done, bears would not come after them during the next harvest. This practice still occurs today.

Several interviewees also mentioned that grizzlies were left-handed or faster with their left paw, so it was best to avoid that side of the bear during an encounter.

Other ways for the Aklavik Inuvialuit to show respect for bears include understanding the animal being harvested, respecting the experience of elders, taking care of the land during the harvest, and limiting the time the animal is pursued during the harvest to reduce stress on the bear. Finally, another way to show respect towards grizzly bears is to say a prayer of thanks following the harvest.

Problems with bears

"I've shot beside them and tried to chase them away but they are kind of stubborn. If they don't want to go, they're going to go 300 yards and lay down and figure that you are going to forget. Pretty soon, they are just going to come back."

"I think bears are curious. They smell something and they are going to check if it is a free meal. It makes sense."

"Oh we don't, we don't keep garbage. We either burn garbage we have.... We don't leave, we always clean our, around our house. Anything that's on the ground we pick. We don't even let kids throw things, or scraps or anything around the house, no."



Michelle Christensen

The Inuvialuit harvesters interviewed indicated that many Aklavik Inuvialuit are concerned about problem encounters with bears. Many of these encounters happen in harvesting and fishing camps. Most of the interviewees said that this was not a new problem, as bears had always been an issue at camps. However, all interviewees said that bears had either stolen meat or caused damage to one or more of their camps.

There seem to be two types of problems with bears: break-ins and thefts. Break-ins usually happen when no one is at camp. The bear will get in a door or a window of a cabin and make a mess inside. The majority of the interviewees said that, if a bear wants to get in to your cabin, it will, and there is very little you can do. It was suggested that keeping a clean camp with no meat or other attractants is the only way to prevent bears from breaking in. One interviewee had stopped repeat visits from a problem bear by putting nails in plywood and leaving it outside his cabin door.

Thefts usually happen during the summer and early fall when people are harvesting caribou, whales or fish. During this time, large amounts of fresh or dry meat may be stored near camp before being brought to Aklavik. This harvest can attract bears, who will steal meat or fish if they can. Again, it was suggested by the interviewees that keeping a clean camp is the best way to keep bears from stealing food. Watching out for bears during the evening and early morning when they are most active is another way interviewees suggested

reducing theft problems, even though this is an inconvenient time for people because they are usually sleeping.

In cases where bears were stealing food and could not be scared away, interviewees said they felt they had no choice but to kill the bear. They said this was unfortunate as the destroyed bear is counted in the annual quota total and results in fewer valuable bears available for harvest by hunters.

BEAR ATTRACTANT	WHAT SOME PEOPLE DO WITH IT
Perishables (meat, berries, vegetables)	Keep it in freezers, coolers, or storage pits
Non-perishables (dry goods, canned food)	Keep it in house, cabin, or storage pits
Cooking waste	Burn it or feed it to dogs
Fish (for eating)	Keep it in a smokehouse
Fish waste	Dump it in the ocean or burn it
Caribou meat	Put it in a smokehouse, store it in a freezer, or pit, or immediately bring it back to town
Whale (for eating)	Keep it in a smokehouse, can it, or keep it in a storage pit
Whale oil	Bring it back to town or keep it in a house
Whale carcasses	Tow it out into the offshore current or burn it
Seal (for eating)	Keep it in a smokehouse
Seal carcasses	Dump it in the ocean or burn it
Ducks and geese	Keep it in the smokehouse
Hides	Do not keep in camp or burn it
Human waste	Bury it in the ground or burn it
Motor oil	Keep it outside, in the cabin, or bring it back to town
Dog food	Feed them scraps

THINGS THAT ATTRACT BEARS

Interviewees were asked what they did in their camps with things that attracted bears. The following table describes what they said. The success or effectiveness of these actions was not discussed and is not reflected in the comments below.

Appendix A

Annotated bibliography of Inuvialuit traditional knowledge about grizzly bears on the Yukon's North Slope

This bibliography is focused on documented Inuvialuit traditional knowledge of the grizzly bears that live in the western Mackenzie Delta and the North Slope region of the Yukon. Resources from the Inuvialuit Cultural Resource Centre, Inuvialuit Joint Secretariat, WMAC (NS), WMAC (NWT), Prince of Wales Northern Heritage Centre, NWT Library Network, Yukon Library Network, Parks Canada, Yukon Government Department of Environment, Government of Northwest Territories Environment and Natural Resources, and various databases were searched. Additional resources from the Gwich'in, Inupiat, and scientific papers were identified but are not reported here.

