

Edited by:

Félix Boulanger, Wildlife Management Biologist, Eeyou Marine Region Wildlife Board

Aurélie Bourbeau-Lemieux, former Biologist, Environment and Remedial Works Department, Cree Nation Government

Peter Hale, Board Member and Vice-Chairperson, Eeyou Marine Region Wildlife Region

Angela Coxon, Wildlife Management Director, Eeyou Marine Region Wildlife Board

Project Coordination:

Sophie Fillion, former Wildlife Management Director, Eeyou Marine Region Wildlife Board

Aurélie Bourbeau-Lemieux, former Biologist, Environment and Remedial Works Department, Cree Nation Government

Félix Boulanger, Wildlife Management Biologist, Eeyou Marine Region Wildlife Management Board

Local Coordination Team

Interviewers:

Rick Cuciurean, Consultant, former Special Project Coordinator, Cree Trappers Association (CTA)

Sanford Diamond, CTA-EMR officer, Waskaganish

John Lameboy, CTA-EMR officer, Chisasibi

George Natawapineskum, CTA-EMR officer, Wemindji

Photo credits (unless credited otherwise): Félix Boulanger

This publication should be cited as: Eeyou Marine Region Wildlife Board (EMRWB) 2020. Cree Knowledge of Polar Bears in the Eeyou Marine Region: A report based on information shared by Cree knowledge holders from the coastal communities of: Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. 54 pp.



A polar bear photographed near Chisasibi, QC.

Credit: Jean-Philippe Brochu

ABSTRACT

The Crees of Eeyou Istchee have occupied the coastal and marine region of James Bay in eastern Canada for over three thousand years. Traditional activities on the land and in the water is still part of the way of life today. The Crees have always cohabited with wildlife, including polar bears. As a result, they possess traditional ecological knowledge (TEK) of this species. As of 2017 there were few reports and maps documenting Cree TEK of polar bears in the Eeyou Marine Region (EMR). This project was developed by the Eeyou Marine Region Wildlife Board (EMRWB), the Cree Nation Government, and the Cree Trappers Association (CTA) to address this shortfall. It gathered TEK to provide a portrait of the species, and its role and importance to the Cree of the EMR. This TEK, when considered together with scientific studies, helps us understand the biology and ecology of polar bears, their distribution, and fluctuations in abundance over time. This knowledge can then be used to make informed decisions related to the protection of denning areas, harvest seasons, levels of take (harvest), and the protection of human life and property. The knowledge can also enable appropriate regulations to be put in place. The report will help ensure that the EMRWB, together with regulatory authorities in the Federal, Nunavut, Ontario, and Québec governments, have access to the best available information for polar bear research and management decisions. In addition, it contributed to the incorporation of TEK in the Québec-EMR-NMR Polar Bear Management Plan 2021-2031. The report details the observations and knowledge shared by Cree elders, hunters, and other residents in the communities of Waskaganish, Eastmain, Wemindji, Chisasibi and Whapmagoostui when interviewed in 2017. A questionnaire was used to facilitate data collection and information sharing between communities in a consistent manner. Interviewees were selected based on their land use and experience in relation to polar bear. In total 27 people were interviewed. Following the interviews all of the acquired geographic knowledge was summarized using maps and tables. Representative quotes from the interviews were compiled and used in this report. Preliminary results were shared with elders, land users and other key representatives from the coastal communities in Fall 2017 and additional relevant information gained was included in this report. This report was intended to guide management measures for the EMR in the future therefore only

observations from the last 25 years were compiled. Since only a portion of land users in each community were interviewed, this study could not produce a quantitative analysis of the observations. This report does not reflect the entirety of Cree knowledge on the topic of polar bears. That said, the information presented is illustrative of the depth and breadth of Cree knowledge that can contribute to informed future discussions and actions on polar bears in the EMR.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the Crees of Eeyou Istchee from Whapmagoostui, Chisasibi, Wemindji, Eastmain and Waskaganish for the knowledge they generously shared. This local Cree knowledge constitutes the basis of this report.

Special thanks to Sophie Fillion, former Wildlife Management Director of the EMRWB, as well the CTA-EMR officers, Sanford Diamond, Brendan Moses, John Lameboy, George Natawapineskum, and to Rick Cuciurean, consultant and former CTA Special Projects Coordinator, for coordinating and conducting interviews with the land users.

The authors also thank Maxine Mark-Stewart and Jonathan Elkhoury, Geographic Information System (GIS) technicians at the Cree Nation Government, for producing the maps used to guide the interviews and for mapping the results of the interviews with the knowledge holders in the Cree communities.

TABLE OF CONTENTS

ABSTRACT	v
ACKNOWLEDGEMENTS.....	ix
TABLE OF CONTENTS.....	x
1 INTRODUCTION.....	1
1.1 Context.....	1
1.2 Southern Hudson Bay Polar Bear Subpopulation	2
1.3 Jurisdiction and Status Under Federal and Provincial Laws	4
2 METHODS.....	8
2.1 Consultation Documents	8
2.2 Mapping	8
2.3 Conduct of Interviews	8
2.4 Analysis	10
3 RESULTS.....	11
3.1 Cultural Importance and Perception of Polar Bears	11
3.2 Distribution and Abundance	13
3.3 Polar Bear Observations by Interviewees	14
3.3.1 Waskaganish.....	15
3.3.2 Eastmain	18
3.3.3 Wemindji.....	20
3.3.4 Chisasibi.....	21
3.3.5 Whapmagoostui	23
3.4 Seasonal Distribution of Observations	25
3.5 Harvest.....	26
3.6 Safety of Land Users	28
3.7 Damage to Property.....	31

3.8	Diet and Body Condition.....	32
3.9	Denning.....	33
3.10	Behaviour.....	34
4	DISCUSSION.....	36
4.1	Considerations and Limitations.....	36
4.2	Polar Bear and the Cree of the Eeyou Istchee	36
5	CONCLUSION	37
6	REFERENCES.....	38
7	APPENDICES.....	40

1 INTRODUCTION

1.1 Context

The Crees of Eeyou Istchee have been occupying their traditional territory since time immemorial, and the practice of traditional activities on the land is still part of their way of life today. Eeyouch using the coastal and marine regions have always cohabited with wildlife, including polar bear. As a result, they possess significant knowledge of this species, which has been shared among them by oral tradition. On the other hand, there have been many scientific studies conducted and published regarding polar bears, whether it be in Eeyou Istchee or the Eeyou Marine Region (EMR), or elsewhere in northern Canada and other countries. Figure 1 illustrates the Eeyou Marine Region, as well as its five coastal Cree communities.

The traditional ecological knowledge (TEK) and scientific studies help us to understand, amongst other things, the biology and ecology of polar bears, their distribution, and fluctuations in abundance over time. These results can then be used by wildlife managers to inform their decisions related to the protection of denning areas, harvest seasons and levels of take. The knowledge also enables appropriate regulations to be developed.

As of 2017 there were very few reports and maps which document the Cree TEK of polar bears for the EMR. This left a significant gap in the understanding of polar bears in Eastern James Bay.

This project was developed jointly by the Eeyou Marine Region Wildlife Board (EMRWB), the Cree Nation Government (CNG), and the Cree Trappers Association (CTA-EMR). It focuses on TEK of polar bears and aims at gathering information to provide a comprehensive portrait of the species and its role and importance to the Crees in the region. It is particularly important to address this knowledge gap in the context of the decisions related to establishing and managing the Total Allowable Take (TAT) for the Southern Hudson Bay polar bear subpopulation in the joint EMR-Nunavik Marine Region (NMR) zone. TAT is defined in the *Eeyou Marine Region Land Claims Agreement* as the

amount of Wildlife able to be lawfully harvested as established by the EMRWB pursuant to section 13.5.

The results of this project will help to ensure that the EMRWB, together with regulatory authorities in the Federal, Nunavut, Ontario, and Québec governments, have access to the best available information for informed polar bear research and management decisions. It will also ensure that the TEK is fully considered in the first Québec-EMR-NMR Polar Bear Management Plan 2021-2031, prepared by the polar bear working group established under the Hunting, Fishing and Trapping Coordinating Committee.

1.2 Southern Hudson Bay Polar Bear Subpopulation

In Canada, polar bears are managed by sub-populations, the boundaries of which are based largely on genetic analysis and known movement patterns of polar bears within each of these regions (obtained from harvest reports of tagged bears and through telemetry studies (Taylor and Lee 1995; Taylor et al., 2001). Figure 1 below illustrates the Polar Bear Subpopulations and the Population Status and Trends as of 2018. Three of Canada's subpopulations occur in northern Quebec and its adjacent offshore: Southern Hudson Bay, Foxe Basin and Davis Strait. Of these, only the Southern Hudson Bay subpopulation occurs within the Eeyou Marine Region. It includes all of James Bay and southeastern Hudson Bay to 60 degrees north.

