

| | | | | |
|--------------------|---|----|-----------------|---------|
| 3:25 PM to 3:55 PM | ᐅᑦᑦᑦᑦᑦ ᐱᑦᑦᑦᑦᑦ ᐱᐅᑦᑦᑦᑦᑦ ᐅᐱᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦ ᐅᑦᑦᑦᑦᑦ | 11 | ᑦᑦᑦᑦᑦᑦᑦᑦᑦ | 30 ᑦᑦᑦᑦ |
| 3:55 PM to 4:25 PM | ᑦᑦᑦᑦᑦ ᐱᐅᑦᑦᑦᑦᑦ ᐅᑦᑦᑦᑦᑦᑦ | 12 | ᑦᑦᑦᑦᑦᑦᑦᑦᑦ | 30 ᑦᑦᑦᑦ |
| | ᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ ᐱᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦᑦ | | | |
| 4:25 PM to 4:55 PM | ᐅᑦᑦᑦᑦᑦ ᐱᑦᑦᑦᑦᑦᑦ 50-100 ᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦᑦ | 13 | ᑦᑦᑦᑦᑦᑦᑦᑦᑦ | 30 ᑦᑦᑦᑦ |
| | ᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ | | | |
| 4:55 PM to 5:55 PM | ᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ | 14 | ᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦᑦ | 50 ᑦᑦᑦᑦ |
| 5:55 PM to 6:05 PM | ᑦᑦᑦᑦᑦᑦᑦ | | ᐱᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦ | 10 ᑦᑦᑦᑦ |
| | | | | |

- o ለኋረ 3: GN-ዎች ለጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።
- ለጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።

የጥራት ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት

GN በጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።

የጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።

ጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።

ጠቅላይ ልማት ሚኒስቴር ጋር ሲገናኙ ለሀገራዊ ጥቅም ላይ ለውሰዱት ስራዎች ለጋራ ግብረ ጋር ማስገባት ላይ ጥረት ያድርጉ።

በጠቅላይ ልማት ሚኒስቴር



አዲስ አበባ፣
የጠቅላይ ልማት ሚኒስቴር

ፎክሎርና ልሳን ልሳን

ለጥራትና ልማት ምርጫ ደንብ አፈፃፀም ላይ ማቆም ለሚችሉ የሥነ-ምግባር ምርጫ ባለሙያዎች ስልጠና ማድረግ አለበት። ከፍተኛ ሥልጠናዎችን በመስጠት የሥነ-ምግባር ምርጫ ደንብ በጣም ጠቃሚ ይሆናል። 2008-ግ አገልግሎት ደንብ አፈፃፀም ላይ ማቆም ለሚችሉ የሥነ-ምግባር ምርጫ ባለሙያዎች ስልጠና ማድረግ አለበት።

ፎክሎርና ልሳን ልሳን ምርጫ ደንብ አፈፃፀም ላይ ማቆም ለሚችሉ የሥነ-ምግባር ምርጫ ባለሙያዎች ስልጠና ማድረግ አለበት። ከፍተኛ ሥልጠናዎችን በመስጠት የሥነ-ምግባር ምርጫ ደንብ በጣም ጠቃሚ ይሆናል።

ፎክሎርና ልሳን ልሳን ምርጫ ደንብ አፈፃፀም ላይ ማቆም ለሚችሉ የሥነ-ምግባር ምርጫ ባለሙያዎች ስልጠና ማድረግ አለበት። ከፍተኛ ሥልጠናዎችን በመስጠት የሥነ-ምግባር ምርጫ ደንብ በጣም ጠቃሚ ይሆናል።

4.0 ዲሞክራሲ

ዲሞክራሲ ማሳደግ ለማድረግ የሚገባ ስልጠና ማድረግ አለበት። ለዲሞክራሲ ማሳደግ የሚገባ ስልጠና ማድረግ አለበት። ለዲሞክራሲ ማሳደግ የሚገባ ስልጠና ማድረግ አለበት።

2014 Draft Peary Caribou Management Plan and Action Plan Recommendations



GN Department of Environment
Caryn Smith and Jason Aliqatuuq

2014 ᐅᓂᓕᓕᓄᓐᓂᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ



ᓄᓄᓂᓕ ᓕᓕᓄᓐᓂᓐ (GN) ᐅᓂᓕᓕᓄᓐᓂᓐ
ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ

2008 Draft Plan

- The 2008 plan was considered substantially outdated and did not reflect the current status of Peary Caribou
- Updated population estimate surveys were being completed and DOE felt the management plan should reflect the most up to date and comprehensive information
- Communities had expressed they were not happy with the management units or TAH recommendations proposed in the 2008 draft plan

2008 ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ


- 2008 ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ
- ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ
- ᓄᓄᓂᓕ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ

Setting Aside the 2008 Draft Plan

- The DOE requested that the NWMB **set aside** the decision process on the 2008 draft plan to allow a decision on the updated draft plan submitted in 2014. The **NWMB agreed.**
- The 2014 draft plan better reflected:
 - Updated survey and population information over a broader portion of the Peary Caribou range
 - Community requests for larger management units that better represented island groups


ᓂᓂᓂᓂᓂᓂ 2008 ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ

- ᐅᓂᓕᓕᓄᓐ (DOE) ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ
- 2014 ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ ᐅᓂᓕᓕᓄᓐ




Process

- Consult on the initial draft with communities
 - There were workshops in 2010 and 2011 with Grise Fiord and Resolute Bay
- Edit draft to reflect community input and concerns
- Share revised draft with stakeholders for further clarification
- Seek support on final draft
- Submit final draft to NWMB for approval and to form basis for new regulations under the wildlife act




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- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ




Purpose of the Plan

- Establish goals for taking care of Peary Caribou
- Identify the importance of working together;
- Provide current population estimates and trends;
- Define roles and responsibilities of the stakeholders;
- Define the information required to effectively manage;
- Include Inuit Qaujimajatuqangit (IQ) and scientific knowledge equally in the management process




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- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ



Purpose of the Plan

- Provide a framework for determining when management actions should be taken; and
- Ensure full involvement of Inuit in the future monitoring and management of Peary Caribou
- To provide NWMB with a management plan that is ready for implementation.



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- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ
- ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ ᐱᓕᓂᓄᓂ

ከጠቅላይ ሚኒስትር ጋር ለመጠየቅ ተገኝቶታል።

የሚከተሉት ጉዳዮች ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል። ለጉዳዩ ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል። ለጉዳዩ ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል።

የጉዳዩ ስልጠና:

የሚከተሉት ጉዳዮች ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል።

- የሚከተሉት ጉዳዮች ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል።
- የሚከተሉት ጉዳዮች ላይ ለመጠየቅ ለተጠቃሚው ስልጠና ላይ ተገኝቶታል።

- 5) መፍትሔ ለግንዛቤ ግንኙነት ምን ይሆናል?
- ለ (CAG) የሥነ ምግባርና ሕክምና ጥናት ለግንዛቤ ግንኙነት ምን ይሆናል?

ግንዛቤ ለምን ይፈጠራል? ለምን ይፈጠራል?
 - ለምን ለምን ይፈጠራል? ለምን ይፈጠራል?

ግንዛቤ ለምን ይፈጠራል?

ጥቅም 17, 2012,

መግቢያ ለግንዛቤ ለምን ይፈጠራል?

መግቢያ ለምን ይፈጠራል?

ግንዛቤ ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል?

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- 1) ግንዛቤ ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል? ለምን ይፈጠራል?
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Management Plan for Peary Caribou in Nunavut 2014 – 2020

Prepared in collaboration with

The Hunter and Trappers Organizations of Grise Fiord, Resolute Bay, Arctic Bay, Cambridge Bay, Gjoa Haven, Taloyoak, Kugaaruk, GN Department of Environment, Nunavut Tunngavik Inc., and the Nunavut Wildlife Management Board

Third Draft, January 2014

Note:

This draft is based upon the format and language used in the document “*Taking Care of Caribou -The Cape Bathurst, Bluenose West, and Bluenose East Barren Ground Caribou Herds Management Plan*” developed by the stakeholders and Terriplan Consultants and submitted to the Advisory Committee for the Cooperation on Wildlife Management. The majority of technical information is derived from the GN DoE report “*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*”. The information contained herein is an amalgamation of both documents and the work in both those documents represents the talent, skill and considerable efforts of those involved respectively.

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1.0 Summary

Peary caribou (*Rangifer tarandus pearyi*) are a distinct caribou subspecies that occurs almost entirely on islands within the Canadian Arctic Archipelago. These ungulates live the farthest north of all caribou in North America, and are the smallest in stature and in population size. In February 2011 Peary caribou were listed as Endangered under the *Species at Risk Act* (SARA) due to declines in abundance and expected unpredictable declines due to changes in long-term weather patterns.

Caribou are of major cultural, traditional and economic importance to Inuit, and are also a vital part of the Arctic ecosystem. Nunavummiut are concerned about the status of Peary caribou and their habitat as determined through public workshops in Grise Fiord and Resolute Bay. Peary caribou harvest in Nunavut has not been restricted through legislation; rather the Resolute Bay Hunters and Trappers Association (HTA) and the Iviq HTA of Grise Fiord have imposed temporary harvest restrictions on their members during periods of marked declines. Inuit knowledge however suggests that increasing land-use activity, such as resource exploration, poses a greater potential threat to Peary caribou and their habitat than hunting pressure.

The Department of Environment of the Government of Nunavut (GN DoE) has the ultimate responsibility for the management and conservation of Peary caribou within its jurisdiction. To address the DoE mandate for management this plan recommends management units and harvest levels to establish the basis of new regulations under the *Wildlife Act* as well as recommendations for ongoing monitoring of population trends and harvest through an inclusive approach with all co-management partners. This will include provisions for future monitoring and research, Inuit involvement in research, monitoring and decision making, and consensus based decision making in response to observed changes in population.

2.0 PURPOSE OF THE PLAN

The need for a management plan for Peary caribou is born out of several issues including Inuit harvest rights, territorial responsibility for species management, changes in land use needs, population declines, and changing climate. The long term Department of Environment study on Peary caribou "*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*" has produced the first modern, comprehensive assessment of the current status of Peary Caribou in Nunavut. With the completion of the DOE report, and the success of community workshops held in Grise Fiord and Resolute, the development of management plans is essential. The need for a plan is also connected to the survey results, which for some areas are becoming outdated, although the results remain valid as a baseline.

The Peary Caribou Management Plan provides a snapshot of current population estimates and trends for the species across its range and establishes overall principles and goals for the conservation of Peary caribou in Nunavut. It highlights the critical need for co management partners to work together, defines roles of stakeholders, and provides a framework to guide management of the species throughout its range to accomplish the goals identified in Section 4.0.