Alunik, I., Kolausok, E.D., & Morrison, D. (2003). *Across time and tundra: The Inuvialuit of the Western Arctic*. Co-published with the Canadian Museum of Civilization. Vancouver: Raincoast Books.

Presents an overview of Inuvialuit history from prehistoric to current times. The focus is on describing how Inuvialuit lifestyles have been and are being affected by contact with outside people and the changing dynamic in the North. A story about grizzly bear harvesting is told. A section on grizzly bear hunting describes techniques, beliefs, rituals, and trading.

Binder, L.N., & Hanbidge, B. (1993). Aboriginal people and resource co-management. *Traditional ecological knowledge, concepts and cases*. Ottawa: International Development Research Centre.

Begins with a general discussion of what the term co-management means, then focuses on the specifics of Inuvialuit co-management bodies. Each co-managed resource is discussed (bowhead whales, polar and grizzly bears, char, etc.) and the techniques and reasons for management explored. The section on grizzly bears details the quota system and the reasons for its development.

Black, S., & Fehr, A. (ed.). (2002). *Natural history of the Western Arctic*. Inuvik: Western Arctic Handbook Committee.

Published as an addendum to the book *Canada's Western Arctic: Including the Dempster Highway*, it contains natural history information on a variety of plant and animal species, as well as descriptions of landforms and eco-features. The section on grizzlies is largely concerned with what food sources are utilized by grizzlies and how diet changes are linked to seasonal change.

Cockney, C. (1997). *Kitigaaryuit oral traditions research project 1997: English translations and transcriptions of interview tapes 1-16*. Inuvik: Inuvialuit Social Development Program.

The Inuvialuit Social Development Program (ISDP) sought to document the significance of Kitigaaryuit, the largest Inuvialuit traditional gathering place, a National Historic Site. Included are descriptions and inventory of cultural/archaeological features. Elders were flown to Kitigaaryuit and interviewed on site. Tape 7B discusses use of grizzly bears.

Community of Aklavik, Nickels, S., Furgal, C., Castleden, J., Armstrong, B., Buell, M., et al. (2005). *Unikkaaqatigiit: Putting the human face on climate change. Perspectives from Aklavik, Inuvialuit Settlement Region*. Ottawa: Joint publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval, and the Ajunnginiq Centre at the National Aboriginal Health Organization.

This report summarizes a climate change workshop that took place in Aklavik in January 2002. It was one of five workshops that took place in various arctic communities in an effort to collect local observations of environmental change, discuss the impacts of these changes on the Inuvialuit, and determine what research could be undertaken to monitor and help people adapt to these changes. An increase in the number of problem bear encounters is discussed as one of the effects of environmental change.

Community of Aklavik, Wildlife Management Advisory Council (NWT), & Joint Secretariat. (2000). *Aklavik Inuvialuit community conservation plan: a plan for the conservation and management of renewable resources and lands within the Inuvialuit Settlement Region in the vicinity of Aklavik, Northwest Territories*. Inuvik: Wildlife Management Advisory Council (NWT).

This report sets out the conservation goals of the Aklavik Inuvialuit community for the lands and resources in the Aklavik area. It includes information on the specifics of harvesting.

Department of Environment and Natural Resources, Government of the Northwest Territories. (Updated annually). *Status report for species under quota in the Inuvialuit Settlement Region*. Inuvik: Prepared for Wildlife Management Advisory Council (NWT).

Annual status report for all species under quota in the ISR that helps inform quota allocations for the upcoming year. These species include grizzly bears, polar bears, Bluenose caribou, Peary caribou, Porcupine caribou, and muskox. The report lists the number of used and unused tags per community per hunting area as well as types of kills. It also contains information on population status and, specifically for grizzly bears, how quotas are calculated.