The Southern Hudson Bay subpopulation management zone is found in the coastal and marine environments of Quebec, Ontario and Nunavut. It also encompasses portions of four land claim areas: the Nunavik Inuit Settlement Area, James Bay Northern Quebec Agreement Territory, Nunavut Settlement Area, and the offshore Cree land claim area referred to as the EMR, each

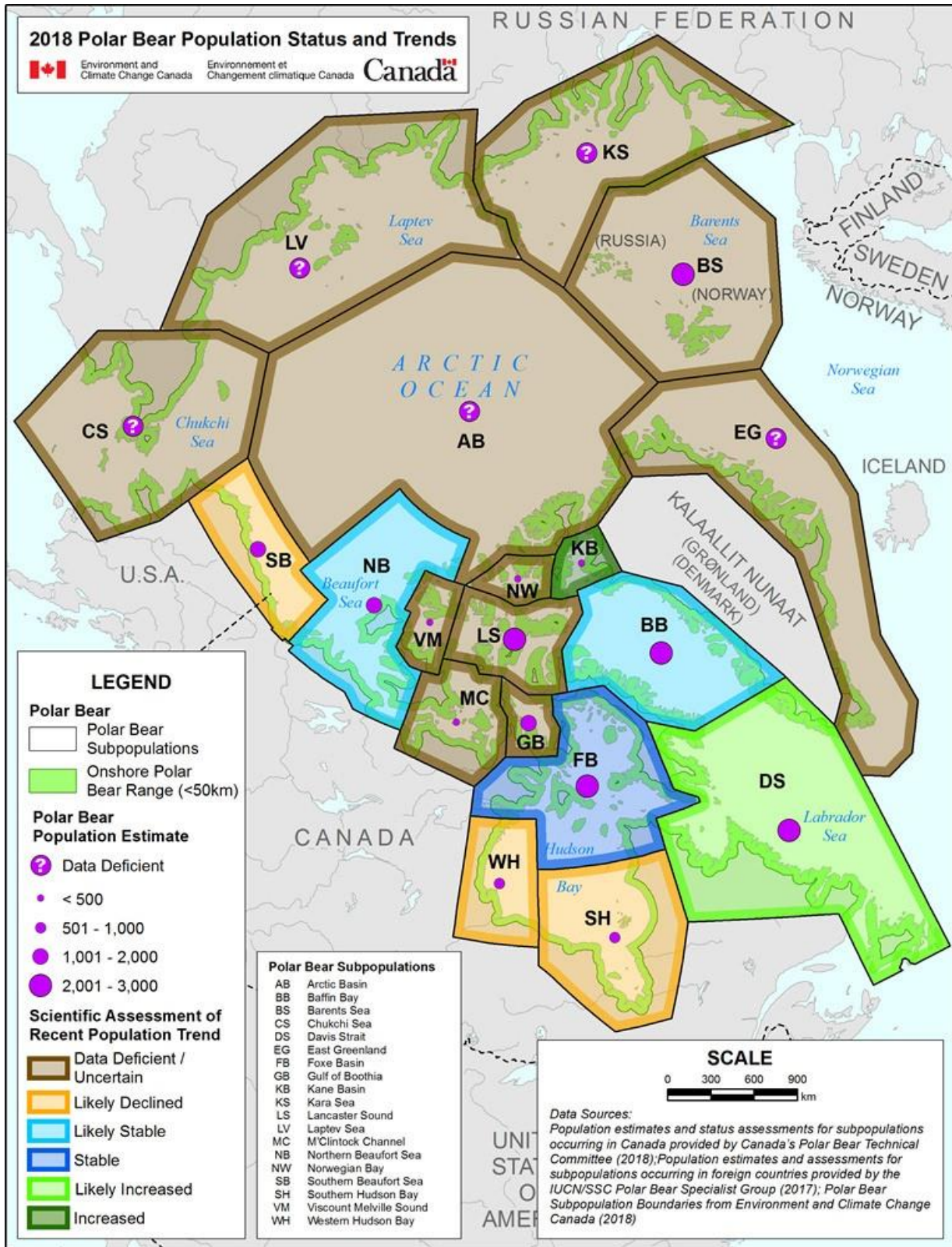


Figure 1. Polar Bear Subpopulations and the Population Status and Trends in 2018

with their own management bodies. Bears from this subpopulation have been important to Inuit and Cree hunters for many generations and the traditional knowledge of these animals, and the environment in which they exist, is extensive (Henri et. al., 2010). Unfortunately, very little of this traditional knowledge has been compiled and little is readily available for use by hunters, wildlife managers and the scientific community.

The Crees of Eeyou Istchee have harvesting rights, including the harvest of polar bear from the Southern Hudson Bay subpopulation, recognized under the James Bay and Northern Québec Agreement and the Eeyou Marine Region Land Claims Agreement. The inland portion of the subpopulation in northern Ontario is within the Historic Treaty 9 (see Figure 2). It does not form part of the Cree Nation of Eeyou Istchee.

This report details the observations and knowledge shared by Cree elders, hunters, and other residents in the EMR Cree communities of Waskaganish, Eastmain, Wemindji, Chisasibi and Whapmagoostui (see Figure 3).

1.3 Jurisdiction and Status Under Federal and Provincial Laws

Federal

COSEWIC, established in 1977, is an independent body of wildlife experts responsible for identifying and assessing species considered to be at risk in Canada. The polar bear was listed as a species of Special Concern under SARA in 2011. The status was re-examined and last confirmed in November 2018. The listing does not impose any restrictions on the harvest, nor does it require the identification and protection of critical habitat. However, it designates

Environment and Climate Change Canada (ECCC) as the responsible agency for the preparation of a national management plan.

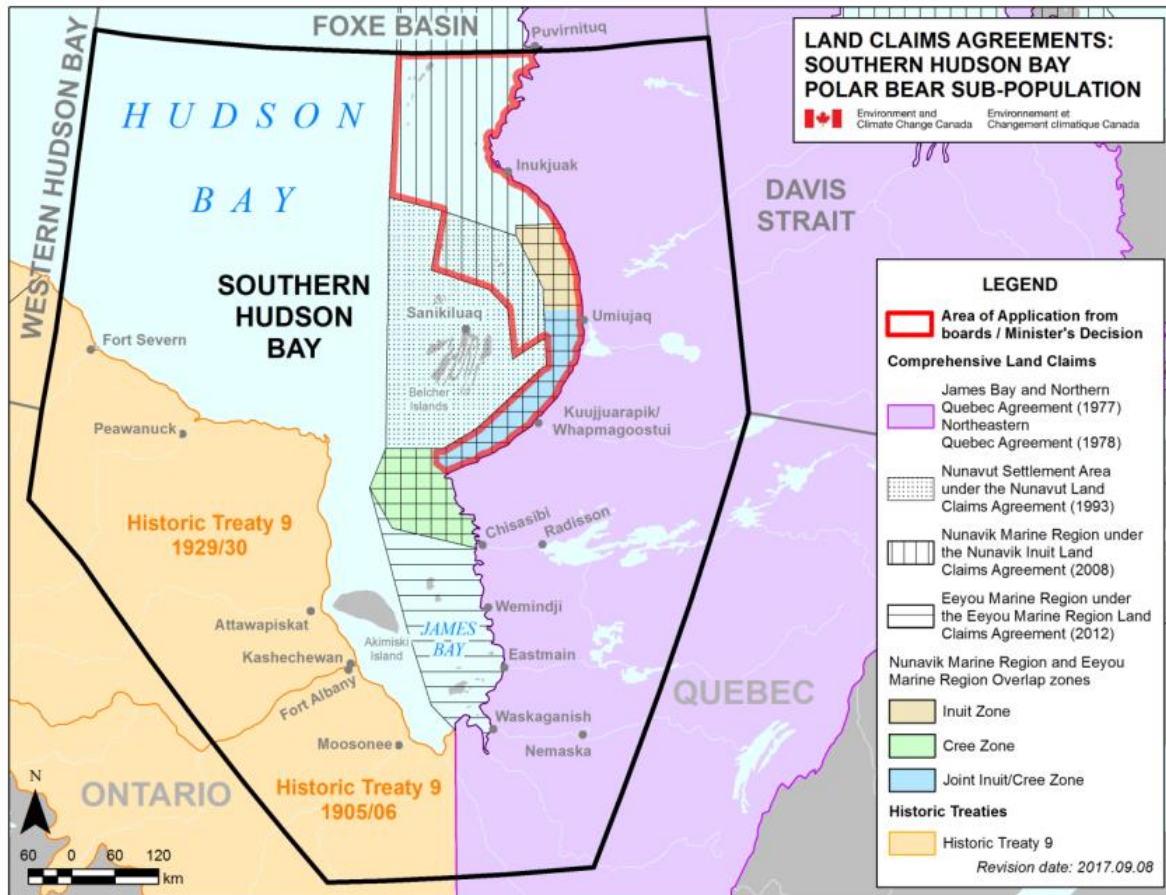


Figure 2. Land Claim Agreements in the range of the Southern Hudson Bay Polar Bear Subpopulation.

The latest Polar Bear management plan progress report, released in January 2021, affirms ECC's commitment to publishing a proposed National Polar Bear Management Plan for public comment by March 31, 2017. That said, the management plan has been delayed and the department does not anticipate publishing the proposed plan for public comment until late 2021.

The National Polar Bear Management Plan will include components of the National Polar Bear Conservation Strategy for Canada. There will be a federal section and a compendium of jurisdictional recovery documents. The latter will include one for Quebec and its adjacent waters.

Provincial

The Quebec government listed the Polar Bear as a vulnerable species in 2009 under the *Act Respecting Threatened or Vulnerable Species*. In northern Quebec, including the Cree Territory and Nunavik, provisions dealing with the Polar Bear and other threatened or vulnerable species are subject to the *Act Respecting Hunting and Fishing Rights in the James Bay and New Quebec Territories*.