The GN DoE report “*Recent trends and abundance of Peary Caribou and Muskoxen in the Canadian Arctic Archipelago, Nunavut*” provides greater technical detail on the specific island groups and their status, both historical and current. The more recent GN report “*Distribution and abundance of Peary caribou (*Rangifer tarandus pearyii*) and muskox (*Ovibos moschatus*) on the Bathurst Island Group, May 2013*” provides additional information.

2.1 CO-MANAGEMENT

This plan was developed through cooperation and dialogue between co management partners in Nunavut including participation by:

Iviq Hunters and Trappers Association (Grise Fjord)
Resolute Bay Hunters and Trappers Association
Ikajutit Hunters and Trappers Organization (Arctic Bay)
Spence Bay Hunters and Trappers Organization (Taloyoak)
Ekaluktutiak Hunters and Trappers Organization (Cambridge Bay)
Kurairojuark Hunters and Trappers Organization (Kugaaruk)
Gjoa Haven Hunters and Trappers Organization
Nunavut Tunngavik Inc., Wildlife Department
Nunavut Department of Environment, Wildlife Management Division

3.0 HOW THE PLAN WAS DEVELOPED

The Plan was developed in collaboration with the communities that harvest Peary caribou as well as the other co management partners under the *Nunavut Land Claims Agreement* (NLCA). Two rounds of community workshops were conducted in 2010 and 2011 in Grise Fiord and Resolute Bay in addition to the ongoing exchange of information during the aerial and ground surveys.

The workshops were designed to:

- Share results of GN DoE research
- Gather local expert knowledge
- Seek consensus on management and monitoring actions

The initial draft was developed for further community and stakeholder involvement by GN DoE and consultations were conducted in March 2012 in the Qikiqtaalik Region and

March 2013 in the Kitikmeot Region. The final draft will be submitted to the NWMB for approval and will form the basis for development of Regulations under the *Wildlife Act*.

4.0 GOALS OF THE PLAN

The goals of the Management Plan are to provide guidance and direction to the co-management partners and are as follows:

- To manage Peary caribou in a co-operative manner that involves the full participation of communities and engagement of co management partners.
- To include Inuit Qaujimajatuqangit and scientific knowledge equally in the management process.
- To promote local and regional involvement in decision making.
- To protect, conserve and manage Peary caribou in a sustainable manner.
- To ensure the full and effective participation of Inuit and co management partners in ongoing monitoring and management of Peary caribou, and decision making.

4.1 INUIT QAUJIMAJATUQANGIT

Inuit Qaujimajatuqangit (IQ) is the knowledge and insight gained by Inuit through generations of living in close contact with nature. For Inuit, IQ is an inseparable part of their culture and includes rules and views that affect modern resource use.

The practical application of IQ with scientific information demonstrates the value of local consultations, and documenting and preserving IQ before it is lost. The communities, through the HTOs, will be consulted on an on-going basis to ensure that IQ is utilized in conjunction with scientific information in the management of Peary caribou.

This plan supports those values and reflects the following principles:

- Management decisions will reflect the wise and sustainable use of Peary caribou.
- Adequate habitat (quantity and quality) is fundamental to the welfare of Peary caribou.
- Management decisions will be based on the best available information - both science and IQ; and management actions will not be postponed in the absence of complete information, whether from science or IQ.
- Effective management requires participation, openness and cooperation among all users and agencies responsible for caribou and their habitat.
- We must anticipate and minimize negative impacts to caribou and their habitat.

5.0 PEARY CARIBOU BIOLOGY AND MANAGEMENT

Common name (English): Peary caribou

Common name (French): Caribou de Peary

Inuktitut name: Tuktu

Innuinaqtun name: Qinianaq or Tuktuinal ('small caribou')

Scientific Name: *Rangifer tarandus pearyi*

Status: SARA – Endangered
Wild Species 2010 – At Risk

5.1 PEARY CARIBOU RANGE

Endemic to Canada, the terrestrial range of Peary caribou is roughly 540,000 km² and extends across the Queen Elizabeth Islands in the north, the mid-Arctic islands and from the west of Banks Island to Somerset and the Boothia Peninsula in the southeast (Figure 1). Ice surrounds the islands for most of the year and caribou on some islands use the sea ice during seasonal migrations. The range is vast and the area is characterized by extreme weather, long periods of either continual darkness or continual light, and large expanses of ice, bare ground, and rock. The landscape is characterized by a polar desert and polar semi-desert where environmental conditions approach the physiological tolerance limits of plants.

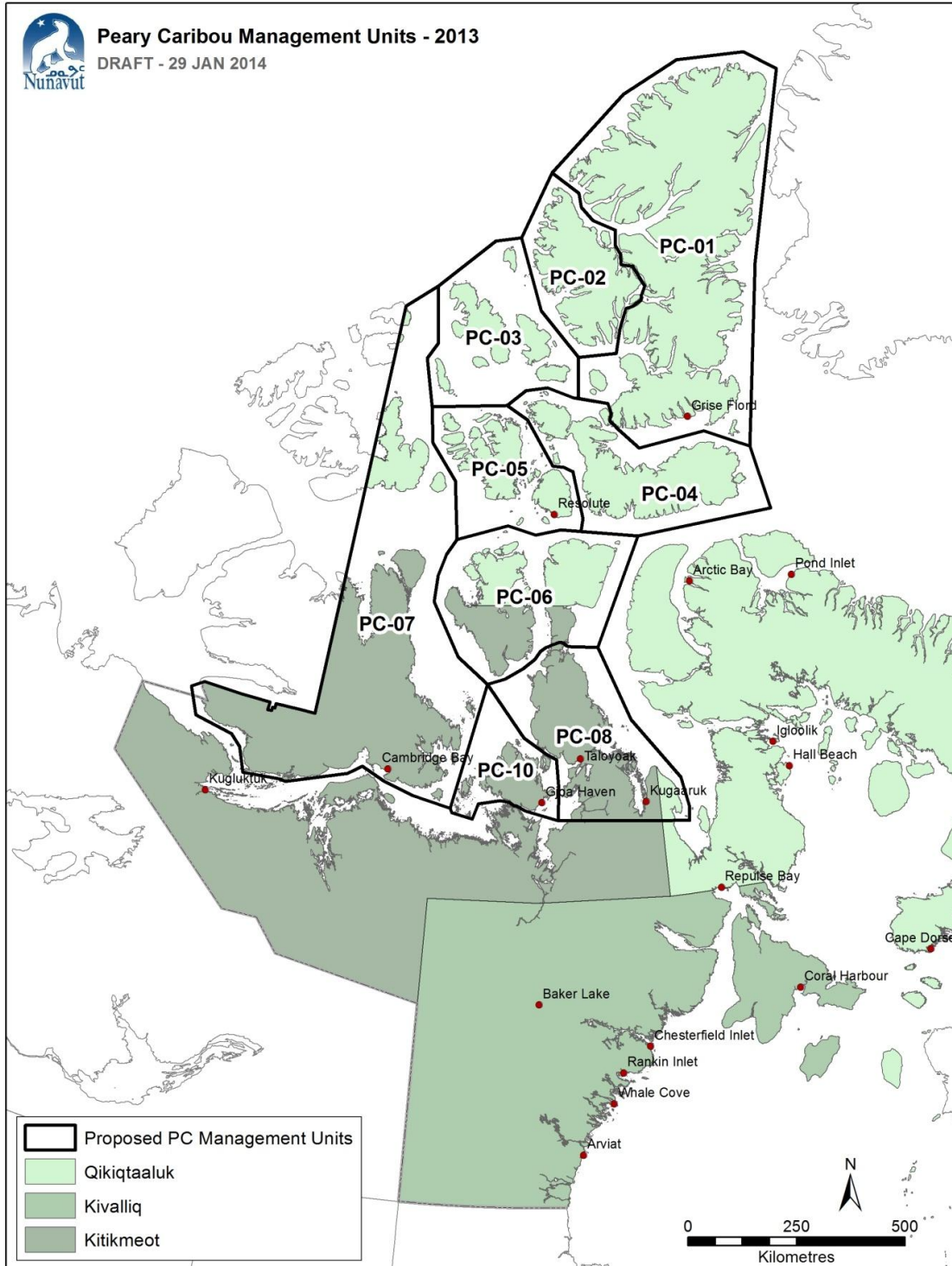
5.2 MANAGEMENT OF PEARY CARIBOU BY ISLAND GROUPS

The GN DoE report "*Recent trends and abundance of Peary Caribou and Muskoxen in the Canadian Arctic Archipelago, Nunavut,*" is the most reliable study of Peary caribou in Nunavut to date on which to base this management plan. This report provides the baseline for scientific knowledge of Peary caribou, as well as providing the estimates of numbers of Peary Caribou and specific habitat for management purposes.

As outlined in the report, Peary caribou make seasonal movements among islands within their range, and are also known to make longer distance movements in response to severe weather. The following proposed island grouping (Figure 1) applies the best available scientific information and Inuit knowledge about Peary caribou movement and proposes geographic units that are useful for management of the species. This plan refers to each management group by the 'Island Group' name. For the purpose of the management plan, it is important to note that the island group management units are not to be considered as discrete populations or sub-populations as adequate genetic information is not available to define populations at this time.

The Queen Elizabeth Islands (QEI) form the majority of the island groups, with the Bathurst Island group, the Axel Heiburg Island group, the Ringnes Island Group, the Ellesmere Island Group and the Devon Island Group being wholly within the QEI.

Figure 1. Proposed Peary Caribou Management Units



Melville Island for the purposes of this management plan is placed within the Victoria Island group.

5.2.1 Ellesmere Island Group (PC-01). Ellesmere Island is the largest of the Queen Elizabeth Islands (197,577 km²). The island is largely covered by mountain ranges and glaciers that are separated by a series of east-west passes. These features fragment the island, particularly where the north end of Vandom Fiord approaches the Prince of Wales Ice Cap, and divides the southern portion of the island from the north. Vegetation is sparse with mosses, lichens, and cold-hardy vascular plants such as sedges and cottongrass dominant at higher elevations while mosses and low-growing herbs and shrubs, such as purple saxifrage, *Dryas spp.*, arctic willow, kobresia, sedge, and arctic poppy more common at lower elevations.

5.2.2 Axel Heiberg Group (PC-02). Axel Heiberg Island (42,319 km²) is separated from Ellesmere Island by Nansen and Eureka Sound. This island is mountainous and includes the Princess Margaret Range, which runs north to south through its center. Large ice caps cover much of the landmass and spawn many glaciers that flow primarily to the west. East of the Princess Margaret Range, vegetation progresses from an herb-shrub transition zone at higher elevations to an enriched low shrub zone along the low-lying coast. There, plant species are diverse and dense, dominated by shrubs and sedge meadows.