Fabijan, M.F., Snow, N., Nagy, J., & Graf, L. (1993). *Inuvialuit harvest study atlas of wildlife species harvest locations reported from July 1987 to December 1992*. Inuvik: Prepared for the Joint Secretariat, Inuvialuit Renewable Resource Committees.

This atlas provides location information for harvest activities in the Inuvialuit Settlement Region from the summer of 1987 to the winter of 1992.

Freeman, M. (ed.). (1976). *Inuit land use and occupancy project (v.1-3)*. Ottawa: Department of Indian and Northern Affairs.

Research was undertaken in 1973 to determine Inuit land use and occupancy in the Northwest Territories. Yearly cycle of land use for Inuit west of Hudson Bay is described including methods used to minimize loss of fall harvest animals to bears over the winter (volume 2). Additionally, hunting systems and grizzly bears in myths are described (volume 2); and maps of grizzly bear hunting areas are provided for three different periods in areas around Aklavik, Inuvik, Tuktoyaktuk, Paulatuk, Sachs Harbour, and Holman (volume 3).

Gwich'in Renewable Resource Board. (1997). *Nánh' Kak Geenjit Gwich'in Ginjik: Gwich'in words about the land*. Inuvik: Gwich'in Renewable Resource Board.

This book is the result of the Gwich'in Environmental Knowledge Project, which was designed to gather local Gwich'in traditional ecological knowledge. Information was gathered through interviews with elders and other land users, and through archival research. It contains 19 detailed chapters on animals important to the Gwich'in, including the grizzly bear. Each chapter contains detailed life histories as well as stories and maps of where the animals have traditionally been harvested.

Horler, A. (2002). ISR grizzly bear workshop. *Common Ground: Bulletin of the Joint Secretariat*. Volume 3-1.

This article summarizes a workshop held in Inuvik in October 2002. The history of the grizzly bear quota system in the Inuvialuit Settlement Region, concerns over problem bears, and current concerns with the quota system are discussed.

Irwin, R.S. (1984). *Harvesters of the ice*. Surrey: Hancock House.

This book details harvesting and fishing technologies used by Inuit throughout the Arctic. While grizzlies are not discussed specifically, some of the harvesting techniques and tools described in the polar bear section are applicable to grizzly harvesting.

Jenness, D. (1913-1916). Part B: Eskimo string figures. *Report of the Canadian Arctic Expedition: 1913-1918*. Volume 13: Southern Party, 90 pp.

This report presents detailed descriptions and diagrams of string figures from the "cats cradle" game. The report describes different figures encountered throughout the Arctic. Figures collected in the Mackenzie Delta region included several that were named after grizzlies. One series of figures describes two bears emerging from a den under a cliff.

Kaglik, D. (1983, June 20). A long time ago. *Committee for Original People's Entitlement*. Inuvik: Canadian Broadcasting Corporation, Northern Service.

This recording is in Inuvialuktun. The Prince of Wales Centre database provides this description: "Mr. Kaglik relates the legend of a brown bear which married a human and had a son."

Kappi, L. (ed.). (1977). *Inuit legends*. Yellowknife: Government of Northwest Territories, Department of Education.

This book presents a collection of traditional stories in both English and Inuvialuktun. It contains the story *Mother Bear and Two Sons* a story of a wife who dresses herself and her sons as grizzlies to revenge herself on a husband who abandoned her.

Kirby, R.M. (1989). *Aklaiyara tantungitpiung?; (Have you seen my grizzly bear cubs?)*.

Inuvik: Government of Northwest Territories, Department of Education.

The Inuvialuit Cultural Resource Centre database describes it as a teaching resource for young children.

Lambart, H.F.J. (1919, October). Harvesting the barren ground grizzly on the shores of the Arctic. *The Canadian Field-Naturalist*. Vol. 33.

This article describes the collection, for the Ottawa museum, of an "Alaskan Boundary Grizzly" by a member of a survey team working on the Alaska/Yukon border in July 1912. A highly detailed account of the terrain, flora, and circumstances surrounding the collection are included, as well as detailed measurements of the specimen.

MacHutchon, A.G. (1996). *Grizzly bear habitat use study, Ivvavik National Park, Yukon. Final report*. Inuvik: Parks Canada, Western Arctic District.