The Eeyou Marine Region Wildlife Board (EMRWB) was established under the *Eeyou Marine Region Land Claims Agreement* in 2012. As set forth under Chapter 13 of the *Agreement*, the EMRWB is the main instrument of wildlife management in the Eeyou Marine Region (EMR). The EMR includes an area of overlapping resource use by both the Crees of Eeyou Istchee and the Nunavik Inuit. As a reflection of this relationship, the Crees and Inuit signed an overlap agreement in 2003 to address their interests, this area is known as the Overlap Area. The Crees have joint ownership with the Nunavik Inuit of most of the islands in this area. The EMRWB and the Nunavik Marine Region Wildlife Board (NMRWB) are responsible for co-managing wildlife resources in the Overlap Area, and as such, must work together on all wildlife management decisions made for the Overlap Area.

In 2012, Environment Canada requested the NMRWB to establish a management regime for the three subpopulations of polar bear that occur within the Nunavik Marine Region (NMR). This includes the Southern Hudson Bay subpopulation. Given the need for a provincial polar bear management plan to incorporate into the National management plan under SARA, and the fact that the polar bears also occur outside of Nunavik within northern Québec, it was decided to develop a single management plan for the onshore portion of Québec and the adjacent marine regions (the NMR and the EMR). The plan encompasses the territories covered under the James Bay and Northern Québec Agreement (JBNQA), the Nunavik Inuit Land Claims Agreement (NILCA), the Eeyou Marine Region Land Claims Agreement (EMRLCA), and the EMR-NMR Overlap Agreement.

A collaborative approach was adopted whereby experts from key organizations would work together to prepare the management plan for northern Québec and the adjacent offshore. These experts came from the following organizations: the Cree Nation Government, Cree Trappers Association, Eeyou Marine Region Wildlife Board, Environment and Climate Change Canada, Makivik Corporation, Ministère des Forêts, de la Faune et des Parcs, Nunavik Hunters, Fishermen and Trappers Association / Regional Nunavimmi Umajulirijiit Katujjiqatigiinninga (NHFTA/RNUK), Nunavik Marine Region Wildlife Board and Government of Nunavut Department of Environment.

A Québec – Eeyou Marine Region – Nunavik Marine Region Polar Bear Management Plan was drafted and sent to the responsible governments for their internal review in 2018. The comments have since been taken into account and the revised plan will be sent to the relevant wildlife co-management boards and to the Hunting, Fishing and Trapping Coordinating Committee in Summer 2021 for their respective approvals as laid out in the pertinent Land Claims Agreements. It will not be applicable beyond the boundaries defined within them. A key objective of the management plan was to have it reflect the knowledge, concerns, traditions and principles of the Inuit of Nunavik and the Cree of Eeyou Istchee. For this reason, the Working Group responsible for the preparation of the management plan visited every Nunavik community in winter 2017. In the Eeyou Istchee Cree region, key land users were interviewed in each coastal community. The Working Group then organized a group session with representatives from the coastal communities and a public meeting in Chisasibi in September 2017 to validate information shared during the interview.

This TEK report was prepared so that Cree knowledge, concerns, traditions, and principles could be reflected in the management plan.

2 METHODS

2.1 Consultation Documents

This Cree knowledge of polar bear study was conducted in collaboration with the Cree Nation Government, the Cree Trappers' Association and the Eeyou Marine Region Wildlife Board. A questionnaire was developed and approved by all partners, to make sure that it would meet expectations (see Appendix I). An interview guide (see Appendix II) was also developed, to ensure consistency in the way the information was shared and collected between communities.

2.2 Mapping

To facilitate data collection, a series of maps (scale 1:100,000) were created, showing topography, habitat characteristics and major infrastructure (Appendix III). The maps were printed in large format (approximately 122 cm x 99 cm) and were used during the interviews.

2.3 Conduct of Interviews

Individual and small group interviews were held in all 5 coastal Cree communities between February and April 2017. In each community, meetings were first held with local CTA members whose trapline overlaps with the EMR in order present information related to the project, identify key individuals to participate in the interviews, and to collect secondary data (e.g., harvesting records). The interviewees were thus selected based on their land use and experience in relation to polar bear.

The interviews were conducted by the local CTA-EMR officers, except in Whapmagoostui where the position was vacant, and where the interviews were conducted by Mr. Rick Cuciurean, a former CTA special project coordinator who has a lot of experience in conducting this type of work with the Crees of Eeyou Istchee. The number of people interviewed in each community ranged from 3 to 10. In total 27 people were interviewed (see Table 1).

Table 1: Number of interviewees per community in the EMR.

Community	Number of interviewees
Waskaganish	5
Eastmain	3
Wemindji	6
Chisasibi	3
Whapmagoostui	10
Total	27

The interviewers used a questionnaire where they wrote the answers and other relevant information provided by the interviewees. They also used maps of the area surrounding their community during the interviews, and marked all locations associated with the information that was shared with them. After the interviews were completed, all of the knowledge shared in the interviews that was associated with specific locations was georeferenced into shapefiles and stored in computers. This enables the knowledge to be shared and maps to be produced. Similarly, all the elements of information were compiled in a table or spreadsheet, and the most representative quotes from the interviews were gathered for use later in this report.

A meeting was held in Chisasibi in September 2017 with elders, land users and other key representatives from all five coastal communities of the EMR. The preliminary results of the study were presented to the participants. Some of them shared additional information on TEK related to polar bear, which was included in this final report. A public meeting was also held in the evening. The purpose of this meeting was to share the preliminary results with a wider audience and obtain additional comments and information from the community.

2.4 Analysis

Only observations from the last 25 years were compiled in this report, as the report has focused on assessing the TEK from this period to guide management measures for the EMR in the future. Some of the knowledge and stories shared during the interviews dated back several decades, or even more in situations where participants shared information transmitted from their fathers or grandfathers. However, they were mostly anecdotal, and did not provide a complete historical account.

Since only a portion of land users in each coastal community were interviewed, and their number varies greatly from one community to the other, this study could not produce a quantitative analysis of the observations. At the time of the interviews there was no reporting system in place. Since that time, the CTA and EMRWB has started recording all the direct and indirect observations of polar bears in the EMR. The organizations have also raised land users' awareness about the importance of reporting their observations.

3 RESULTS

3.1 Cultural Importance and Perception of Polar Bears

Only a few participants mentioned the cultural of importance that the polar bear holds for them. Some of them shared their impression that they were in decline, but it was not clear if that idea came from their own observations.

*“I respect the way they hunt. We need to protect them, they are in decline.”
– Resident of Chisasibi*

One man mentioned he was reluctant to kill a polar bear because he said they were in decline.

*“Yes, important. [They’re in] decline. [We must] save polar bear. People asked me: ‘why you didn’t kill them?’ An elder said to me, ‘You should have shot them, they will damage the camps, that are few kilometres away.’”
– Resident of Chisasibi*

Another interviewee spoke of the importance of polar bear, but not specifically for him, it was not a personal consideration.

*“Polar bears are not really important to me. I’d like to get their fur, it’s important for Wemindji tourism, they like to see the polar bears for the tourists.”
- Resident of Wemindji*

Only one land user, who is an Inuk living in Wemindji, mentioned the importance relative to subsistence hunting.

“Yes. polar bear is important to me because I need meat.” - Resident of Wemindji

One of the participants had a negative perception of polar bears, based on his experience:

*“They’re not important because they destroyed my cabin so I am mad.”
– Resident of Wemindji.*

One community member who participated in the public consultation had this to share:

*“We are part of the same ecosystem as polar bears, so we need to learn to live with them. Polar bears are territorial, so are humans, so we need to live within certain boundaries. We need to create that balance with polar bears.
“We have to co-exist together because if they don’t exist then we cannot exist. We are tied in together.” – Resident of Chisasibi*

It was mentioned on many occasions that the Cree do not give the same importance to the polar bears that the Inuit do, as it is not a species that the Cree would traditionally harvest. However, during the public meeting in Chisasibi, a woman explained the reason she had great respect for the polar bear was because of its importance for the Inuit:

*“The Cree would tend to support the Inuit in these concerns because of their respect for the Inuit community. The Cree aren’t going to ask for collaring work if they know that the Inuit are opposed to tranquillizing the bears.”
– Resident of Chisasibi*

One participant expressed concerns about climate change and its impact on polar bears.

“Global warming has affected polar bears by changing ice conditions; lack of ice has not been good for the bears.” – Resident of Waskaganish

3.2 Distribution and Abundance

Many land users have noticed important changes in the distribution and abundance of polar bears in the last two or three decades. One mentioned that the bears would come from the bay to the shores where there is open water. There were a few mentions that the polar bears are increasingly coming to the coast from offshore. The ice dynamics and the shortage of food were identified as the causes for these changes.

“The reason they are starting to come around the shore is that the bay is not freezing so they can’t go further out to go hunt” – Resident of Wemindji

“They’re starting to come more to the land looking for food, they’re hungry, plus the ice is melting every year due to climate change. They’re swimming far to look for food, I’ve never seen it like this for 20 years, it has changed a lot.” – Resident of Wemindji

Some interviewees mentioned that, not only do the bears come to the shore more often, some of them have also started to move inland. For instance, a participant mentioned that polar bear tracks were observed near Moosonee, located about 20 km inland, in the Moose Cree territory. A young polar bear was also observed on the Wemindji access road in August 2018, about 6 km inland (George Natawapineskum, personal communication).

One land user from Whapmagoostui shared his understanding of how the polar bear is migrating within Hudson Bay:

“The Great Whale Inuit think the polar bears are moving east from Churchill, through the Belchers, then to the shore north of Great Whale.” – Resident of Whapmagoostui

One of the locations where the land users observed the most dramatic increase in polar bear sightings is Charlton Island, located in southern James Bay. One land user from Waskaganish mentioned that this change is fairly recent in his lifetime:

“There were not many bears back in 1948, we rarely saw them back then. It’s in 2009 that they really started appearing in his area. They usually arrive in March/April in Charlton Island. In 2017, we saw more bears than in previous years. Most of them seem to be coming from the Jack River area towards the east coast of James Bay.” – Resident of Waskaganish

A participant mentioned the abundance cycle that other animal species undergo could also explain the variations in polar bear abundance and also stressed the importance of gaining more knowledge on the subject.