5.2.3 Ringnes Island Group (PC-03). This island group consists of Ellef Ringnes, Amund Ringnes, Lougheed, King Christian, Cornwall, and Meighen Islands, all situated to the west of Axel Heiberg Island and north of the Bathurst Island Complex. Lougheed Island (1,321 km²) has vegetation described as entirely herbaceous with rich vegetation patches. Ellef Ringnes Island (11,428 km²) is sparsely vegetated with low plant diversity.

Amund Ringnes Island (5,299 km²) is relatively low lying but features greater relief in the north. Vegetation is entirely herbaceous with the southern half of the island supporting more diverse vegetation, primarily herbaceous plants with some shrubs and sedges. To the south of Amund Ringnes is Cornwall Island, a small hilly landmass also dominated by herbaceous vegetation. Meighen Island (approximately 933 km²), to the northeast of Amund Ringnes, is low-lying with sparse herbaceous vegetation and a large centrally located glacier. King Christian Island is located southwest of Ellef Ringnes, has an area of 647 km².

5.2.4 Devon Island Group (PC-04). Devon Island (55,534 km²; including small proximal islands) is characterized by several mountain ranges (e.g. Cunningham Mountains, Treuter Mountains, and the Douro Range), coastal lowlands, and extensive glaciers. The Devon Ice Cap covers a large portion of eastern Devon Island. Extensive uplands stretch west of the Ice Cap across central Devon Island. Low-lying areas occur in

coastal areas, primarily along the north and western coast (the Truelove lowlands), but also other smaller areas. The landscape is predominantly polar desert with sparse cover of vascular plants; however low lying areas support a greater diversity of vegetation dominated by low shrubs and sedges.

5.2.5 The Bathurst Island Group (PC-05). This group of islands includes the Bathurst Island Complex (BIC), and Cornwallis and Little Cornwallis Islands. The BIC (19,644 km²) includes Bathurst Island and five major satellite islands (> 200 km²; Cameron, Vanier, Alexander, Massey, and Helena), and three minor satellite islands. These islands are low-lying with few areas exceeding 300 m elevation. The terrain is sparsely vegetated however low-lying wetlands such as at Goodsir-Bracebridge Inlet have a higher cover of sedges and low-growing willows. Cornwallis and Little Cornwallis Islands (7,474 km² including small proximal islands) are low-lying with uplands and hills below 300 m and mostly polar desert with sparse vegetation. Portions of the western coastline and Eleanor Lake watershed (Cornwallis Island) support more diverse vegetation, including prostrate shrubs in moderately moist habitats, and sedges in the wet areas.

5.2.6 Prince of Wales/Somerset Island Group (PC-06). Prince of Wales (33,274 km²) is a tundra-covered island that features many small inland lakes. Although the island is generally below 300 m in elevation, some uplands occur along the eastern coast and across the north. Russell Island and Prescott Island are small proximal islands north and east of Prince of Wales, respectively. Somerset Island (24,548 km²), separated from Prince of Wales Island by Peel Sound, is hilly with extensive uplands.

5.2.7 Victoria Island Group (PC-07). This group includes Victoria Island (217,291 km²) and Melville Island (42,149 km²). Both of these islands have a shared border with the Northwest Territories. The eastern two thirds of Victoria Island lie in Nunavut along with roughly the eastern half of Melville Island. The majority of Victoria Island lies within the Victoria Lowlands is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Remaining upland areas are largely devoid of vegetation. Besides the presence of Mount Pelly and Little Pelly, elevations lie predominantly below 100 m asl. except in central Victoria Island where elevations rise up to over 200 m asl.

A small portion of Victoria Island, along the northwest boundary with NWT, is composed of the Shaler Mountains. The Shaler Mountains are characterized by a 40-60% vegetative cover mixed with exposed bedrock. Tundra vegetation includes purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. The centre part of the mountains reaches about 760 m asl.

Melville Island is predominately within the Parry Plateau. It has a sparse and discontinuous vegetative cover of moss, along with mixed low-growing herbs and shrubs such as purple saxifrage, *Dryas spp.*, arctic willow, kobresia, sedge, and arctic poppy. The terrain of this plateau is strongly ridged. Their elevations average less than 250 m asl. Separate, flat-floored, longitudinal valleys are transected by rugged, ravine-like cross valleys. On Melville Island, a few hills reach 760 m asl, and cliff-walled fjord-like bays and straits cut deeply into the uplifted plateau.

5.2.8 Boothia Peninsula (PC-08). Boothia Peninsula (32,331km²) is predominately covered by the Boothia Plateau uplands. Vegetation is discontinuous, and dominated by tundra species such as purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. It averages around 760 m asl. Bedrock outcroppings are common.

The eastern side of the Boothia Peninsula along the lowland coastal fringes of Boothia and Simpson peninsulas is composed of plains. It is characterized by discontinuous upland tundra vegetation, dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. The region slopes gently southward, ranging from sea level to about 300 m asl.

The south-western coastal portion of the Boothia Peninsula lies within the Victoria Lowlands which is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Elevations lie predominantly below 100 m asl.

5.2.9 King William Island Group (PC-10). King William Island (13,111 km²) is separated from the Boothia Peninsula by the James Ross Strait to the northeast, Rae Strait to the east, Victoria Strait to the west, and Simpson Strait to the south. Satellite islands include the Irving Islands, the Todd Islets, Matty Island, the Tennent Islands, and the Clarence Islands.

This group is in the Victoria Lowlands region which is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Remaining upland areas are largely devoid of vegetation. Elevations lie predominantly below 100 m asl.

6.0 THE USERS

Inuit are the traditional and current users of Peary caribou. The communities of Resolute Bay and Grise Ford were established in the early 1950's by the Canadian government as part of an arctic sovereignty program. Inuit that were relocated to these communities relied on the availability of Peary caribou as a food source. This reliance continues today. Arctic Bay is also an occasional user in the Qikiqtaaluk region. In the Kitikmeot region, the communities of Cambridge Bay, Taloyaok, Gjoa Haven, and Kugaaruk are also occasional users of Peary caribou; when Peary caribou are available they are taken opportunistically by harvesters from these communities.

7.0 STATUS OF THE ISLAND GROUPS

7.1 SURVEY HISTORY

In 1961 the first comprehensive survey of Peary caribou done in a single season across the Queen Elizabeth Islands was completed. During this survey approximately 25,845 Peary caribou were estimated. The majority of caribou (approximately 94%) were located in the western Queen Elizabeth Islands (QEI) (Bathurst Island Complex, Cornwallis, Melville, Prince Patrick, Eglinton, Emerald, Borden, Mackenzie King, and Brock). Survey coverage of some island groups, particularly Ellesmere, was minimal.

The first population estimates for the western Arctic islands included a 1972 estimate of 11,000 Peary caribou on Banks Island, a 1974 estimate of 5,515 Peary caribou on the eastern islands of Prince of Wales and Somerset Islands and 561 Peary caribou on the Boothia Peninsula in 1974, and a 1980 estimate of 4512 Peary caribou on northwestern Victoria Island. Combined with the 1961 QEI estimate, these estimates of abundance reveal a historic number of 48,000 Peary caribou throughout their entire range.

The decline of Peary caribou is characterized by four major die-offs which were observed primarily in the western Queen Elizabeth Islands between 1970 and 1998. Die-off events have been associated with deep snow and icing, which can limit access to forage, increase energy requirements, and lead to extreme under-nutrition and death. Observations by local Inuit are in agreement, reporting up to 2 inches of ice in some years.

Although limited, the data suggests that periods of decline and recovery vary among island groups, and a variety of factors such as human activities, landscape changes, predation, hunting, and competition with other herbivores may also contribute to the fluctuation of caribou. Inuit in Resolute Bay and Grise Fiord have identified exploration activities (i.e. oil and gas, coal and base minerals) as an additional stressor for caribou during some winters. They suggest that during years of high snow accumulation, industrial activities can prevent caribou from moving into areas that may be vital for their survival.

7.2 STATUS OF ISLAND GROUPS

7.2.1 Ellesmere Island Group

Results from the first aerial survey in 1961 suggested that there were approximately 200 caribou on Ellesmere Island, but only a small portion of the island was studied. The most recent survey (2005 and 2006) for Ellesmere Island revealed extremely low densities of 8-9 caribou/1000 km² for Peary caribou, which implies approximately 1,000 animals. Unfortunately surveys of Ellesmere Island are infrequent and limited in their spatial coverage making the determination of a trend in number impossible in this group. By 2003, Inuit reported that numbers of caribou on southern Ellesmere were increasing.

7.2.2 Axel Heiberg Island Group

The 1961 estimate of about 300 caribou on the island was based on limited survey coverage. No other surveys of the island have occurred since that time until 2007. The last survey results show a higher number of caribou than the only previous description of caribou abundance for Axel Heiberg Island. Lack of data and this 50-year gap in monitoring make it impossible to discuss population status or trends for Peary caribou on Axel Heiberg Island.

The Axel Heiberg Group currently supports the largest population of Peary caribou in Nunavut, with an estimated 2,291 animals based on 2007 survey results. This population accounts for a significant portion of the total estimated Peary caribou population within the Nunavut range. This may be a consequence of the local climate, plant biomass and diversity of vegetation, the varied topography, and isolation from human disturbance.

7.2.3 Ringnes Island Group

The 2007 survey of the Ringnes Island Group estimated a total of 654 caribou. Survey results suggest that caribou abundance is lower than the historical value of 1,324 in summer 1961. Overall it is difficult to interpret trends or fluctuation within this Island Group as survey information is limited, typical seasonal movement patterns are unknown, and the only two surveys completed have occurred at different times of year. Nonetheless, the overall proportion of calves (14%) observed in 2007 is encouraging given the extreme northern latitude and the small calf crops recorded for other survey areas.

7.2.4 Devon Island Group

The few surveys conducted suggest that Devon Island supports only a low number of Peary caribou. During a full island survey completed in 1961, 150 Peary caribou were estimated. Minimum counts for western Devon Island in 2002 suggested that caribou

numbers were low. In 2008, the count remained low with 17 Peary caribou. Thus, it appears that Peary caribou have existed at low numbers in the Devon Island group, although numbers are decreasing from previous estimates or counts which indicate a declining trend.

Movement patterns for caribou on Devon Island are not well understood and it is possible that there were caribou in other areas of the island at the time surveys were conducted. Inuit knowledge indicates that there have been caribou on the northeastern coast of Devon Island, on the Grinnell Peninsula, and that they can reliably be found along the western coast of the island.

7.2.5 Bathurst Island Group

The 2013 survey showed a significant increase in Peary caribou numbers, more than 1200 caribou, over the previous 2001 estimate of 187, however it is still low in relation to historical values of over 3,000 individuals (including calves) in both 1961 and 1994. Although evaluation of trends in abundance is complicated by differences in survey design and the inclusion or exclusion of calves, the overall trend of decline and current recovery is apparent.