The final report for a multiyear study on grizzly habitat use in Ivvavik Park. Contains detailed information on habitat and life history of grizzly bear. Section 7 of the report summarizes a set of interviews carried out with area bear harvesters. Harvesters were asked about their experiences with bears, knowledge of grizzly behaviour and biology, traditional beliefs concerning bears, and their travels in Ivvavik Park.

MacHutchon, A.G. (2001). Grizzly bear activity budget and pattern in the Firth River Valley, Yukon. *Ursus* 12:189-198.

This article describes the activity of five bears radio-collared in the Firth River Valley, Yukon, between 1994 and 1995. The bears' feeding habits, comparisons to bears in southern populations, and the impact of human disturbance are discussed.

Nagy, J. (1990). *Biology and management of grizzly bear on the Yukon North Slope*. Whitehorse: Yukon Government, Yukon Renewable Resources.

This report starts with a review of population characteristics of Northern Yukon grizzly bears, followed by a section on data deficiencies. The final sections provide estimates of harvestable surpluses for bears in the Inuvialuit Settlement Region using a model, as well as recommendations for monitoring and regulating annual harvest.

Nagy, J. (2002). *Grizzly bear traditional and local knowledge summary report: Aklavik HTC*. Inuvik: Government of Northwest Territories, Department of Resources, Wildlife and Economic Development, Inuvik Region.

The report is a summary of 47 interviews carried out in 1998/99 with Aklavik residents. This report was produced to address a perceived deficiency in documented local knowledge and to develop objective methods of using local knowledge to make recommendations about grizzly quotas. It contains detailed information on the locations of camps, travel routes to camps, bear problems, harvesting, sightings, dens, and observed dead or sick bears.

Nagy, J., & Branigan, M. (1998). *Co-management plan for grizzly bears in the Inuvialuit Settlement Region, Yukon Territory and Northwest Territories*. Inuvik: Government of Northwest Territories, Department of Resources, Wildlife and Economic Development, Inuvik Region.

Details a proposed grizzly management plan for the ISR. It contains information on the current status of grizzly bear populations, habitat, harvest, and management. The various co-management partners are identified and their role in future grizzly management is described.

Nagy, M. (1992). *Index to 1990-1991 interviews from Qikiqtaruk and Yukon North Slope: Inuvialuit oral history project*. Whitehorse: Parks Canada.

An index to interviews done with Inuvialuit elders in 1990 and 1991 during the Qikiqtaruk and Yukon North Slope Oral History Project. The following interviews reference grizzly bears: 90-08B, 90-20B, 91-04B, 91-18B, 91-25A.

Nagy, M. (ed.). (1994). *Yukon North Slope cultural resources survey: English translations and transcriptions of interviews 1 to 29*. Inuvik: Inuvialuit Social Development Program.

Interviews with Inuvialuit elders were conducted in 1991 to document post-contact aboriginal land use as recorded in historic habituation sites, graves, resource extraction areas, and place names along the Yukon North Slope. Results of these interviews helped shape the interpretative programs for Ivvavik National Park and historic resource management policies. Tape 4B discusses grizzly bear hunting.

Nagy, M. (ed.). (1999a). *Aulavik oral history project: English translations and transcriptions of interviews 3 to 30*. Inuvik: Inuvialuit Social Development Program.

The Inuvialuit Social Development Program undertook this oral history project to document Inuvialuit land use and knowledge of Banks Island. Interviews with elders from Banks Island, Aklavik, Holman, Inuvik, Sachs Harbour, and Tuktoyaktuk were focused on seasons of occupation, means of subsistence, habitation structures, trapping and trading activities, and social life. Tape 21B discusses hunting denning grizzly bears and hunting areas.

Nagy, M. (ed.). (1999b). *Aulavik oral history project: English translations of archival tapes [interviews 73-78, N89-N92, and Peter Usher tape]*. Inuvik: Inuvialuit Social Development Program.

The Inuvialuit Social Development Program undertook this oral history project to document Inuvialuit land use and knowledge of Banks Island. Interviews with elders from Banks Island, Aklavik, Holman, Inuvik, Sachs Harbour, and Tuktoyaktuk were focused on seasons of occupation, means of subsistence, habitation structures, trapping and trading activities, and social life. Interview N92-253-368B describes grizzly bear hunting.