“In the past, in my parents’ generation, it is said the caribou were gone for 50 years, and food was scarce for that generation. Then the caribou herds came back. Is it possible that the same is happening with polar bears? That they would be moving from one place to the other for some time? We need to consider this option as well. We need to hear from the elders to learn about this type of thing. Is there a population cycle in polar bears? We need to study the natural cycles, not just the polar bears, but all the animals and their habitat.” – Resident of Chisasibi)

3.3 Polar Bear Observations by Interviewees

This section outlines the polar bear observations reported during the interviews (see Table 2). They are separated by community of residence of the interviewees, not by the geographical location of the observations. Figure 3 locates these observations and harvest sites.

Table 2: Number of polar bear observations reported in the interviews by community in the EMR.

Community	Number of direct observations
Waskaganish	13
Eastmain	11
Wemindji	43
Chisasibi	6
Whapmagoostui	12
Total	85

3.3.1 Waskaganish

For the community of Waskaganish, sightings of 13 polar bears and another 7 set of polar bear tracks were reported during the interviews. The sighting locations were on or around the islands of southern James Bay: mainly Charlton Island, but also Trodely, Scoter and Carey Islands (see Figure 4) The sightings occurred between 2011 and 2017. All five land users that were interviewed spend considerable time on Charlton Island every year, mostly in the spring, summer and fall. However, some of the observations were made in a context other than traditional activities, like participating in a bird survey, a captain training cruise or during a flyover.

“There was a sighting of a bear with a cub on an island north of Trodely Island in July 2015, during captain training cruise” – Resident of Waskaganish

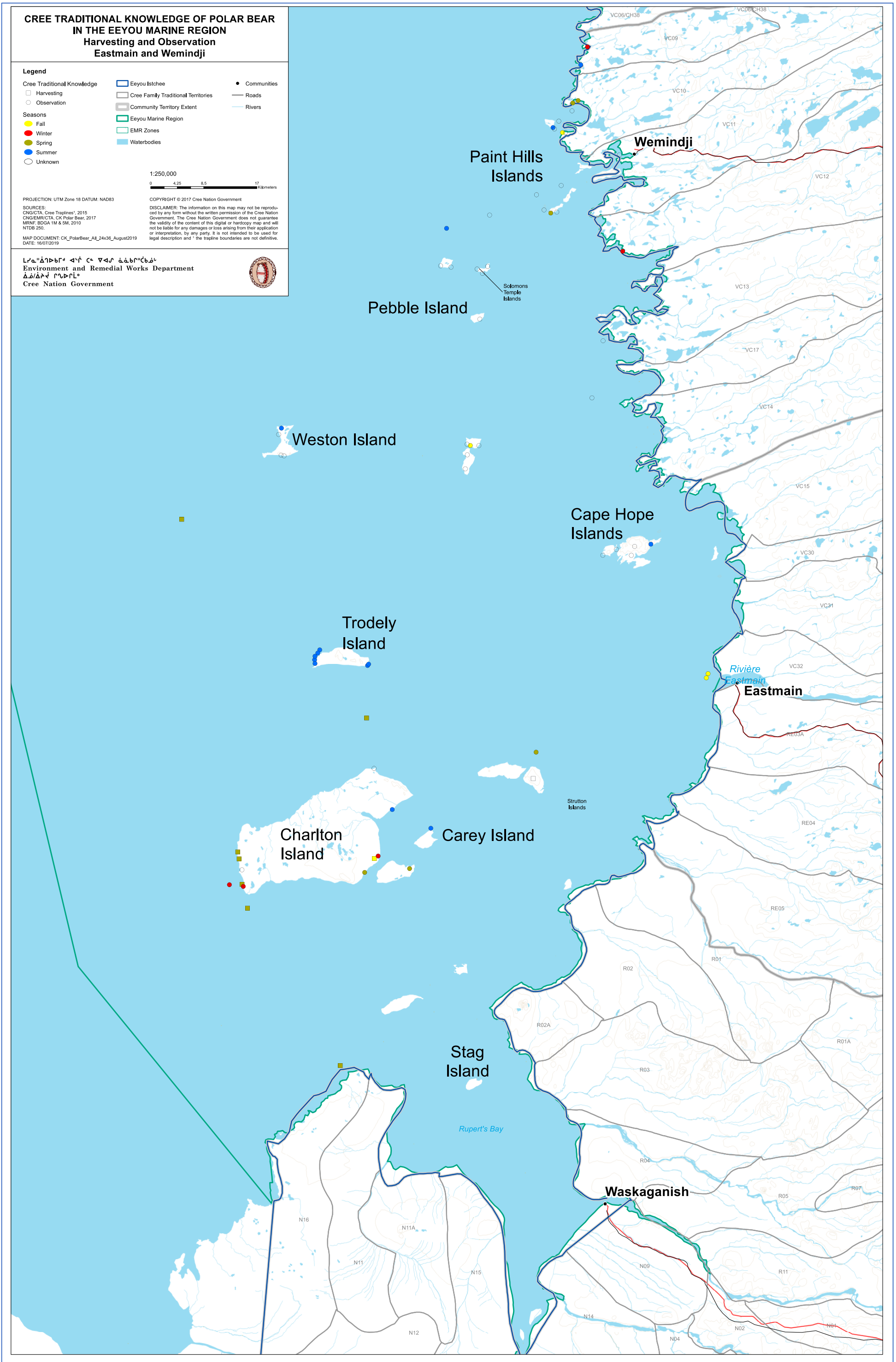


Figure 4: Locations of observations and harvest in the coastal communities of Waskaganish, Eastmain and Wemindji. Denning locations are not shown. Legend: Yellow = Fall, Red = Winter, Green = Spring, Blue = Summer.

More than half of the observations were of a single bear or a female with a cub (13/20); the rest were tracks. Their body conditions, based on the classification scheme in Appendix IV, were described as “average”.

“On April 24, 2017, they encountered the first 4 polar bears (female with 2 cubs being chased by a male). The female got away.” – Resident of Waskaganish



A male polar bear sighted on Trodely Island near Eastmain, QC.

3.3.2 Eastmain

Two out of the three land users interviewed in Eastmain reported sightings of 11 bears, five of which were on the Twin Islands during a flyover. The tracks of three more bears were also reported. Figure 5 shows the observations and harvest locations.

“I saw polar bears when we went to Twin Islands. One time we saw about 5 or 6, we only saw them on the North Island, and we landed on one of the islands but we didn’t go far from the plane, we only stayed near the plane.”
– Resident of Eastmain

It should be noted that the Twin Islands are located about 60 km off the eastern coast of James Bay, and they are not part the traditional territories used by the Eastmain land users; they are actually closer to the communities of Wemindji and Chisasibi. The other five polar bears were observed on Trodely, Weston and Cape Hope Islands, during the marine captain training. The direct observations where the season was mentioned were made in the summer (June to September). All the polar bears sighted were categorized “average”, “fat” or “very fat”.

“Our Base Camp for the marine captain training was at Cape Hope Island. We got to Trodely Island and we stopped on the east end and spotted tracks. We continued along the shores of the island and on the west end of the island we saw the first polar bear. As we continued going around the west end of the island and drove on the northwest side of the island that’s where we saw a mother polar bear with her young one ... The next trip was to Weston Island and we saw one polar bear on that island, but we only saw it from far away because it ran into the island. And the last island we visited was the South Twin Island and saw polar bears there on the north side of the island, but we couldn’t get close to them when we saw them.” – Resident of Eastmain

Only one interviewee reported an observation close to the community of Eastmain:

“I only saw tracks one time on the north side of the mouth of the Eastmain River; they came from the bay and went back out to the bay. This was back in 2015, in late fall. I wanted to go set rabbit snares and saw the tracks. I initially thought it was a big black bear but when I saw that the tracks came

from the bay and lead out towards the bay again and that's when I knew they were polar bear tracks.” – Resident of Eastmain

3.3.3 Wemindji

In Wemindji, the six land users that were interviewed reported observing a total of 43 bears in the last 25 years. This relatively high number can be attributed to two land users who reported sightings of 13 and 14 polar bears respectively. The observations were made in a variety of areas of the EMR, but mostly on and around the islands, more importantly the Twin Islands (6) and the Solomon Temples Islands (7) (see Figure 5). In addition to direct observations, the interviewees reported 12 observations of polar bear tracks.

*“We saw one polar bear female with a cub, they were both fat. We were anchored 1 km off North Twin Island (west side). First, we saw them walking on the shore, then they started to swim toward us and came along the boat.
– Resident of Wemindji*

Like in other communities, the encounters with polar bears did not necessarily take place during traditional activities, as some of the islands are not traditionally used much for that purpose.

“We saw one polar bear on Solomons Temple Islands that year, when we had a training with the Canadian Rangers, in 2011” – Resident of Wemindji

When the bear body conditions were mentioned in the interviews, most bears were described as healthy. Sixteen were described as “fat” or “very fat”, four were described as “average”, and four more were described as “skinny” or “very skinny”.



Two polar bears sighted on Solomon Temple Islands, near Wemindji, QC.