This group has seen sharp fluctuations in 1973-74, and again in 1995-1997. The first two surveys of the Bathurst Island Complex (BIC, which consists of Bathurst, Vanier, Cameron Alexander, Massey, and Marc islands) were separated by 12 years (1961-1973) and revealed an 83% reduction in this caribou population from 3,565 to 608 (both estimates including calves). Late winter and summer surveys in 1973 and 1974 respectively identified a further reduction in caribou numbers to 228 (no calves were observed). This additional 62% decline was attributed to deep snow cover and icing, which caused widespread mortality and resulted in little or no reproductive success. Subsequent surveys from 1985 to 1994 indicated an increase and by 1994 Peary caribou were estimated at 3,100 on the BIC. Aerial surveys in 1995, 1996, and 1997 revealed a second die-off with an all-time low estimate of 78 caribou in 1997. Based on carcass counts, it was estimated that 85% of the overall decline was directly related to caribou mortality (and not movement). During the survey in 2001, the number of caribou in this group was estimated at 187.

Since that time Inuit have reported a slow increase in Peary caribou numbers. In 2010, Parks Canada conducted a reconnaissance survey on Bathurst Island and counted 300 Peary caribou in a non-systematic survey with no estimate derived. An aerial survey was conducted of the entire Bathurst Island group in May 2013 which generated a preliminary updated estimate of 1300 caribou which corresponds to Inuit observation of recovery since 2001.

For the Cornwallis Islands the only observation of live caribou in the 2001 survey was on northwest Cornwallis Island. Two caribou were seen on southern Cornwallis Island, and another single caribou on Little Cornwallis Island during the 2013 survey, but occasional tracks and local knowledge also suggest densities remain very low. Previous estimates that include both Cornwallis Island and Little Cornwallis Island are limited to the summer 1961 and 1988, when 43 and 51 caribou (with calves) were estimated respectively. Earlier surveys of Little Cornwallis in 1973 and 1974, produced estimates of 8 and 12 caribou, respectively, with no calves observed. By the mid- to late 1960s, Inuit reported that it was difficult to find caribou on this island and that none were observed from 1990 to 2003. These observations are consistent with ground and aerial survey results from 2002.

7.2.6 Prince of Wales Island Group

Peary caribou in this Group declined from an estimated 5,682 caribou (one year or older) in 1974 to a minimum count of two in 1996. Current scientific knowledge indicates that there has been little recovery since 1996. During the 2004 aerial survey, no Peary caribou were observed on the Prince of Wales Island Group. These results are consistent with ground surveys of Prince of Wales Island in 2004 and Somerset Island in 2005, in which crews reported only four caribou after traveling a distance of 4,831 km. Local knowledge however, indicates that there has been some return or increase in recent years as they see more caribou on the coast of Prince of Wales Island however there is presently no monitoring in place to help determine if the herd is recovering.

7.2.7 Boothia Peninsula Group.

Boothia Peninsula has had aerial surveys from 1961 to 1995. During this time some surveys have counted both Peary and Barren ground caribou together and others have counted them separately so extrapolation of trend is difficult. Regardless, local knowledge indicates that Peary caribou numbers have always been relatively low with some fluctuation over periods of decades. Peary caribou have been seen primarily north of Taloyoak and less frequently north of Kugaaruk and at the north end of the Simpson Peninsula. Peary caribou are known to have used Lady Parry Island.

Hunters in Taloyoak harvest Peary caribou opportunistically with a couple taken every year. Historically more Peary caribou were taken in the 1960's and 1970's when they were more abundant. In Kugaaruk, harvest is also opportunistic with only a caribou harvested every few years. There is currently no system in place to report the Peary caribou harvested at these locations and thus monitor harvest rate.

7.2.8 Victoria Island Group.

Both Victoria Island and Melville Island have a long history of aerial surveys. Peary caribou have been more consistently observed, and at higher numbers on Melville

Island with a high of over 10,000 adults in 1961 and a low of 700 in 1972. A recent survey of Melville Island conducted by the Government of Northwest Territories (GNWT) has produced a new estimate of 2,990 adults in 2012 which suggests a recovery from the 1972 low. No harvest currently occurs in the Nunavut portion of Melville Island.

Local and scientific knowledge indicates that Victoria Island has consistently supported Peary caribou at low numbers. IQ also indicates that the distribution for Peary caribou in the Nunavut portion is largely in the north-east near Hadley Bay. The known high was 4,500 (including calves) in 1980 with a known low of 20 adults in 1993. The most recent estimate conducted by GNWT was 150 adults in 2010. Peary caribou are harvested by Inuit from Cambridge Bay opportunistically, usually in conjunction with polar bear hunters travelling to Hadley Bay. Harvest is low with only a few Peary caribou every few years although their harvest is not monitored. Caribou harvest is targeted to Dolphin and Union caribou which are typically closer to the community. Local preference even when Peary caribou are mixed with Dolphin-Union caribou is to harvest the latter.

7.2.9 King William Island Group

This group has little scientific data and most recent data indicates that this area lies outside the normal range of Peary caribou. Local knowledge indicates that Peary caribou occasionally move from Boothia Peninsula to the north coast of King William Island. Local knowledge suggests that here may also be mixing with Dolphin and Union caribou that migrate from Victoria Island.

8.0 MONITORING

The number of Peary caribou per Island Group shows fluctuation over time, with periods of abundance and periods of scarcity. Caribou are also known to move over time in response to environmental conditions. Monitoring programs collect information about changes in number, distribution, and changes in ecological factors that affect caribou numbers and health. It is important to involve both scientists and community harvesters in monitoring efforts. This plan seeks to ensure that both science and IQ are effectively collected and used for research and decision making.

The effects of individual factors, such as weather or human disturbance, can affect caribou both individually and at the Island Group level. These factors however can work in combination such that the total or cumulative effects may be greater than that which occurs from each factor on its own. These impacts may be either positive or negative.

8.1 MAIN CRITERIA FOR ASSESSING ISLAND GROUP STATUS

The main pieces of information on which management actions will be based include:

- Population size

- Recruitment
- Bull-to-cow ratio
- Body condition and health
- Harvest levels
- Number trend by management units

8.1.1 ISLAND GROUP STATUS

The main factor to assess island group status, and the key consideration when recommending the sustainable harvest level for any given island group, is the estimated number of animals in the Island Group. The current baseline survey completed by GN DoE was conducted with aerial distance sampling. Although effective and accurate for determining the number of Peary caribou in an Island Group, this method is costly. Aerial surveys will continue as required. However the implementation of a community-based monitoring program involving ground surveys can be conducted in predetermined areas, such as traditional hunting areas or areas where caribou are normally seen but absent, and provide data to help inform decision making in the interim between aerial surveys.

8.1.2 RECRUITMENT

Recruitment refers to the number of calves that survive to one-year of age. Calf/cow ratios are used as a measure of recruitment. Herd composition observed during community-based ground surveys and/or aerial surveys will be useful for determining the cow/calf ratio.

These ratios, while informative, are often difficult to interpret as they are influenced by various factors such as changes in cow mortality. Typically, recruitment rates are low before the number of animals begins to decline, whereas high recruitment rates, particularly several years in a row, may indicate an increase in herd size.

8.1.3 BULL-TO-COW RATIO

Caribou bulls can mate with many females within the same season. It is important to monitor the bull-to-cow ratio to help determine if there are enough bulls to impregnate cows. Monitoring herd structure can be done during the rut both by aerial surveys and ground based surveys, by scientists or harvesters, who can provide information on the number of bulls observed in relation to the number of cows.

8.1.4 BODY CONDITION AND HEALTH

The health and condition of individual caribou can affect productivity and survival of calves and adults. Sample kits are provided to harvesters to measure or collect: pregnancy (presence of fetus), back fat thickness, left kidney with the fat to assess contaminant levels and condition, blood samples to assess disease, body condition

score, collection of lower front teeth for age determination, and location, date and sex of the animal harvested. When a sample kit is not provided, harvesters typically have a general overview of the condition of caribou. Body condition information collected by community members, harvesters and scientists provides supporting evidence of health.

8.1.5 HARVEST

Long term monitoring of harvest levels is very important for management decisions, and to help determine sustainable harvest rates. However, there is currently no obligation to report harvest of Peary caribou in the communities. Establishing a harvest monitoring program is a priority and fundamental to the overall monitoring of caribou. Harvest reporting is also a means of participation in management by the users at the individual level.

8.1.6 ISLAND GROUP TREND AND RATE OF CHANGE

The trend or the rate of increase or decrease is also a key indicator of island group status. Trend can be determined by comparing island group estimates over many years. When a population estimate is not possible, we can look at other data to help determine the trend, such as recruitment, body condition and health, harvest levels, and bull-cow ratio. Beyond the scope of scientific studies, information on the changes in abundance, movement, and distribution of caribou on an Island Group can be provided by Inuit Qaujimaqatuqangit.

8.2 ADDITIONAL CRITERIA FOR ASSESSING ISLAND GROUP STATUS

In addition to information on caribou such as population size and cow/calf ratios, there is important information about habitat and land use that should be considered. This can include habitat quality and quantity, predation, and human disturbance that may limit caribou access to parts of their range. Co-management partners can support long-term research and monitoring of these factors that will allow provide greater information for decision making and more effective review into land use permitting processes.

8.2.1 PREDATORS

Predators affect caribou behaviour and mortality. Predator numbers tend to decline as caribou decline but usually there is a delay of one or two years. If other prey species are available, predator numbers may not decline at all. When caribou numbers begin to decrease, the impact of predation may become proportionately greater. Caribou users have requested increased monitoring of predator populations, measurement of predation and the impact of predation on the populations.

8.2.2 ENVIRONMENT AND HABITAT

Better understanding of cumulative effects at the ecosystem level can be obtained through long term research on habitat quality and quantity and impacts of human

activities. Co management partners can continue to call for and support such long-term research and monitoring. With improved understanding there is a better opportunity to use regulatory management tools to limit disturbance on caribou.

Community workshops held in Grise Fiord and Resolute indicate that a combination of heavy snow and increased oil exploration and activity (particularly Bent Horn) in the early 1970s created a combined effect that may have impacted caribou more than either would have on their own. Caribou can move in response to changes in local environmental conditions such as increased snow or severe ice events. However at this time the increased activities on the land, including seismic activity, may have disrupted this ability to move. It was this combination of weather and human activity that caused die-offs during this period. This information highlights the importance of improving our understanding of cumulative effects and collection and use of local knowledge.

Some steps to assess habitat conditions for each island group are:

- Develop and monitor key habitat indicators of quality and quantity using remote sensing and ground surveys;
- Monitor trends in climate and weather; and
- Define seasonal and occasional movement patterns.