Parks Canada. (1999). *Ivvavik National Park - wildlife cards - mammal observations*. Unpublished raw data. Inuvik: Parks Canada.

A collection of all reported mammal sightings in Ivvavik National Park from 1986 to 1999. There are no records from 1995, 1996 or 1997. The total number of sightings for a range of mammal species, of which grizzly bears are included, are recorded on an annual basis.

Parks Canada. (2004a). *Incidental grizzly bear observations - Western Arctic Field Unit*. Unpublished raw data. Inuvik: Parks Canada.

A collection of the 2003-2004 grizzly sightings in Ivvavik National Park. The data compiled by Parks Canada, includes details on date, time, number of bears seen, bear activity, distance from group, bear reaction to group, and comments on the specifics of the sighting.

Parks Canada. (2004b). *Paulatuuq oral history project: Inuvialuit elders share their stories*. Inuvik: Parks Canada, Western Arctic Field Unit.

This project was initiated to identify traditional knowledge of the physical, biological, and cultural resources of Tukturnogait National Park. This project has two components: 1) interviews with Father Dehurtevent, a Catholic priest who served Paulatuuq for 40 years [see (Cockney, 2002)] and 2) interviews with Inuvialuit elders who live or have lived in Paulatuuq. Tape 4A discusses grizzly bears.

Schwarz, H. (1970). *Elik and other stories of the Mackenzie Eskimos*. Toronto: McClelland and Stewart Limited.

A collection of eight traditional Inuvialuit stories, related by storytellers from throughout the Mackenzie Delta. Stories include: The Northern Lights People; Elik; Elik, the Far Seeing One; Akaluk and the Stolen Soul of Ugpik; The Origin of the White Whale; The Whale Harvest; and the Great Eskimo Rally at Fort McPherson. The Origin of the White Whale describes the transformation of a boy into a brown bear.

Searing, G.F. (1987). *The natural and cultural resources of Northern Yukon National Park and adjacent areas: a summary of the literature and annotated bibliography*. Winnipeg: Parks Canada Prairie and Northern Region.

This report identifies sources of information available for the Northern Yukon National Park (Ivvavik and Vuntut areas) and information gaps. It discusses climatology, hydrology, geology, geomorphology, pedology, vegetation, wildlife fish, invertebrates, cultural resources, paleoecology, ecological land classification, ecological relationships and processes, and natural resource management in the region. There is a 5 page summary of grizzly bear knowledge for the region.

Smith, B. (1991). *Hunt wisely: A guide to male-selective grizzly bear hunting*. Extension Report. Whitehorse: Yukon Government, Fish and Wildlife Branch.

A technical report written with hunters, naturalists, and biologists in mind. It presents the results of 12 years of investigations into the relationship between hunters and grizzly bears in the Yukon.

Smith, B. (2003). *Typical spring bear harvest day with estimates of typical numbers of other wildlife sign seen*. Interviewee A, D, E, G, I – March 2003. Unpublished raw data. Aklavik: Aklavik Hunters and Trappers Committee.

Unpublished interview notes on the details of what occurs during a typical day on a spring grizzly bear harvest. Cannot be viewed without the permission of the Aklavik Hunters and Trappers Committee.

Tetso, J. (1970). *Trapping is my life*. Toronto: Peter Martin Associates.

A collection of stories told by John Tetso, a Slavey trapper who lived and worked around the confluence of the Liard and Mackenzie rivers. The stories describe his interactions with wildlife and his experiences on the land during his time as a trapper. One story details a problematic encounter he and a friend had with a bear (species not identified) while away from his cabin.

Usher, P.J. (1998). *Sustainable use: The key to wildlife conservation in Canada's Western Arctic*. Inuvik: Wildlife Management Advisory Council (NWT).

The written portion of a presentation for the Third International Wildlife Law Conference, for a panel entitled "Sustainable Use of Wildlife: Opportunity or Oxymoron." The details of current wildlife co-management programs in Yukon and NWT are discussed.

Wildlife Management Advisory Council (North Slope) & Aklavik Hunters and Trappers Committee. (2003). *Aklavik Inuvialuit describe the status of certain birds and animals on the Yukon North Slope, March 2003. Final report*. Whitehorse: Wildlife Management Advisory Council (North Slope).