3.3.4 Chisasibi

The three land users interviewed in Chisasibi reported sightings of a total of six polar bears, all of them in 2015 and 2016. The observations were made in Walrus Point, Cape Jones Islands and on the coast, about 60 km north of Chisasibi. The polar bears were described as either “fat” or “average”. The interviewees did not report any observations of tracks. The locations of observations and harvest sites in Wemindji and Chisasibi are shown in Figure 5.

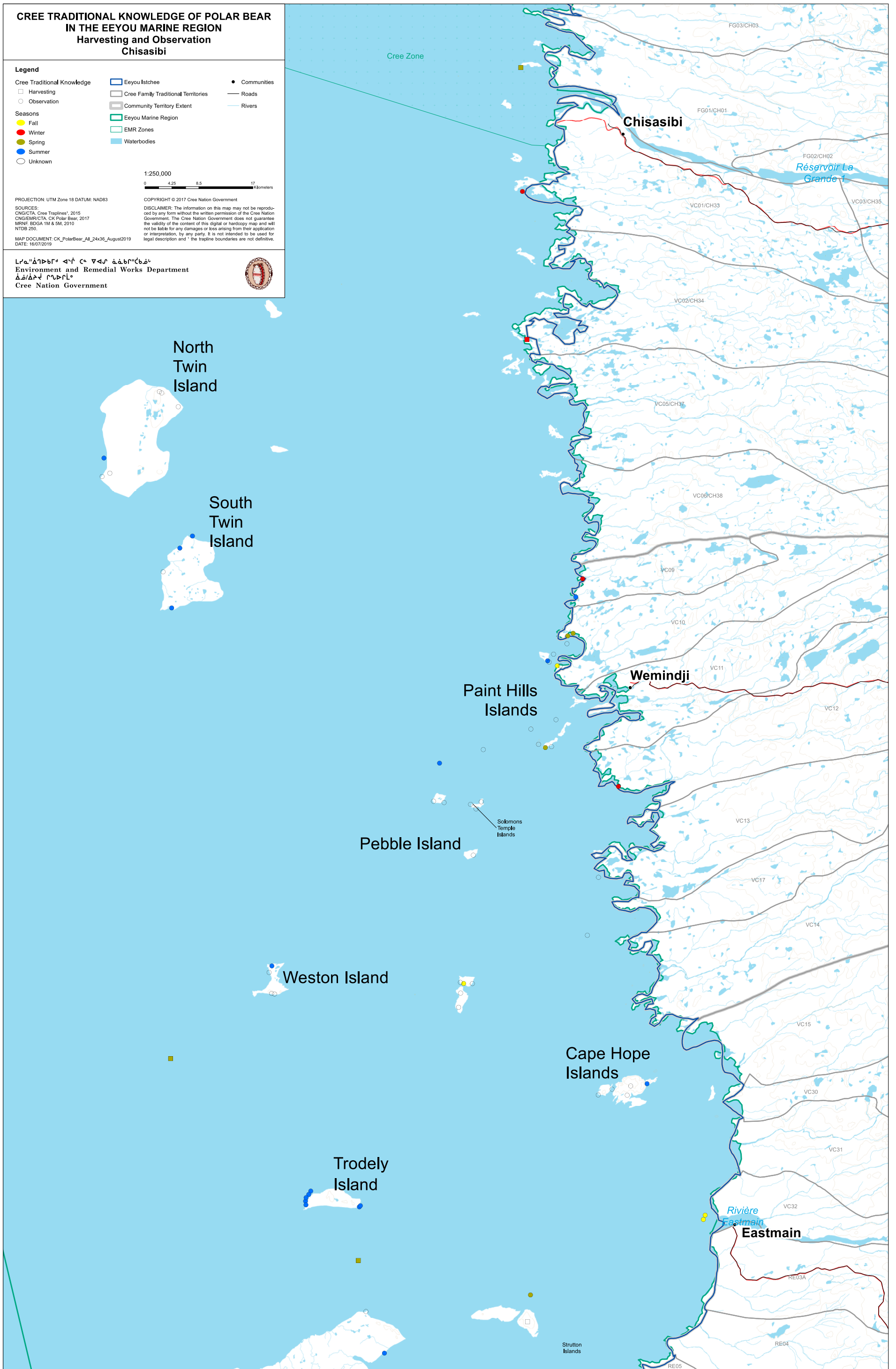


Figure 5. Location of observations and harvest sites near Wemindji and Chisasibi. Denning locations are not shown. Legend: Yellow = Fall, Red = Winter, Green = Spring, Blue = Summer.

This land user spotted polar bears in Walrus Point, located about 20 km south of the La Grande River mouth:

“We saw two polar bears, a female and a cub, south side of Chisasibi in February 2016. They were feeding on a caribou carcass. We saw the tracks to, we took pictures of the polar bears and tracks.” – Resident of Chisasibi

A tallyman who was interviewed had also observed a polar bear in the summer of 2016:

“I saw one polar bear swimming in the water, it was going toward the land, north of Chisasibi.” – Resident of Chisasibi

3.3.5 Whapmagoostui

The ten land users from Whapmagoostui interviewed reported direct observations of 12 bears and 13 observations of tracks. Most of these observations were made along the coast, many of which were close to the community, near the mouth of the Great Whale River. Observations were also reported in Cape Jones, at the northern limit of James Bay, as well as on or around the islands, mostly Long Island, located south-west of Whapmagoostui and Manitounouk Islands, just north-east of the community. Figure 6 shows the location of observations and harvest sites in the Whapmagoostui area.

Some sightings occurred while travelling to or from the hunting camps.

“We were flying over open water by bush plane from our camp to Whapmagoostui and we spotted one big male polar bear swimming by this island.” – Resident of Whapmagoostui

One interviewee told the story of his brother who has seen 19 bears in early winter. Since these were not direct observations, they were not counted in the total count, but the anecdote is worth mentioning.

“First week of December 2008, there was a very strong west wind, Great Whale River was starting to freeze up. I was in Val-d’Or and I called my brother in the community. He told me there are 19 polar bears walking down the middle of the river.” – Resident of Whapmagoostui

3.4 Seasonal Distribution of Observations

Not all interviewees mentioned the time of the year for the observation of polar bears or tracks, but from the information that was collected during the interviews, most of the observations were made in summer. This information should be interpreted carefully though in terms of the polar bears’ spatial distribution and timing of the observations, because the frequency in observations is obviously affected by the prevalence of activities and the presence of observers on the land.

In Waskaganish, the reported observations occurred mostly in the summer (8/16), but also in the late winter (2/16) and in the spring and (3/16). For Charlton Island, an elder had this to say:

“They usually arrive in March/April in Charlton. In 2017, we saw more bears than in previous years.” – Resident of Waskaganish

In Eastmain, when the time of the year was mentioned, the observations were made in the summer and early fall (June to September).

In Wemindji, the majority of the observations where time of the year was specified were made in the summer (12 out of 22). Six observations were in the spring season.

In Chisasibi, the polar bears were observed in winter (2), spring (3) and summer (1) and in Whapmagoostui, the observations were made in the spring (2), fall (5) and winter (6). A summary of the number of observations by season is provided in Table 3. It demonstrates that most observations occurred in the summer.

Table 3: Number of observations by community and season (when specified) in the Eeyou Marine Region.

	Spring	Summer	Fall	Winter
Waskaganish	3	8	-	2
Eastmain	-	4	1	-
Wemindji	6	12	2	2
Chisasibi	3	1	-	2
Whapmagoostui	2	-	5	6
Total	14	25	8	12

3.5 Harvest

As mentioned earlier, polar bear is not a species that is traditionally harvested by the Crees, or at least not in recent history.

“Inuit will kill black bear but Cree seldom if ever kill polar bear.” – Resident of Whapmagoostui

“Hardly any Cree hunters go out to hunt for polar bear. They do not go out to hunt for them or search for them. Polar bear are killed opportunistically if they cross the path of a Cree when they hunt another animal and the Cree decides to kill the bear. Or if the bear threatens life and property.” – Resident of Whapmagoostui

“People no longer pursue bears actively like they did in the past. Back then even the Cree were eating polar bears. Inuit were more aggressive in their

pursuit of polar bears. But today, even some of the Inuit don't eat polar bear anymore, mainly the younger generation.” – Resident of Chisasibi

However, one man from Eastmain shared this memory about the polar bear harvest:

“They used to kill polar bears a long time ago in Jack River. They would come to the land from the islands out in the bay. Some families used to stay there. They would kill it and they would eat it and treat like any other animal. I only know people from Chisasibi who used to kill polar bears. When I used to go to school there, one was killed and they gave me some to taste and I didn't like it. – Resident of Eastmain

Part of the connection between the Cree and polar bears is through the connection with Inuit people. This man from Eastmain shared this:

“I heard stories of Inuit killing polar bears from the islands in the bay and also they used to go hunting with non-natives, they would leave from Cape Hope islands and Old Factory. I can't remember what year the Inuit were asked to leave these islands. I'm not really sure what year these hunts happened but they were during the summer. I'm guessing the non-natives only took the fur of the polar bears.”

“I heard a story of a polar being killed a long time ago by the Inuits because the bear was destroying property. They probably killed it to eat and also to protect their property and belongings.” – Resident of Eastmain

A participant from Whapmagoostui explained how they killed a polar bear and gave it to the Inuit:

“I was on a canoe with three other men and saw a polar bear swimming, a male with a size of 700 to 800 lbs. We dragged the dead bear to shore and

flipped the canoe on its side to load the bear into the canoe. When we arrived at Whapmagoostui, we used a loader to get the bear out of the canoe and up the bank. We gave the meat and skin to the Inuit.” – Resident of Whapmagoostui

That connection between the Inuit and Cree people is stronger in that community, because of the presence of the adjacent Inuit community of Kuujjuarapik. It is even more obvious when intermarriage is involved.