8.2.3 HUMAN DISTURBANCE

Disturbance of caribou from human activities such as aircraft over-flights and resource development can influence caribou behaviour and energy use, which in turn can affect condition and health. Indirect effects can also include a reduction in quality and quantity of habitat or access to quality habitat. Particularly when caribou numbers are low, human activities have the potential to alter the rate and extent of the decline or length of time it takes the population to recover.

The range of Peary caribou extends over lands that are protected from development and lands where exploration is occurring. Concern about the impacts of non-renewable resource development has increased as changing ice and weather patterns encourage a renewed surge in exploration and potential resource development.

9.0 TOOLS FOR DECISION MAKING

9.1 HOW CARIBOU POPULATIONS CYCLE OVER TIME

Inuit Qaujimajatuqangit and scientific knowledge agree that caribou populations rise and fall over time. The length of the phases varies, particularly the length of time that a population stays at a low level. Scientific evidence, the journals of missionaries and trading post managers, and IQ all suggest that caribou populations go through cycles 30-60 years long. The causes for these population cycles in caribou are not well

understood, but likely result from several factors such as habitat quality and quantity, climate, and disease. In addition to population cycling, caribou can also move over time.

Although Peary caribou have existed at higher levels than today, they have never existed at numbers such as the large barren ground herds found to the south. The climate and topography of their range favours smaller groups dispersed over the landscape. These groups move with weather and food availability and are more susceptible to extreme weather events which can cause large die offs.

9.2 WHEN TO TAKE ACTION

Actions to ensure the future of Peary caribou will be determined in part by the number of Peary caribou found in each island group, and whether it is increasing or decreasing. Management decisions will also be influenced by other information from harvesters and research and monitoring programs, such as recruitment, bull-to-cow ratio, body condition and health.

In this management plan there are four levels of island group status and associated management actions. These are colour-coded green, yellow, orange, and red. The island group status provides a trigger for specific management actions.

| | |
|----------------|------------------------------------|
| Green: | The population level is high |
| Yellow: | The population level is increasing |
| Orange: | The population level is decreasing |
| Red: | The population level is low |

9.3 USING MONITORING INFORMATION TO MAKE DECISIONS

Accurate and timely information is necessary for making good management decisions. Because the island groups are shared between communities and regions, it is also important that information is collected and shared by all harvesters and managers.

Island group status (e.g. green, yellow, orange or red) will be determined based on information including:

- Estimate of the overall population size of the island group
- Previous estimates to provide a trend (increasing, decreasing, or stable)
- Additional monitoring indicators such as ground based surveys to supplement the interpretation.

It is important to have up-to-date information so ensuring sufficient frequency of research and monitoring effort is very important. Certain monitoring will take place regardless of whether the island group status is green, yellow, orange or red. However, the frequency and intensity of monitoring will vary in response to island group status.

Long-term monitoring of environmental factors, including range quality and quantity, development activity and trends, and disturbances that influence caribou populations are important in understanding changes in caribou health and abundance.

Some of these indicators of population status can be difficult or expensive to measure. In these cases there may be some information available through long-term research programs or methodical collection of IQ. All of this information will be considered by the co management partners.

Working with all stakeholders an ongoing community based ground survey program will be established with the appropriate financial and technical support. This would occur, due to the spatial scale, on a rotating basis so that areas will be monitored at least every two or three years, unless observations of decline trigger more intensive efforts. The ground based surveys will be primarily in areas where regular community harvest occurs. Surveys should be followed with an annual meeting of stakeholders to review the results and recommend management changes if required.

Further changes observed from community monitoring programs (observations of die offs, starvation, population increase or decrease) can trigger:

- 1) Aerial surveys if declines are considered significant,
- 2) Increased frequency and coverage of community ground survey if declines are considered less significant but still of concern,
- 3) Community-based changes in harvest level that would occur within a predetermined upper and lower limit.

9.4 WHAT MANAGEMENT ACTIONS CAN WE TAKE

The NWMB has the responsibility for decision making as the primary instrument of wildlife management under the NLCA. Regional Wildlife Organizations (RWOs) have the authority to allocate harvest among their member HTOs, and in turn the HTOs can regulate their harvesters and allocate their share of a Total Allowable Harvest (TAH). Through regular annual meetings of the stakeholders, consensus on recommended actions can be reached and submitted to the NWMB for decision. Further, HTOs can make decisions to regulate local harvest through seasons, sex selectivity, area restriction, or reduction. These consensus-based recommendations can also be made to government and land use agencies following the general management actions described below.

9.4.1 HARVEST

As an Endangered species under SARA, Peary caribou are automatically protected from harvest, with the exception of Inuit harvest which would require a decision by the NWMB. Any decision of the NWMB should be informed by the consensus based recommendations of the co management partners developed through annual stakeholder meetings or as recommended in this plan. Recommendations can also take the form of harvest composition (e.g. sex selective) or seasonal restrictions or other Non-Quota Limitations (NQLs).

9.4.2 LAND USE ACTIVITIES

Increasing land use activity demands that meaningful input and review be provided into the various permitting process in Nunavut, whether it be the Nunavut Impact Review Board (NIRB), Nunavut Water Board (NWB), or the Nunavut Planning Commission (NPC) land use plan. Effort should be made to ensure capacity is available within all co management agencies to ensure effective participation. The community-based ground surveys will gather valuable information for both HTOs and DOE to effectively participate in these permitting processes. Co management partners can continue to recommend actions to help reduce the negative impacts of exploration and development on caribou. Advice can be given to avoid important caribou seasonal ranges like calving grounds, and how to mitigate disturbance from noise and access.

9.4.3 COMMUNICATION AND EDUCATION

Co management partners can work together to provide active and accessible communication programs, and recommend education programs. This can include different programs and approaches for elders, harvesters and youth to encourage traditional harvesting practices, use of alternate species and increased trade and barter of traditional foods. It can also include work with members of industry including resource developers.

9.4.4 HABITAT

Co management partners can continue to encourage and support increased research and monitoring related to seasonal range use, key habitat indicators, trends in climate and weather, and delineation of calving grounds.

9.5 MANAGEMENT ACTIONS BASED ON STATUS

The type of management action and the degree of management intervention will vary depending on the status of each island group. There are four levels of island group status which are colour-coded green, yellow, orange, and red. The island group status will trigger specific management actions or a change in the frequency of action, as described below:

Green: the population level is high

Management actions include:

- Support harvest
- Provide standard advice on mitigation of the impacts of exploration and development activities to proponents and regulators
- Provide active and accessible communication, and recommend education programs for all

Yellow: the population level is increasing

Management actions include:

- Recommend easing limits on harvest
- Provide standard advice on mitigation of industrial impacts to proponents and regulators
- Provide active and accessible communication and recommend education programs for all

Orange: the population level is decreasing

Management actions include:

- Recommend a TAH
- Recommend a majority-bulls harvest
- Recommend harvest of alternate species and encourage increased trade and barter of traditional foods
- Recommend increased community monitoring
- Provide active and accessible communication and recommend education programs for all

Red: the population level is low

Management Actions include:

- Recommend no harvest
- Work directly with proponents and regulators of exploration and development activities to advise on mitigation measures
- Recommend harvest of alternate species and meat replacement programs, and encourage increased trade and barter of traditional foods.
- Recommend increased enforcement including increased use of community monitors.
- Provide active and accessible communication and recommend education programs for all.

9.6 PROCESS TO MAKE DECISIONS

The co management partners shall meet annually to discuss results of all recent research and monitoring efforts which may include harvest reporting, caribou health monitoring, and ground or aerial surveys. The purpose of this annual meeting is to review information and reach consensus-based recommendations, if required, for

submission to the NWMB. Action may also be taken at the local level by HTOs based on the information reviewed.

9.6.1 GUIDING DOCUMENTS: ACTION PLAN

This Management Plan is supported by an Action Plan which outlines the management actions to be taken and how they will be implemented. Based in large part on the island group status, the Action Plan will outline specific management actions and how they will be implemented, by whom, and within what timeframe. Funding for the management action will be discussed by the co management partners. A third document, the GN DoE report "*Recent trends and abundance of Peary Caribou (*Rangifer tarandus pearyi*) and Muskoxen (*Ovibos moschatus*) in the Canadian Arctic Archipelago, Nunavut,*" will provide the technical baseline for decision making. Inuit Qaujimagatuqangit will be provided by the participating HTOs in the Stakeholder Working Group (See Appendix B). New information will be reviewed as it becomes available ensuring decisions are based on the most up to date scientific and local knowledge.

Implementation of the Action Plan is cooperative, and ongoing community input and support will help to develop and implement management actions. Each co management partner will be responsible for approving the Action Plan for its implementation. The effectiveness of the Action Plan will be reviewed annually.

9.6.2 STAKHOLDER MEETINGS

Stakeholders will meet annually after survey work has been completed and annual data summarized to review all new information and implementation of the Action Plan. It will be presented with the best available IQ and scientific knowledge and community based monitoring information. The Action Plan will be reviewed, and possibly updated, at the same time that the stakeholders review the current status of the Island Groups. Although normally revised only following an aerial survey, an Island Group's status or Action Plan may be revised more frequently if, for example, there has been some extreme change observed through community-based ground surveys.

9.6.3 ALLOCATION OF HARVEST

If a Total Allowable Harvest (TAH) is recommended it shall be determined and allocated in accordance with processes described in the NLCA.

10.0 COMMUNICATION BETWEEN STAKEHOLDERS AND WITH USERS

Communication is the responsibility of all parties engaged in wildlife management. Knowledge must flow both ways - between local knowledge holders and management agencies. There will be varied communication and education techniques used depending on the message and the intended audience. They may include local radio

programs, visits to schools, posters or presentations, public meetings, and on-the-land gatherings.

Stakeholders will meet on an annual basis to discuss survey results and island group status and to take appropriate actions when needed. Further details on the annual meeting will be provided in the Action Plan.

The information communicated to the public will include island group status; any voluntary or management limits on harvesting; what is being monitored and why; the results of the monitoring programs; why harvesting mostly bulls rather than cows may be preferable; and education of youth in traditional hunting practices.

11.0 UPDATING THE MANAGEMENT PLAN

The Plan will first be reviewed after seven years (i.e. 2020) and at ten-year intervals thereafter. Any party may request a review, at any time, through a letter to the other signatories.