This report summarizes information gathered from 10 interviews done with Aklavik land users in March and April of 2003. The interviews were conducted to ascertain the current status of certain plants and animals including the grizzly bear on the Yukon North Slope and western Mackenzie Delta.

Letter to Participants



Wildlife Management Advisory Council
North Slope

Dear Participant,

For the last two years we have been working with the Aklavik Hunters and Trappers Committee, Yukon Government and Parks Canada on a study about grizzly bears on the Yukon North Slope.

Through this interview project we are gathering traditional knowledge about grizzly bears from people like you who have been active on the Yukon North Slope for many years and know its wildlife. This work is valuable as we appreciate the importance of understanding grizzly bears and their environment from your perspective, knowledge and experience, as well as through the information gathered by scientists.

We will work with Kyle Russell and Ramona Maraj over the next few months to create a report based on the information that we gather through this project. Your contribution to the report is valuable and will be recognized.

Thank you for your assistance with this project. And thank you for your assistance in guiding future grizzly bear management on the Yukon North Slope.

Sincerely,

Lindsay Staples
Chair

Appendix C

Informed consent forms 2006 Consent Form

What is the purpose of this interview project?

- The Yukon Territorial Government, Parks Canada, Aklavik HTC and the Wildlife Management Advisory Council (WMAC) are doing a study to learn about grizzly bears on the North Slope. They want to know more about how many bears there are, where they are, and how they live. They want to know these things so that they can manage the bears properly and consistently with the Inuvialuit Final Agreement, so that there will continue to be bears for future generations.

What kind of questions will be asked?

- An audio recording will be made of your interview.
- The questions you will be asked are about:
 - Grizzly bear activities, numbers, and distribution.
 - Current and past uses of grizzly bears.
 - Areas where there are problems with bears.

If you are not comfortable talking about something you are asked, you can refuse to answer any question or stop the interview at any time.

What records are being kept or reports written, and how will they be used? Where will my name appear and who will know what I said?

- A **summary** and **transcript** of your interview will be returned to you to keep and make corrections. Another copy and the original audio recording will go to the Aklavik HTC for safe-keeping. They will not be released in the future without your permission.
- A report will be written using everyone's answers. It will be used to help researchers, biologists, WMAC(NS), and the AHTC make management decisions. The report will be given by WMAC and the HTC to anyone who wants to read it, use it, and copy it.
- We would like to include your name in the summaries and the report, once you have reviewed them and are satisfied with them, so that people will know who said what. If you do not want people to know your name and what you said, then we will withhold it and your name will not be put in the report.

Do not use my name in any reports/communications or other materials.

Where can I find out more about this project and the people involved?

- Interviewer Kyle Russell at 867-667-5469 at the Yukon Government Fish and Wildlife Branch in Whitehorse.
- Ramona Maraj, Carnivore Biologist, at 867-393-7423, Yukon Government Fish and Wildlife Branch in Whitehorse.
- Michelle Sicotte, WMAC (NS) at 867-633-5476.
- Aklavik HTC at 867-978-2723.

I agree to this _____

Witness _____

Date: _____

2007 Consent Form

The Aklavik Hunters and Trappers Committee, the Wildlife Management Advisory Council (North Slope), Yukon Territorial Government and Parks Canada have undertaken a six-year Yukon North Slope Grizzly Bear Population Study.

The purpose of the study is to learn how many grizzly bears are on the Yukon North Slope in order to review the current harvest quota, to manage grizzly bears consistently with the Inuvialuit Final Agreement, and to ensure there are grizzly bears for future generations.

The study will also provide information on the number of grizzly bears that are born and die, where the animals can be found at different times of the year, how much they move, and where people are harvesting grizzly bears.

Through this interview project we are gathering traditional knowledge about grizzly bears from people like you who have been active on the Yukon North Slope for many years. This work is valuable as we appreciate the importance of looking at grizzly bears and their environment from your perspective and experience, as well as through the information gathered by scientists.

What type of information are we looking for in these interviews?