“I killed a 3-year-old male in Hudson Bay. I wanted to sell skin. My friends from Inukjuak and Kangigsuijjuaq took a whole bunch. I ate the meat. I smoked a lot of it and shared it with my wife's family, who are Inuit.” – Resident of Whapmagoostui

3.6 Safety of Land Users

As mentioned earlier, the Crees of the EMR only kill polar bear on occasion, usually in defence of life and property (DLP), but the increase of human-bear conflicts in the last few years was a concern expressed in several interviews. Many land users worry about their family's safety when they are out in the land. In some of the encounters with polar bears, they perceived them as a threat for their safety and/or their property.

“There is a trend, we have a growing number of polar bear incidents. For instance, a polar bear pushed the camp door open during the night, the hunter had to scare it off with his rifle.” – Resident of Waskaganish

Some participants spoke of the higher risk of human-bear conflict during the spring goose hunting season.

“Polar bears are out in May now, at same time as goose hunting season, which can be dangerous. So it's important not to sleep in your blind when you

are goose hunting out on the islands. Polar bears are very strong, they can tear anything apart. – Resident of Waskaganish

“About five years ago, a polar bear also came into the blind where my grandchildren were hunting. There was an older person there with them, if not, the bear would certainly have killed one of the children. I cannot leave young people behind anymore to hunt because of the bears. That particular bear was stalking them, it went downwind from hunters and crept towards them in the ice ridges. The goose camp was relocated to another island as a result.” – Resident of Waskaganish

Some land users mentioned the necessity to be well prepared in case of encounters with bear out in the land:

“I always prepared for polar bears whenever I was out at the camp I would always have a gun ready inside the cabin and extra rounds of bullets where I can get them easily. And polar bears are rarely seen on the coast, these animals live out in the bay and has no reason to come inland.” – Resident of Eastmain

“We can come up with a plan that ensures nobody will die from polar bears. They are so strong, they can do a lot of damage. We have to have a rifle all the time. We need to know what will happen if we shoot a bear in self-defence. Need to be sure that nobody is going to get a big fine or jail time if they shoot a polar bear in DLP.” – Resident of Wemindji

One participant stated that tourism-related activities also pose a risk for safety:

“This animal is dangerous. Tourism is a dangerous business because tourists don’t know how to deal with the bears. There are more and more bears here now, but we don’t know what to do with them anymore. What should we do

about problem bears? If we kill it, what are we going to do with it (eat the meat? Sell the skin?). Inuit up north are saying that even if there is a quota, people need to be allowed to kill them if they destroy the property. Here in James Bay we are still learning how to live with this new partner. We need to discuss what our options are. If a polar bear walks into your place, are we allowed to kill it? Or somebody else will get killed. – Resident of Wemindji

Two more land users were also unsure whether they should kill a polar bear that had come to their camp:

“People told me, ‘why you didn’t kill them?’. An elder said to me: “You should have shot them, they will damage the camps that are few kilometres away.”– Resident of Chisasibi

“When I was talking to Inuit they told me if you encounter a polar bear or it messes with your stuff, it will keep coming, they told me to shoot it. Next time it will be dangerous. When we encountered a polar at our camp at Twin Island, it came around at night, it moved our food around so we got out there. – Resident of Wemindji

The participants told stories of encounters where they had to defend themselves:

“We went spring hunting at our goose camp, and I had a bear looking into the cabin window while I was sitting at the table a couple feet away. I went out with a gun, the bear was standing about 50 feet away, I shot the ground in front of the bear but it kept coming, it was not afraid. I didn’t know what to do because I didn’t want to kill it. So I shot it in the back and it ran off into the ice.” – Resident of Waskaganish

“It was a clear night. My mother woke me up and she said the dog was barking. She went to check and looked through the window. Her hands were

shaking, she told me not to look, she said: 'it is a polar bear'. The polar was big, about ten feet tall, it touched the tree branches. Our dog was scared and took cover under our camp. When all the people woke up, we told them about the polar bear. We got our guns ready just in case the polar tried to come in the cabin. I fired a few shots in the air and the polar bear took off. The polar bear had a cub, we didn't see it before until after it started walk away. The next day my uncle went to get water and came back, he said he saw tracks nearby so we went to check where saw the tracks but we didn't see the polar bear. It must have been there a long time because there were tracks everywhere. – Resident of Wemindji

In this story, the land user knew the polar bear had to be killed:

"A polar bear came around the camp while I was away. It scared my family who were at the camp. I went looking for the polar bear when I returned to camp I found it and shot it. The bear was an adult male. An airplane took the bear to Whapmagoostui and the meat and fur was given to the Inuit." – Resident of Whapmagoostui

3.7 Damage to Property

Many participants in the interviews reported damage to their property, especially their cabins and their snowmobiles.

"Every year between 2011 and 2016, I had destruction of my cabin, the windows, the skidoo gas tanks and seats." – Resident of Waskaganish

"My cabin was destroyed by polar bears in 2015 and 2016; they ripped off the canvas." – Resident of Wemindji

“The polar bears destroyed my fishing cabin at Goose Island and they made a mess inside the cabin.” – Resident of Wemindji

“In that area, they destroy cabins, I saw two cabins they sort of destroyed. The camps I saw destroyed was one in 2013, early September, it looked like the bear went there between June 5 and September 4. This was in Long Island where my cousins hunt. The other one I saw was back in 2006, it broke the doors and windows across from the first camp I mentioned. – Resident of Whapmagoostui

3.8 Diet and Body Condition

Polar bears are known to feed primarily on seals and some interviewees shared information about that:

“I saw leftovers of seals at Pebble Island and saw seal bones on the north side of Walrus Island in 2013.” – Resident of Wemindji

Several other sources of food were mentioned, such as ducklings, eggs, moulting geese, and caribou.

“A polar bear will kill anything he sees to feed himself.” – Resident of Whapmagoostui

“They eat the ducks there until the ice comes. They roam around near open water south from here.” – Resident of Whapmagoostui

“I saw two polar bears feeding on dead caribou in Walrus Island on the pond where we hunt in the spring.” – Resident of Wemindji

Many land users mentioned the changing environment and the ways the polar bear has to adapt its behaviour as a consequence.

“There is open water now in James Bay all year round. Seals can get away from the polar bears more easily now, they gather more. So polar bears are hungrier, some of them are starving in winter. They have started hunting for bear cubs instead of seals now.” – Resident of Wemindji

Beaver was also mentioned by some interviewees in Charlton as a source of food for the polar bears. This was described by some as an unusual source.

“They target beaver dams, they have been killing beavers, we saw blood and tracks.” – Resident of Waskaganish

At the public meeting held in September 2017, a land user expressed interest in gaining more knowledge of polar bears, most particularly its food source, like seals:

“One elder said the seal population has decreased after the Hydro project because water is dirtier. What happened to those seals? If you want to manage polar bears, you also need to learn more about their habitat and food sources, so it would be good to do more research about seals, water quality, etc.” – Resident of Chisasibi

In terms of body condition, 46 bears were described by one of the following categories: skinny (4), average (23), fat (10) and very fat (9). According to this information, less than 10% were described as “skinny”, whereas the majority (50%) of them were described as average, and about 40% were “fat” or “very fat”.

3.9 Denning

Only a few interviewees shared information about polar bear dens or their location.

The polar bear dens are always where there is a high cliff on the east side and south side of the North Twin Island, same thing on the South Twin. I only saw the dens on north and south twin islands. – Resident of Wemindji

They den inland, steep rock, sometimes they stay that place until cubs are bigger – Resident of Chisasibi

Went 60 miles inland by plane to cabin for hunting and trapping GW-01, found a polar bear den in soil. The bear had moved large rocks to make it probably female had her cubs there. The difference between a black bear (small entrance) and polar bear den is (large entrance). – Resident of Whapmagoostui

Previous scientific research has confirmed that several offshore islands in the EMR are used by polar bears for denning. Interviewees identified denning locations on North and South Twin Islands, Charlton Island, and Carey Island. Only one potential den location was identified on the coast, inland, northeast of Whapmagoostui. Female polar bears exhibit high denning site fidelity, returning to the same areas year after year. Future efforts must be made to expand our knowledge of polar bear denning locations and this specific knowledge may play an important role in the creation of protected areas in the EMR.

3.10 Behaviour

Some participants shared information on polar bear behaviour. In spite of the fact that they have not been actively hunting polar bears in recent times, the time that they spend on the land allowed them to gain significant knowledge.

The polar bear is extremely resilient. They're able to adapt to difficult conditions. Even if there is 4 feet of snow, they can still walk on top of it. I have personally witnessed how adaptable they are to their environment. – Resident of Waskaganish

Many spoke of the threat posed by polar bears in nature, but they were more specific about which ones are dangerous:

“Normally, bears won’t attack you if don’t bother them. When they have cubs, they’re very dangerous. Skinny and average-size bears can be dangerous, very fat ones are okay.” – Resident of Wemindji

“There are several kinds of polar bears. There are different neck sizes. Some have a very long neck, some have medium necks, some very short necks. The ones with a long neck are listening carefully, they’re easy to scare because they aren’t sure what’s going on. For the ones with medium-length neck, you need to let them know that you are there before shooting. It’s hard to scare them because they keep coming at you. If you try to shoot it and you miss, they will come at you and may try to kill you with their paws. The short-necked ones are very sensitive, they stand on two feet like a human. The ones with medium and short neck are dangerous.” – Resident of Wemindji

Other stories or anecdotes that were told during the interviews are presented in Appendix V.