12.0 SIGNATORIES TO THE PLAN

Iviq Hunters and Trappers Association

Resolute Bay Hunters and Trappers Association

Ikajutit Hunters and Trappers Organization

Spence Bay Hunters and Trappers Organization

Ekaluktutiak Hunters and Trappers Organization

Kurairojuark Hunters and Trappers Organization

Gjoa Haven Hunters and Trappers Organization

Nunavut Tunngavik Inc., Wildlife Department

Qikiqtaaluk Wildlife Board

Kitikmeot Hunters and Trappers Association

Nunavut Department of Environment, Wildlife Management Division

APPENDIX B

Recommended stakeholder working group for annual meetings

The stakeholder working group consists of the Chairpersons (and/or their alternates) of:

Iviq Hunters and Trappers Association

Resolute Bay Hunters and Trappers Association

Ikajutit Hunters and Trappers Organization

Spence Bay Hunters and Trappers Organization

Ekaluktutiak Hunters and Trappers Organization

Kurairojuark Hunters and Trappers Organization

Gjoa Haven Hunters and Trappers Organization

Qikiktaalik Wildlife Board

Kitikmeot Hunters and Trappers Association

And staff from the:

- Nunavut Wildlife Management Board
- Nunavut Tunngavik Inc.
- GN DoE, Regional Biologists and Regional Managers

Additional experts, either scientists or qaujimanilik, will be invited as required for support.

RECOMMENDATIONS AND TOTAL ALLOWABLE HARVEST BY ISLAND GROUP

General Recommendations

It is recommended to establish management units based on the proposed nine Island Groups. This includes six as presented in “*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*”, and three additional management units in the Kitikmeot region. This will facilitate future collection of consistent data for comparison and management decisions. However there is a need for provisions within the management plans to allow for finer scale management in response to changes in Peary caribou numbers, such as those observed through community observations or by additional survey work where warranted. In particular, the HTOs should control local harvesting within an agreed upon herd size, thus allowing for management at the community level.

Working with all stakeholders, an ongoing community-based ground survey program should be established with the appropriate financial and technical support. This would occur, due to the spatial scale, on a rotating basis so that areas will be monitored at least every two or three years, unless observations of decline trigger more intensive efforts. The ground based surveys would be primarily in areas other than where regular community harvest occurs as normal harvest areas will be monitored through harvest reporting. Surveys should be followed with an annual meeting of stakeholders to review the results and recommend management changes where required.

Observed changes from the community monitoring program (observations of die-offs, starvation, population increase or decrease) would trigger:

- 1) Potential aerial surveys if declines are considered significant,
- 2) Increased frequency and coverage of community ground survey if declines are considered less significant but still noteworthy,
- 3) Community based changes in harvest level that would occur within a predetermined upper and lower limit.

Predominately all island groups have declined and remain at low density with the exception of Bathurst and Melville, which are both showing signs of recovery. Caution must be exercised to prevent local extirpations. As harvest restrictions may only be to the level to address a valid conservation concern, there is currently a strong argument to maintain harvest restrictions for several island groups.

Harvest restrictions must allow communities to have input and control over how harvest will be allocated by allowing flexibility for HTO's to respond to changes in Peary caribou numbers that they observe and monitor through community-based ground surveys. These surveys may trigger more extensive ground or aerial surveys in the case of observed declines. An annual survey/meeting structure will allow for management action at the community level to occur in a timely and responsive manner.

Harvest reporting and sample collection is critical information for management. Each harvest should be reported through a hunter report. Information collected on the reports should include date, location (Latitude and Longitude), hunters name, tag number, sex, approximate age, and size of group harvested from. A Peary caribou health monitoring program should be established and sample kits provided to the hunters. The information provided will further our understanding of survival rates, diet, health, and space use. There is also a need to identify population boundaries to better manage Peary caribou.

With the current low numbers of Peary caribou in some of the island groups it is suggested to consider male sex selective harvests to help conserve females in the effort to reduce impacts and promote potential recovery.

Specific Island group TAH recommendations

Ellesmere Island Group (PC-01)

It is recommended to maintain existing harvest levels with a TAH of 45- 50 (allowing community to adjust as required within that amount). This harvest rate may impact caribou on south Ellesmere negatively; to alleviate this effect there should be encouragement and support to increase harvest on north Ellesmere. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Axel Heiburg Group (PC-02)

No harvest occurs here and the population is abundant, therefore no TAH is required. Should harvest start to occur here, as determined through harvest reporting, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Ringnes Islands Group (PC-03)

No harvesting occurs here, therefore no TAH is required. Should harvest start to occur here, as determined through harvest reporting, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Devon Island Group (PC-04)

With only 17 animals observed in 2008 and no abundance estimate, this group should be under a moratorium until such time as an increase is observed through community-based ground surveys. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Bathurst Island Group (PC-05)

Managing for recovery, a conservative TAH based on the preliminary results of the 2013 estimate of 1200 caribou would be 36 caribou (a 3% harvest rate). Although scientific knowledge and local knowledge agree that there is recovery in this group caution is warranted in order to not jeopardize that recovery. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Prince of Wales Group (PC-06)

With too few caribou to support harvesting at current numbers, this group should be under a moratorium until such time as an increase is observed through community based monitoring. Survey frequency should be increase to monitor sign of recovery. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Victoria Island Group (PC-07)

As there is no targeted harvest in the area and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current rate of sporadic opportunistic harvest the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Boothia Peninsula Group (PC-08)

As there is no targeted harvest in the area, and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current occasional harvest, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

King William Island Group (PC-10)

As there is no targeted harvest in the area and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current rate of

sporadic opportunistic harvest, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Management Plan for Peary Caribou in Nunavut 2014 – 2020

Prepared in collaboration with

The Hunter and Trappers Organizations of Grise Fiord, Resolute Bay, Arctic Bay, Cambridge Bay, Gjoa Haven, Taloyoak, Kugaaruk, GN Department of Environment, Nunavut Tunngavik Inc., and the Nunavut Wildlife Management Board

Third Draft, January 2014

Note:

This draft is based upon the format and language used in the document “*Taking Care of Caribou -The Cape Bathurst, Bluenose West, and Bluenose East Barren Ground Caribou Herds Management Plan*” developed by the stakeholders and Terriplan Consultants and submitted to the Advisory Committee for the Cooperation on Wildlife Management. The majority of technical information is derived from the GN DoE report “*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*”. The information contained herein is an amalgamation of both documents and the work in both those documents represents the talent, skill and considerable efforts of those involved respectively.

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1.0 Summary

Peary caribou (*Rangifer tarandus pearyi*) are a distinct caribou subspecies that occurs almost entirely on islands within the Canadian Arctic Archipelago. These ungulates live the farthest north of all caribou in North America, and are the smallest in stature and in population size. In February 2011 Peary caribou were listed as Endangered under the *Species at Risk Act* (SARA) due to declines in abundance and expected unpredictable declines due to changes in long-term weather patterns.

Caribou are of major cultural, traditional and economic importance to Inuit, and are also a vital part of the Arctic ecosystem. Nunavummiut are concerned about the status of Peary caribou and their habitat as determined through public workshops in Grise Fiord and Resolute Bay. Peary caribou harvest in Nunavut has not been restricted through legislation; rather the Resolute Bay Hunters and Trappers Association (HTA) and the Iviq HTA of Grise Fiord have imposed temporary harvest restrictions on their members during periods of marked declines. Inuit knowledge however suggests that increasing land-use activity, such as resource exploration, poses a greater potential threat to Peary caribou and their habitat than hunting pressure.

The Department of Environment of the Government of Nunavut (GN DoE) has the ultimate responsibility for the management and conservation of Peary caribou within its jurisdiction. To address the DoE mandate for management this plan recommends management units and harvest levels to establish the basis of new regulations under the *Wildlife Act* as well as recommendations for ongoing monitoring of population trends and harvest through an inclusive approach with all co-management partners. This will include provisions for future monitoring and research, Inuit involvement in research, monitoring and decision making, and consensus based decision making in response to observed changes in population.

2.0 PURPOSE OF THE PLAN

The need for a management plan for Peary caribou is born out of several issues including Inuit harvest rights, territorial responsibility for species management, changes in land use needs, population declines, and changing climate. The long term Department of Environment study on Peary caribou "*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*" has produced the first modern, comprehensive assessment of the current status of Peary Caribou in Nunavut. With the completion of the DOE report, and the success of community workshops held in Grise Fiord and Resolute, the development of management plans is essential. The need for a plan is also connected to the survey results, which for some areas are becoming outdated, although the results remain valid as a baseline.

The Peary Caribou Management Plan provides a snapshot of current population estimates and trends for the species across its range and establishes overall principles and goals for the conservation of Peary caribou in Nunavut. It highlights the critical need for co management partners to work together, defines roles of stakeholders, and provides a framework to guide management of the species throughout its range to accomplish the goals identified in Section 4.0.

The GN DoE report “*Recent trends and abundance of Peary Caribou and Muskoxen in the Canadian Arctic Archipelago, Nunavut*” provides greater technical detail on the specific island groups and their status, both historical and current. The more recent GN report “Distribution and abundance of Peary caribou (*Rangifer tarandus pearyii*) and muskox (*Ovibos moschatus*) on the Bathurst Island Group, May 2013” provides additional information.

2.1 CO-MANAGEMENT

This plan was developed through cooperation and dialogue between co management partners in Nunavut including participation by:

Iviq Hunters and Trappers Association (Grise Fjord)
Resolute Bay Hunters and Trappers Association
Ikajutit Hunters and Trappers Organization (Arctic Bay)
Spence Bay Hunters and Trappers Organization (Taloyoak)
Ekaluktutiak Hunters and Trappers Organization (Cambridge Bay)
Kurairojuark Hunters and Trappers Organization (Kugaaruk)
Gjoa Haven Hunters and Trappers Organization
Nunavut Tunngavik Inc., Wildlife Department
Nunavut Department of Environment, Wildlife Management Division

3.0 HOW THE PLAN WAS DEVELOPED

The Plan was developed in collaboration with the communities that harvest Peary caribou as well as the other co management partners under the *Nunavut Land Claims Agreement* (NLCA). Two rounds of community workshops were conducted in 2010 and 2011 in Grise Fiord and Resolute Bay in addition to the ongoing exchange of information during the aerial and ground surveys.

The workshops were designed to:

- Share results of GN DoE research
- Gather local expert knowledge
- Seek consensus on management and monitoring actions

The initial draft was developed for further community and stakeholder involvement by GN DoE and consultations were conducted in March 2012 in the Qikiqtaalik Region and

March 2013 in the Kitikmeot Region. The final draft will be submitted to the NWMB for approval and will form the basis for development of Regulations under the *Wildlife Act*.

4.0 GOALS OF THE PLAN

The goals of the Management Plan are to provide guidance and direction to the co-management partners and are as follows:

- To manage Peary caribou in a co-operative manner that involves the full participation of communities and engagement of co management partners.
- To include Inuit Qaujimajatuqangit and scientific knowledge equally in the management process.
- To promote local and regional involvement in decision making.
- To protect, conserve and manage Peary caribou in a sustainable manner.
- To ensure the full and effective participation of Inuit and co management partners in ongoing monitoring and management of Peary caribou, and decision making.