During the interview you will be asked questions about:

- Grizzly bear numbers, condition, range and habitat;
- How grizzly bears are used now and how they were used in the past; and
- Places on the Yukon North Slope where there have been problems with grizzly bears.

You can refuse to answer any question or stop the interview at any time.

How will the information be used?

You will have the opportunity to review and make corrections to the interview transcript and summary. We will give you a copy of the revised interview transcript and summary for you to keep.

Researchers and managers at the Aklavik Hunters and Trappers Committee, the Wildlife Management Advisory Council (North Slope), Yukon Government and Parks Canada may have copies of the interview transcript and summary for the duration of the Yukon North Slope Grizzly Bear Population Study. The information in the interview transcript and summary may be used to make decisions about the conservation and management of grizzly bears, and their habitat, on the Yukon North Slope. The original audio recording will be kept at the Aklavik Hunters and Trappers Committee.

Following the completion of the Yukon North Slope Grizzly Bear Population Study, the Wildlife Management Advisory Council (North Slope) and the Aklavik Hunters and Trappers Committee will keep copies of the interview transcripts. The interview transcripts and summaries will not be released in the future for other purposes without your permission or the permission of the Wildlife Management Advisory Council (North Slope) and the Aklavik Hunters and Trappers Committee.

A report will be written using the information in the interview transcripts and summaries of all people who have been interviewed. This report will help researchers and managers at the Wildlife Management Advisory Council (North Slope), the Aklavik Hunters and Trappers Committee, Yukon Government and Parks Canada make decisions about grizzly bears and their habitat on the Yukon North Slope. The report will be made publicly available for anyone who wants to read, use and/or copy it.

We would like to include your name in the report, once you have reviewed the words and are satisfied that they are accurate.

- Please do not use my name in reports or other communication materials associated with this project.
- Please do not make an audio recording of the interview.

For more information contact:

Wildlife Management Advisory Council (North Slope) 867-633-5476

Aklavik Hunters and Trappers Committee 867-978-2723

Yukon Government, Department of Environment 867-393-7423

Participant: _____ Interviewer: _____

Date: _____ Date: _____

Appendix D

North Slope grizzly interview questions – January 2006

A. Personal Experience

1. Have you been to any interviews about bears before?
2. When did you start going on grizzly bear harvests?
3. Where are the NS camps you spend time at now?
4. Where were the camps you spent time with your parents/grandparents?
5. What places do you harvest? Now / Past

B. Personal Knowledge

6. Imagine I am a young harvester. I have harvested caribou and other things, but this is my first bear harvest. What things should I know about bears?
7. What places are important to them?
8. Why do they move?
9. Are bear numbers changing?

C. Use of Bears

10. When you harvest a bear, what do you do with it?
11. What is the best way to use the bears in particular areas?

D. Problems with Bears

12. Are bears a problem at or near your camps?
13. What do you do with these items when you are in camp?
14. Would you handle any of these items differently if it was practical?
15. How would your parents or grandparents handle these items?

Perishables	Whale–food	Diapers
Non perishables	Whale–oil	Sanitary napkins
Human waste	Whale carcasses	Hides
Cooking garbage	Seal–food	Motor oil
Fish–for food	Seal carcass	Dogs/dog food
Fish Waste	Berries	
Caribou meat	Waterfowl	

North Slope grizzly interview questions – January 2007

1. What makes someone a good person to ask about grizzly bears around here?
2. Who are the three Inuvialuit you feel are most knowledgeable about the grizzly bears on the coast from the Yukon to Alaska border?

Relationships with the land

3. Can you tell me about your relationship with bears? How do you see your relationship with bears?
4. How do you gain knowledge about bears?
5. What is the oral tradition about bears like? Are there a lot of stories about bears?

Harvesting

6. Can you tell me about your harvests? Can you tell me about the first bear you harvested? Can you tell me about the most recent bear you harvested? Can you tell me about a memorable harvest?
7. What do you learn from harvesting bears?

Traditional laws

8. Do you know of any traditional Inuvialuit laws that people should follow when dealing with bears? Are there special ways to show respect for bears? Should a person:
 - be cautious about their harvesting plans?
 - remove the hyoid bone (qupilgua)?
 - place the skull someplace special?
 - not talk openly about bears?
 - share with others in a particular way?
9. What happens if a person does not follow these rules? Has observance of these rules changed over time?