4 DISCUSSION

4.1 Considerations and Limitations

This study gathered important traditional knowledge as, well as observations and concerns, about polar bears in the Eeyou Marine Region. One of the main contributions of this knowledge was identification of the geographic areas where most observations, and/or human bear conflicts occurred. The resulting maps show the areas that have been frequented by polar bears over the past 25 years, as well as harvest sites and denning locations.

Although much of the information and knowledge gathered has been shared in this report, it is important to note that the information is limited to that provided by the participants. It therefore does not represent all of the Cree knowledge of polar bears from the region. This limitation is especially important to remember when there is an apparent absence of information, potentially connected to the absence or reduced number of observers in some areas or some periods of the year (e.g., winter).

4.2 Polar Bear and the Cree of the Eeyou Istchee

One element that came out of this consultation was the relative importance, respect and concern that many participants expressed on the subject of polar bears. Many had observations and stories that they were willing to share.

However, many participants also expressed concern about the perceived increase in relative abundance of polar bears in the Eeyou Istchee and the EMR. They associate this population increase with the growing number of interactions, many of which are undesirable or threatening. Climate change and, more specifically the changes in ice dynamics in the Hudson and James Bay, were mentioned as potential causes for the increasing number of bears. Other interviewees mentioned that polar bears are extending their distribution area southward in response to more difficulty hunting seals due to a

longer ice-free season and the consequent dietary changes that the bears are developing as a way to adapt to a changing environment.

Polar bear harvesting from deliberate hunting was described as not being a traditional hunt for the Cree. However, DLP kills were reported by several land users. In addition, the fact that many land users felt a growing threat from polar bears during their traditional activities in the land emphasizes the importance of developing and raising awareness of safety guidelines and preventive measures. For their protection, land users have to be prepared to use deterrent methods and lethal force if required. However, many preventive measures can be used to avoid attracting the bears in the first place.

Just like the polar bear are adapting to a changing environment, it appears that the land users of Eeyou Istchee also need to adapt to more frequent bear encounters and potential dangers associated with their presence on the land.

5 CONCLUSION

This report gathered observations and knowledge from 27 Cree elders, hunters, and other individuals in the five Eeyou communities within Eeyou Istchee. It represents the knowledge and observations of the interviewees. The report does not reflect the entirety of Cree knowledge on the topic. That said, the information presented as both narrative and mapped features within this report is illustrative of the depth and breadth of Cree knowledge, to be considered in future discussions and actions on polar bears in Eeyou Istchee and the EMR. The effort to further our knowledge about polar bears in the EMR does not stop with the publication of this report. The EMRWB, in collaboration with CTA-EMR staff, continues to encourage Cree land users and visitors to report all polar bear observations and encounters, and will continue to encourage and support polar bear research efforts and TEK collection in the EMR. Additional reports will be made available every 5-10 years as we work together to learn more about polar bear ecology in the EMR.

6 REFERENCES

Environment Canada, 2012. Conservation of Polar Bears in Canada. Available at:
http://publications.gc.ca/collections/collection_2012/ec/En4-125-2012-eng.pdf.
(Accessed: 9th February 2021)

Environment and Climate Change Canada, 2017,
<https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/polar-bear-conservation-multilateral.html>
(Accessed: 9th February 2021)

Environment and Climate Change Canada, 2021. Polar Bear (*Ursus maritimus*):
management plan progress report, January 2021,
<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/report-progress-recovery-document/polar-bear-2021.html> (Accessed: February
2021)

Henri D., Gilchrist H.G., and E. Peacock, 2010. Understanding and Managing Wildlife in
Hudson Bay Under a Changing Climate: Some Recent Contributions From Inuit and
Cree Ecological Knowledge. In: Ferguson S.H., Loseto L.L., Mallory M.L. (eds) A
Little Less Arctic. Springer, Dordrecht

Polar Bear Range States, 2015. Circumpolar Action Plan: Conservation Strategy for
Polar Bears. A product of the representatives of the parties to the 1973 Agreement
on the Conservation of Polar Bears.

Polar bear subpopulation maps: Environment and Climate Change Canada 2018

<https://www.canada.ca/en/environment-climate-change/services/biodiversity/maps-sub-populations-polar-bears-protected.html>

Taylor, M.K., and L.J. Lee. 1995, Distribution and abundance of Canadian polar bear populations: a management perspective. *Arctic* 48:147–154.

Taylor, M.K., Akeagok, S., Andriashek, D., Barbour, W., Born, E.W., Calvert, W., Cluff, H.D., Ferguson, S., Laake, J., Rosing-Asvid, A., Stirling, I. and Messier, F. 2001, Delineating Canadian and Greenland polar bear (*Ursus maritimus*) populations by cluster analysis of movements. *Canadian Journal of Zoology* 79:690–709.

7 APPENDICES

APPENDIX I
POLAR BEAR CONSULTATION INTERVIEW FORM

POLAR BEAR CONSULTATION INTERVIEW FORM

Participant Last Name _____ First Name _____

Date of Birth _____ Gender M F Community _____

If more than one person participating in the interview add their names, date of birth, gender, community here.

INTERVIEW

Date _____ (y-m-d)

Location _____ (name and geographic coordinates)

Translator Last Name _____ First Name _____

Interviewer Last Name _____ First Name _____

We would like to discuss your observations and interactions with Polar Bears.

We will start with the most recent event and move to later events. We will try to go back five years. However if there is a particularly interesting bear story more than five years old, please record it.

1) Harvesting

- Where was the bear killed? **Mark on map with red x** (Number sequentially), sex, adult, yearling, cub. Date of kill y-m-d Body condition (fatness index) Repeat if more than one bear killed.
- What was done with the meat?
- What was done with the hide?
- Was the hide tagged?
- Do you remember the body condition of the bear (see body condition index document)

2) Defense of life and property? Killed as a Precaution

- Where was the bear killed? **Mark on map with blue x** (Number sequentially), sex, adult, yearling, cub. Date of kill y-m-d Body condition (fatness index). Repeat if more than one bear killed.
- What was done with the meat?
- What was done with the hide?
- Was the hide tagged?
- Do you remember the body condition of the bear (see body condition index document)

3) Observations

- Sighting of tracks, destruction of cabins and signs of polar bears. **Mark on map with green circle (Number sequentially) for an area and/or a green line (Number sequentially) for a track.**
- At which times of the year did you see polar bears?
- Did you observe polar bears feeding while they are in the area? If yes, what were they feeding on?
- Body condition with above observations (see body condition index document)

4) Denning

- Do you know when and where polar bears den? **Indicate polar bear dens on the map with a green dot identified with the word DEN.**

5) Importance of Polar Bears

- Are polar bears important to you? How?
- Is your spirituality linked to polar bears? Do you know any Cree legends or histories?

Is there anything else that you would like to add or think we should know about polar bears in the region?

THANK YOU, MEEQUETCH, JININNAASKUMDANNAAN

APPENDIX II
Interview Guide

Interview Guide

This is a checklist for the interviewer, to help conduct the interviews.

Do you have all the materials in hand to start the interviews?

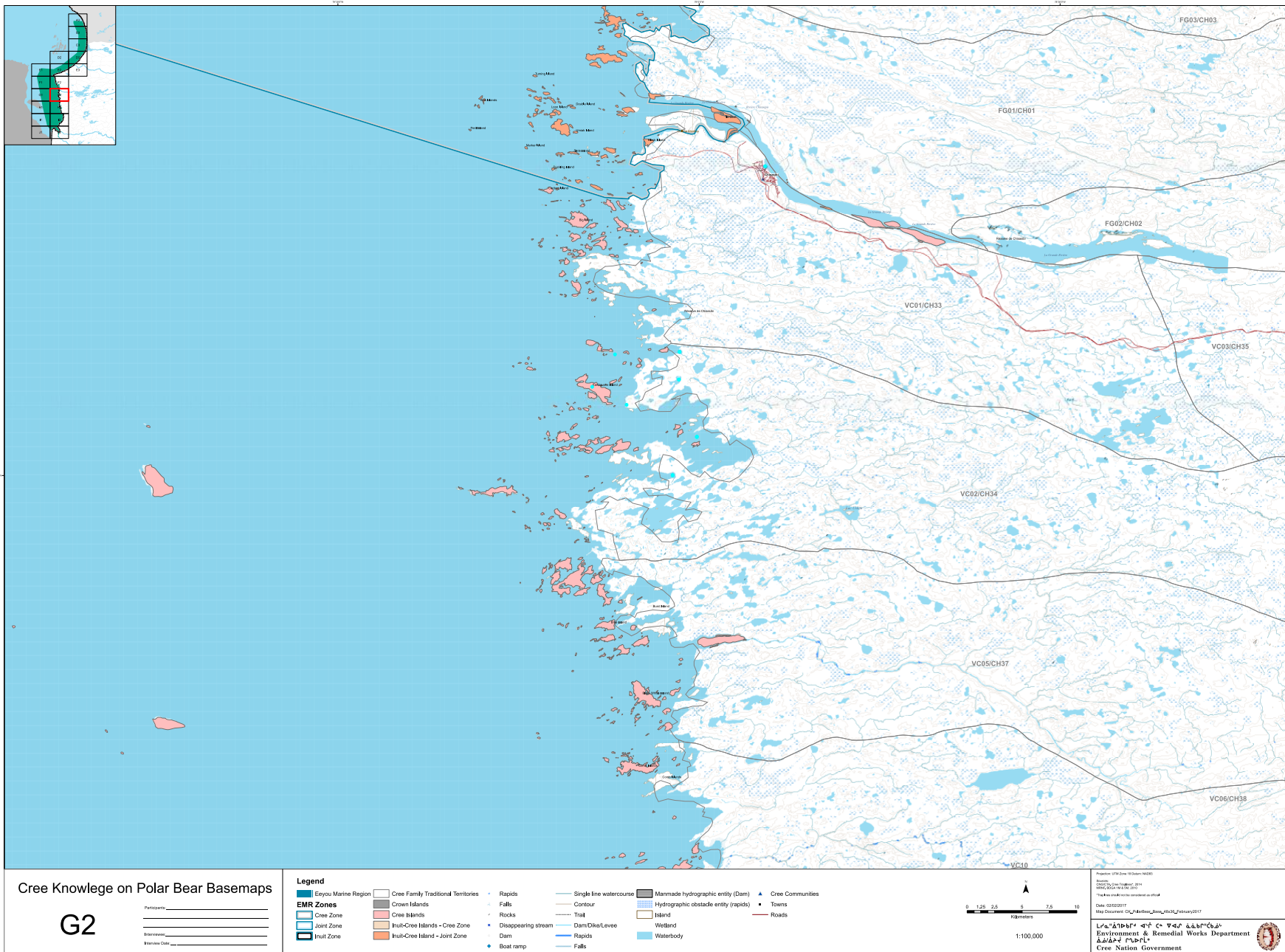
- Interview maps
- Pencils or pen. One red, one green and one blue
- Polar bear management plan pamphlet
- Polar bear body condition index document printed
- Interview sheets (enough copies for all your interviews)
- A recorder, if some interviewees have long stories that you would like to record