4.1 INUIT QAUJIMAJATUQANGIT

Inuit Qaujimajatuqangit (IQ) is the knowledge and insight gained by Inuit through generations of living in close contact with nature. For Inuit, IQ is an inseparable part of their culture and includes rules and views that affect modern resource use.

The practical application of IQ with scientific information demonstrates the value of local consultations, and documenting and preserving IQ before it is lost. The communities, through the HTOs, will be consulted on an on-going basis to ensure that IQ is utilized in conjunction with scientific information in the management of Peary caribou.

This plan supports those values and reflects the following principles:

- Management decisions will reflect the wise and sustainable use of Peary caribou.
- Adequate habitat (quantity and quality) is fundamental to the welfare of Peary caribou.
- Management decisions will be based on the best available information - both science and IQ; and management actions will not be postponed in the absence of complete information, whether from science or IQ.
- Effective management requires participation, openness and cooperation among all users and agencies responsible for caribou and their habitat.
- We must anticipate and minimize negative impacts to caribou and their habitat.

5.0 PEARY CARIBOU BIOLOGY AND MANAGEMENT

Common name (English): Peary caribou

Common name (French): Caribou de Peary

Inuktitut name: Tuktu

Innuinaqtun name: Qinianaq or Tuktuinal ('small caribou')

Scientific Name: *Rangifer tarandus pearyi*

Status: SARA – Endangered
Wild Species 2010 – At Risk

5.1 PEARY CARIBOU RANGE

Endemic to Canada, the terrestrial range of Peary caribou is roughly 540,000 km² and extends across the Queen Elizabeth Islands in the north, the mid-Arctic islands and from the west of Banks Island to Somerset and the Boothia Peninsula in the southeast (Figure 1). Ice surrounds the islands for most of the year and caribou on some islands use the sea ice during seasonal migrations. The range is vast and the area is characterized by extreme weather, long periods of either continual darkness or continual light, and large expanses of ice, bare ground, and rock. The landscape is characterized by a polar desert and polar semi-desert where environmental conditions approach the physiological tolerance limits of plants.

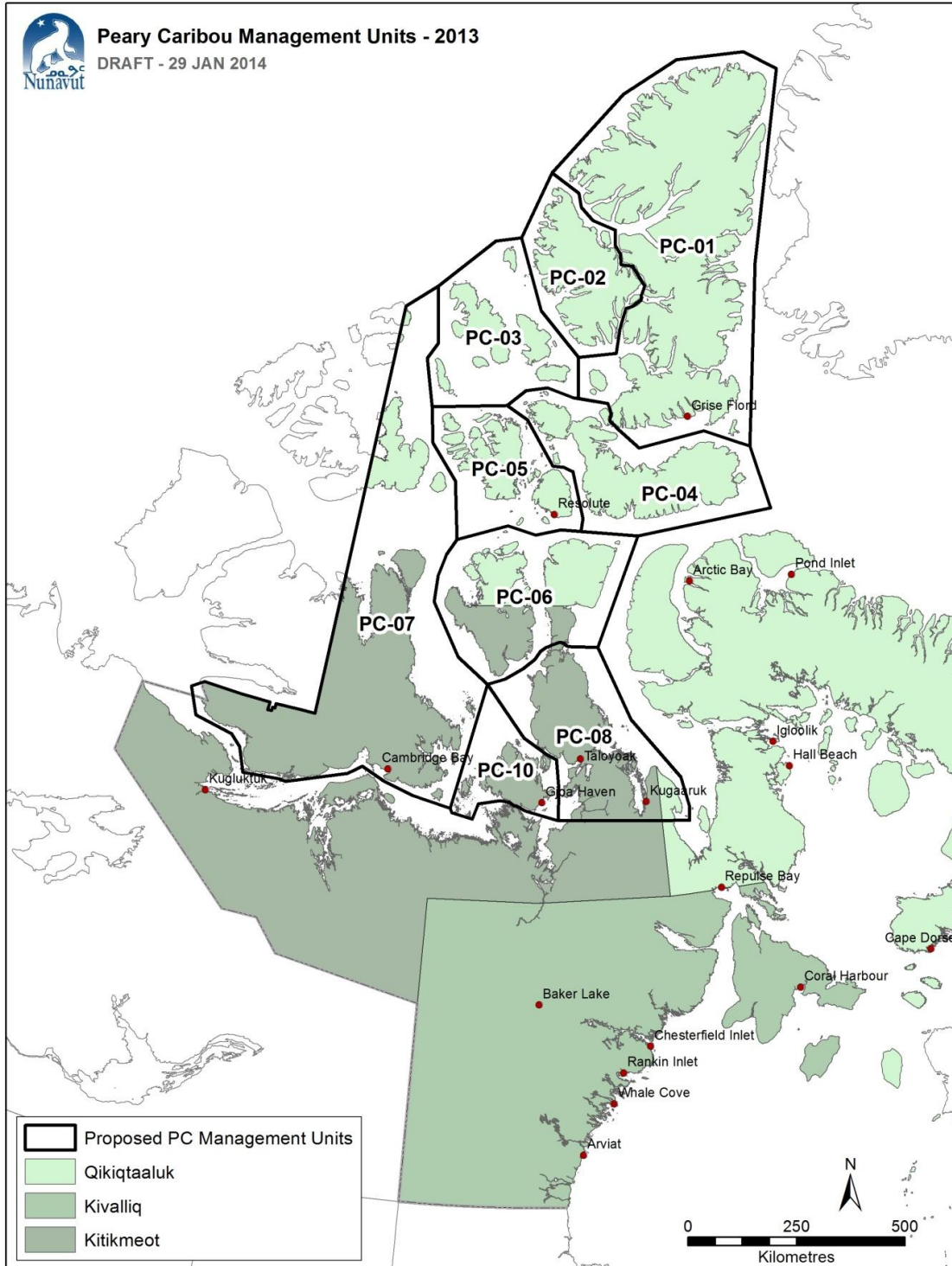
5.2 MANAGEMENT OF PEARY CARIBOU BY ISLAND GROUPS

The GN DoE report "*Recent trends and abundance of Peary Caribou and Muskoxen in the Canadian Arctic Archipelago, Nunavut,*" is the most reliable study of Peary caribou in Nunavut to date on which to base this management plan. This report provides the baseline for scientific knowledge of Peary caribou, as well as providing the estimates of numbers of Peary Caribou and specific habitat for management purposes.

As outlined in the report, Peary caribou make seasonal movements among islands within their range, and are also known to make longer distance movements in response to severe weather. The following proposed island grouping (Figure 1) applies the best available scientific information and Inuit knowledge about Peary caribou movement and proposes geographic units that are useful for management of the species. This plan refers to each management group by the 'Island Group' name. For the purpose of the management plan, it is important to note that the island group management units are not to be considered as discrete populations or sub-populations as adequate genetic information is not available to define populations at this time.

The Queen Elizabeth Islands (QEI) form the majority of the island groups, with the Bathurst Island group, the Axel Heiburg Island group, the Ringnes Island Group, the Ellesmere Island Group and the Devon Island Group being wholly within the QEI.

Figure 1. Proposed Peary Caribou Management Units



Melville Island for the purposes of this management plan is placed within the Victoria Island group.

5.2.1 Ellesmere Island Group (PC-01). Ellesmere Island is the largest of the Queen Elizabeth Islands (197,577 km²). The island is largely covered by mountain ranges and glaciers that are separated by a series of east-west passes. These features fragment the island, particularly where the north end of Vandom Fiord approaches the Prince of Wales Ice Cap, and divides the southern portion of the island from the north. Vegetation is sparse with mosses, lichens, and cold-hardy vascular plants such as sedges and cottongrass dominant at higher elevations while mosses and low-growing herbs and shrubs, such as purple saxifrage, *Dryas spp.*, arctic willow, kobresia, sedge, and arctic poppy more common at lower elevations.

5.2.2 Axel Heiberg Group (PC-02). Axel Heiberg Island (42,319 km²) is separated from Ellesmere Island by Nansen and Eureka Sound. This island is mountainous and includes the Princess Margaret Range, which runs north to south through its center. Large ice caps cover much of the landmass and spawn many glaciers that flow primarily to the west. East of the Princess Margaret Range, vegetation progresses from an herb-shrub transition zone at higher elevations to an enriched low shrub zone along the low-lying coast. There, plant species are diverse and dense, dominated by shrubs and sedge meadows.

5.2.3 Ringnes Island Group (PC-03). This island group consists of Ellef Ringnes, Amund Ringnes, Lougheed, King Christian, Cornwall, and Meighen Islands, all situated to the west of Axel Heiberg Island and north of the Bathurst Island Complex. Lougheed Island (1,321 km²) has vegetation described as entirely herbaceous with rich vegetation patches. Ellef Ringnes Island (11,428 km²) is sparsely vegetated with low plant diversity.

Amund Ringnes Island (5,299 km²) is relatively low lying but features greater relief in the north. Vegetation is entirely herbaceous with the southern half of the island supporting more diverse vegetation, primarily herbaceous plants with some shrubs and sedges. To the south of Amund Ringnes is Cornwall Island, a small hilly landmass also dominated by herbaceous vegetation. Meighen Island (approximately 933 km²), to the northeast of Amund Ringnes, is low-lying with sparse herbaceous vegetation and a large centrally located glacier. King Christian Island is located southwest of Ellef Ringnes, has an area of 647 km².

5.2.4 Devon Island Group (PC-04). Devon Island (55,534 km²; including small proximal islands) is characterized by several mountain ranges (e.g. Cunningham Mountains, Treuter Mountains, and the Douro Range), coastal lowlands, and extensive glaciers. The Devon Ice Cap covers a large portion of eastern Devon Island. Extensive uplands stretch west of the Ice Cap across central Devon Island. Low-lying areas occur in

coastal areas, primarily along the north and western coast (the Truelove lowlands), but also other smaller areas. The landscape is predominantly polar desert with sparse cover of vascular plants; however low lying areas support a greater diversity of vegetation dominated by low shrubs and sedges.

5.2.5 The Bathurst Island Group (PC-05). This group of islands includes the Bathurst Island Complex (BIC), and Cornwallis and Little Cornwallis Islands. The BIC (19,644 km²) includes Bathurst Island and five major satellite islands (> 200 km²; Cameron, Vanier, Alexander, Massey, and Helena), and three minor satellite islands. These islands are low-lying with few areas exceeding 300 m elevation. The terrain is sparsely vegetated however low-lying wetlands such as at Goodsir-Bracebridge Inlet have a higher cover of sedges and low-growing willows. Cornwallis and Little Cornwallis Islands (7,474 km² including small proximal islands) are low-lying with uplands and hills below 300 m and mostly polar desert with sparse vegetation. Portions of the western coastline and Eleanor Lake watershed (Cornwallis Island) support more diverse vegetation, including prostrate shrubs in moderately moist habitats, and sedges in the wet areas.