Users

10. Could you talk about:
 - which parts you use (meat, fat, fur, teeth, bones, claws, organs)
 - how you use them (food, medicine, tools, clothing, bedding)
 - how you prepare them (cook it well?)
 - where you get them
 - frequency of use (how often in past 10 years and in lifetime, how recently)
 - what age/sex of bear you prefer
 - which season is best
 - how your and your community's uses might have changed over time
 - how attitudes towards bears might have changed

Historical information

11. Do you remember your parents, grandparents, or other elders talking about grizzly bears? What did they say (about bear behaviour, numbers, how they should be treated, trade)?
12. How were bears harvested and used long ago? (denning bears harvested?)

Human change

13. How has the relationship that people have with bears changed over the last 50 years?
14. How has use of bears changed?
15. How has harvesting changed?
16. How have the ways the people use the land changed? Does this change how you observe bears?
Does this change what you can see about how bears behave?

Ecological Change

17. What are the things that you have noticed about bear ecology that have changed?
 - Number of bears
 - Plant food for bears
 - The way they interact with other animals (e.g., prey)
18. What are the things that you think drive population change (cause the population to go up or down)?
Which of these things have you noticed occurring?
19. What could you tell me about bear behaviour?
 - what they eat in each season
 - where they are found at different seasons (habitat)
 - where and when they hibernate and their behaviour then
 - how they impact other animals (ecological relationships)
 - do you see bears in winter
 - are they left-handed
 - their likes and dislikes (other animals, colours, weather, noise)
 - their senses and powers
 - temperament (aggressive, curious, shy, fearful, fearless)
20. Have you noticed any changes in bear behaviour over time? For example, are bears more or less aggressive than before? Are they seen in different areas than before?
21. Have you noticed any changes in their health, size, or condition?
22. Any changes in their cubs?
23. What could you tell me about how the number of grizzly bears has changed over time (past 100 years)?
24. What do you think makes the number of bears increase or decrease? (Weather, environment, washed-up carcasses, human harvesting, food supply, mining, caribou, other?)
25. How important are berries to bears? Have the berries changed over the last 50 years?
What makes a bad-berry year?
26. What should people do when they encounter a bear?
27. What are the Inuvialuit names for the different sizes, ages, sex, or other features of bears?

Productivity

28. Have you seen females with cubs?
29. Can you tell me about the females and cubs that you have seen?
30. Where do you usually see them?
31. What causes bears to have more cubs in any year?
32. Have you seen more cubs recently? Are there years that you see more cubs?

Human-bear conflicts

33. Tell me about some of the conflicts that you have heard about or seen over the last number of years.
34. What causes the conflicts with bears?
35. Do conflicts occur where they used to or has the location of conflicts changed?
36. Have the number of conflicts changed?
37. What are or would be causes of increased number of conflicts?
38. Could you estimate how many bears the village caught (harvesting and DLP) in the past year?
Was that more or less than usual?

Harvesting regulations

39. What do you think of the current bear harvesting and DLP regulations?
40. Do you have suggestions for improvements to the harvesting or DLP regulations?

Habitat

41. I am going to give you some cards. The cards are answers that people gave us from the last set of interviews. Can you rank them so that you show us what is most important for bears?
42. I have a map of where three bears have been. Can you tell me why you think the bears might have been in these areas (i.e., what are they looking for in these areas)?

Population counts

43. Explain DNA population survey method. What do you think of the way we count bears?
Do you think this will work? What do you see as problems with the way we count bears?
44. When we did the hair sampling we found that there were more hair samples at sites in the mountains than on the coast. Do you know why we may have seen more samples from the mountains than on the coast?

Use of knowledge

45. How do you see the knowledge that you, other harvesters, and elders have as being used to help us manage bears?



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Wildlife Management Advisory Council (North Slope)

P.O. Box 31539, Whitehorse, YT Y1A 6K8, Canada

phone: (867) 633-5476

email: wmacns@web.ca

www.wmacns.ca



Aklavik Hunters & Trappers Committee

P.O. Box 133, Aklavik, NT X0E 0A0, Canada

phone: (867) 978-2723