Conduct of the interviews

- 1) Thank the persons for taking the time to share their knowledge.
- 2) Explain that this work is a collaboration with the CTA, CNG and EMRWB.
- 3) Explain the purpose of the interviews, by giving each interviewee a pamphlet. The goal of the interview is to gather Cree knowledge of polar bear, to have a Cree input into the polar bear management plan that will be drafted. Inform the participant that there will be consultations on the draft management plan once it will be ready. The CTA EMR officers will be informed of the dates of the consultation; those should happen at the end of the summer.
- 4) Go through the questionnaire and ask the questions. When there is information to put on the map, make sure you use the proposed color code. Write the answers on the questionnaire and use one sheet per interviewee or interviewee group.
- 5) When you are done, make a copy of each filled questionnaire, to make sure that we don't lose the information when you will send it back.
- 6) Send all the filled questionnaires to Sophie Fillion, either electronically (scan images) or the originals by mail. Send the original maps to Sophie.
- 7) If you have any questions while conducting your interviews, do not hesitate to call Sophie, Aurélie or Rick.

APPENDIX III

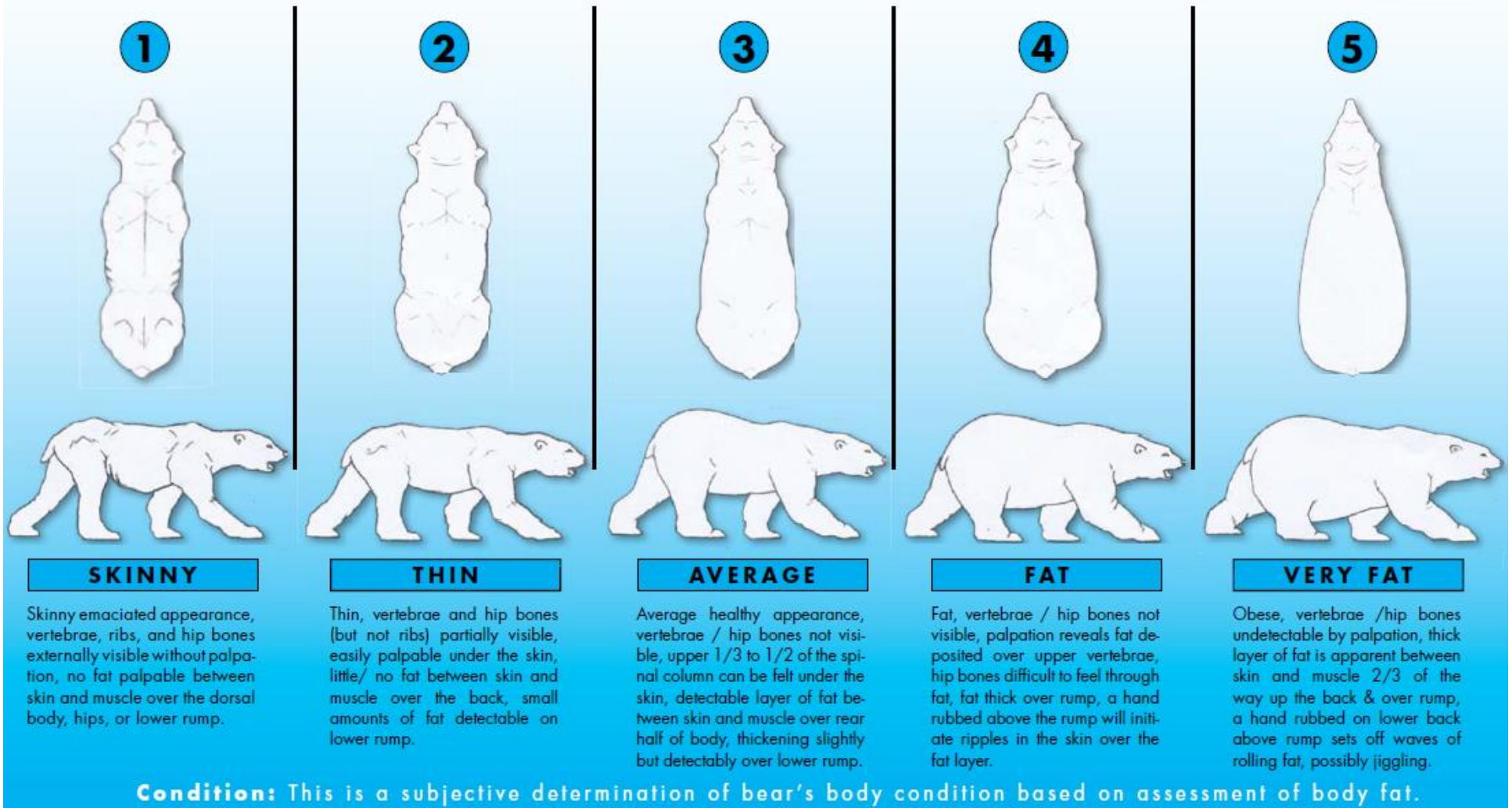
CREE KNOWLEDGE ON POLAR BEAR BASEMAP INDEX



Example of a map used during the interviews on Cree knowledge of Polar bear

APPENDIX IV

POLAR BEAR SCORE CARD: A STANDARDIZED FATNESS INDEX



Source: I. Stirling, G. W. Thiermann and E. Richardson. 2008. Quantitative support for a subjective fatness index of immobilized polar bear. *Journal of Wildlife Management* 72(2): 568-574.

APPENDIX V
STORIES TOLD BY LAND USERS

About dens:

“I’ve heard stories of polar bears being treated the same as the black bear and where polar bears den inland. One story is that there were two camps and they would yell out the news to the other camp by saying that a polar bear den has been found and would respond with excitement even though no polar bear was killed yet they already knew that they would be feasting on polar bear. I’ve heard stories that the polar bears used to have dens inland a long time ago and they would make them near a pond and the entrance would be from the water and it would lead to dry land and that’s where the actual den would be and when someone would see a pond that’s not frozen that’s how they knew that a polar bear is denning there. These polar bears that den inland would taste good to eat because they didn’t eat seal or any other sea mammals yet. They would hit the ground to know where the entrance leads to. Because it would make a hollow sound and that’s how they found where the den is and they would make a hole near the den so the polar bear would stick out its head and they would shoot from there. And there’s a couple in one den not only one. A story of an old man who found a polar bear den says that the man got overwhelmed with the amount of bears in one den, I’m not sure how many he killed but he yelled out “that’s enough!” and that’s when no more bear came out of the den.” - Resident of Eastmain

About killing a polar bear:

“There’s this young small Chisasibi Eeyouch who killed a polar bear with his axe. I guess polar bear has a weakspot. I also heard that it can’t turn good one side.” - Resident of Wemindji

“In Whapmagoostui, before freeze up in November, they saw four polar bears. Three were killed by Inuit hunters; a female and two yearlings. People thought it might have been the father bear that got away. There as concern in the

community that he might come back and cause trouble for revenge.” Resident of Whapmagoostui

About hunting polar bear:

To hunt polar bears, they used to call them and tell them (by spirit) to come into land, and that there’s bannock with raisins and the polar bear used to come and they would wait for it to get to where there’s snow. Then they would kill it.

- Resident of Eastmain

About hunting like polar bear:

“He killed a beluga whale. Interesting because he killed it at a breathing hole, like the way polar bear hunt seal. Not an open water hunt like the main way Inuit at Whapmagoostui usually hunt Beluga. After Jack died his relatives moved to Umiujaq (Richmond Gulf).” - Resident of Whapmagoostui

About a polar bear cub:

“He met Inuit hunters with a live polar bear cub on their sled on top of a large load of caribou meat. They said they did not kill the mother. They brought the cub to Whapmagoostui and sold it to someone. Maybe it was sent down south?” - Resident of Whapmagoostui



A polar bear photographed near Chisasibi, QC.

Credit: Jean-Philippe Brochu