5.2.6 Prince of Wales/Somerset Island Group (PC-06). Prince of Wales (33,274 km²) is a tundra-covered island that features many small inland lakes. Although the island is generally below 300 m in elevation, some uplands occur along the eastern coast and across the north. Russell Island and Prescott Island are small proximal islands north and east of Prince of Wales, respectively. Somerset Island (24,548 km²), separated from Prince of Wales Island by Peel Sound, is hilly with extensive uplands.

5.2.7 Victoria Island Group (PC-07). This group includes Victoria Island (217,291 km²) and Melville Island (42,149 km²). Both of these islands have a shared border with the Northwest Territories. The eastern two thirds of Victoria Island lie in Nunavut along with roughly the eastern half of Melville Island. The majority of Victoria Island lies within the Victoria Lowlands is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Remaining upland areas are largely devoid of vegetation. Besides the presence of Mount Pelly and Little Pelly, elevations lie predominantly below 100 m asl. except in central Victoria Island where elevations rise up to over 200 m asl.

A small portion of Victoria Island, along the northwest boundary with NWT, is composed of the Shaler Mountains. The Shaler Mountains are characterized by a 40-60% vegetative cover mixed with exposed bedrock. Tundra vegetation includes purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. The centre part of the mountains reaches about 760 m asl.

Melville Island is predominately within the Parry Plateau. It has a sparse and discontinuous vegetative cover of moss, along with mixed low-growing herbs and shrubs such as purple saxifrage, *Dryas spp.*, arctic willow, kobresia, sedge, and arctic poppy. The terrain of this plateau is strongly ridged. Their elevations average less than 250 m asl. Separate, flat-floored, longitudinal valleys are transected by rugged, ravine-like cross valleys. On Melville Island, a few hills reach 760 m asl, and cliff-walled fjord-like bays and straits cut deeply into the uplifted plateau.

5.2.8 Boothia Peninsula (PC-08). Boothia Peninsula (32,331km²) is predominately covered by the Boothia Plateau uplands. Vegetation is discontinuous, and dominated by tundra species such as purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. It averages around 760 m asl. Bedrock outcroppings are common.

The eastern side of the Boothia Peninsula along the lowland coastal fringes of Boothia and Simpson peninsulas is composed of plains. It is characterized by discontinuous upland tundra vegetation, dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. The region slopes gently southward, ranging from sea level to about 300 m asl.

The south-western coastal portion of the Boothia Peninsula lies within the Victoria Lowlands which is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Elevations lie predominantly below 100 m asl.

5.2.9 King William Island Group (PC-10). King William Island (13,111 km²) is separated from the Boothia Peninsula by the James Ross Strait to the northeast, Rae Strait to the east, Victoria Strait to the west, and Simpson Strait to the south. Satellite islands include the Irving Islands, the Todd Islets, Matty Island, the Tennent Islands, and the Clarence Islands.

This group is in the Victoria Lowlands region which is characterized by a discontinuous upland vegetative cover dominated by purple saxifrage, other saxifrage *spp.*, *Dryas spp.*, arctic willow, alpine foxtail, and wood rush. Wet areas have a continuous cover of sedge, cottongrass, saxifrage *spp.*, and moss. Remaining upland areas are largely devoid of vegetation. Elevations lie predominantly below 100 m asl.

6.0 THE USERS

Inuit are the traditional and current users of Peary caribou. The communities of Resolute Bay and Grise Ford were established in the early 1950's by the Canadian government as part of an arctic sovereignty program. Inuit that were relocated to these communities relied on the availability of Peary caribou as a food source. This reliance continues today. Arctic Bay is also an occasional user in the Qikiqtaaluk region. In the Kitikmeot region, the communities of Cambridge Bay, Taloyaok, Gjoa Haven, and Kugaaruk are also occasional users of Peary caribou; when Peary caribou are available they are taken opportunistically by harvesters from these communities.

7.0 STATUS OF THE ISLAND GROUPS

7.1 SURVEY HISTORY

In 1961 the first comprehensive survey of Peary caribou done in a single season across the Queen Elizabeth Islands was completed. During this survey approximately 25,845 Peary caribou were estimated. The majority of caribou (approximately 94%) were located in the western Queen Elizabeth Islands (QEI) (Bathurst Island Complex, Cornwallis, Melville, Prince Patrick, Eglinton, Emerald, Borden, Mackenzie King, and Brock). Survey coverage of some island groups, particularly Ellesmere, was minimal.

The first population estimates for the western Arctic islands included a 1972 estimate of 11,000 Peary caribou on Banks Island, a 1974 estimate of 5,515 Peary caribou on the eastern islands of Prince of Wales and Somerset Islands and 561 Peary caribou on the Boothia Peninsula in 1974, and a 1980 estimate of 4512 Peary caribou on northwestern Victoria Island. Combined with the 1961 QEI estimate, these estimates of abundance reveal a historic number of 48,000 Peary caribou throughout their entire range.

The decline of Peary caribou is characterized by four major die-offs which were observed primarily in the western Queen Elizabeth Islands between 1970 and 1998. Die-off events have been associated with deep snow and icing, which can limit access to forage, increase energy requirements, and lead to extreme under-nutrition and death. Observations by local Inuit are in agreement, reporting up to 2 inches of ice in some years.

Although limited, the data suggests that periods of decline and recovery vary among island groups, and a variety of factors such as human activities, landscape changes, predation, hunting, and competition with other herbivores may also contribute to the fluctuation of caribou. Inuit in Resolute Bay and Grise Fiord have identified exploration activities (i.e. oil and gas, coal and base minerals) as an additional stressor for caribou during some winters. They suggest that during years of high snow accumulation, industrial activities can prevent caribou from moving into areas that may be vital for their survival.

7.2 STATUS OF ISLAND GROUPS

7.2.1 Ellesmere Island Group

Results from the first aerial survey in 1961 suggested that there were approximately 200 caribou on Ellesmere Island, but only a small portion of the island was studied. The most recent survey (2005 and 2006) for Ellesmere Island revealed extremely low densities of 8-9 caribou/1000 km² for Peary caribou, which implies approximately 1,000 animals. Unfortunately surveys of Ellesmere Island are infrequent and limited in their spatial coverage making the determination of a trend in number impossible in this group. By 2003, Inuit reported that numbers of caribou on southern Ellesmere were increasing.

7.2.2 Axel Heiberg Island Group

The 1961 estimate of about 300 caribou on the island was based on limited survey coverage. No other surveys of the island have occurred since that time until 2007. The last survey results show a higher number of caribou than the only previous description of caribou abundance for Axel Heiberg Island. Lack of data and this 50-year gap in monitoring make it impossible to discuss population status or trends for Peary caribou on Axel Heiberg Island.

The Axel Heiberg Group currently supports the largest population of Peary caribou in Nunavut, with an estimated 2,291 animals based on 2007 survey results. This population accounts for a significant portion of the total estimated Peary caribou population within the Nunavut range. This may be a consequence of the local climate, plant biomass and diversity of vegetation, the varied topography, and isolation from human disturbance.

7.2.3 Ringnes Island Group

The 2007 survey of the Ringnes Island Group estimated a total of 654 caribou. Survey results suggest that caribou abundance is lower than the historical value of 1,324 in summer 1961. Overall it is difficult to interpret trends or fluctuation within this Island Group as survey information is limited, typical seasonal movement patterns are unknown, and the only two surveys completed have occurred at different times of year. Nonetheless, the overall proportion of calves (14%) observed in 2007 is encouraging given the extreme northern latitude and the small calf crops recorded for other survey areas.

7.2.4 Devon Island Group

The few surveys conducted suggest that Devon Island supports only a low number of Peary caribou. During a full island survey completed in 1961, 150 Peary caribou were estimated. Minimum counts for western Devon Island in 2002 suggested that caribou

numbers were low. In 2008, the count remained low with 17 Peary caribou. Thus, it appears that Peary caribou have existed at low numbers in the Devon Island group, although numbers are decreasing from previous estimates or counts which indicate a declining trend.

Movement patterns for caribou on Devon Island are not well understood and it is possible that there were caribou in other areas of the island at the time surveys were conducted. Inuit knowledge indicates that there have been caribou on the northeastern coast of Devon Island, on the Grinnell Peninsula, and that they can reliably be found along the western coast of the island.

7.2.5 Bathurst Island Group

The 2013 survey showed a significant increase in Peary caribou numbers, more than 1200 caribou, over the previous 2001 estimate of 187, however it is still low in relation to historical values of over 3,000 individuals (including calves) in both 1961 and 1994. Although evaluation of trends in abundance is complicated by differences in survey design and the inclusion or exclusion of calves, the overall trend of decline and current recovery is apparent.

This group has seen sharp fluctuations in 1973-74, and again in 1995-1997. The first two surveys of the Bathurst Island Complex (BIC, which consists of Bathurst, Vanier, Cameron Alexander, Massey, and Marc islands) were separated by 12 years (1961-1973) and revealed an 83% reduction in this caribou population from 3,565 to 608 (both estimates including calves). Late winter and summer surveys in 1973 and 1974 respectively identified a further reduction in caribou numbers to 228 (no calves were observed). This additional 62% decline was attributed to deep snow cover and icing, which caused widespread mortality and resulted in little or no reproductive success. Subsequent surveys from 1985 to 1994 indicated an increase and by 1994 Peary caribou were estimated at 3,100 on the BIC. Aerial surveys in 1995, 1996, and 1997 revealed a second die-off with an all-time low estimate of 78 caribou in 1997. Based on carcass counts, it was estimated that 85% of the overall decline was directly related to caribou mortality (and not movement). During the survey in 2001, the number of caribou in this group was estimated at 187.

Since that time Inuit have reported a slow increase in Peary caribou numbers. In 2010, Parks Canada conducted a reconnaissance survey on Bathurst Island and counted 300 Peary caribou in a non-systematic survey with no estimate derived. An aerial survey was conducted of the entire Bathurst Island group in May 2013 which generated a preliminary updated estimate of 1300 caribou which corresponds to Inuit observation of recovery since 2001.

For the Cornwallis Islands the only observation of live caribou in the 2001 survey was on northwest Cornwallis Island. Two caribou were seen on southern Cornwallis Island, and another single caribou on Little Cornwallis Island during the 2013 survey, but occasional tracks and local knowledge also suggest densities remain very low. Previous estimates that include both Cornwallis Island and Little Cornwallis Island are limited to the summer 1961 and 1988, when 43 and 51 caribou (with calves) were estimated respectively. Earlier surveys of Little Cornwallis in 1973 and 1974, produced estimates of 8 and 12 caribou, respectively, with no calves observed. By the mid- to late 1960s, Inuit reported that it was difficult to find caribou on this island and that none were observed from 1990 to 2003. These observations are consistent with ground and aerial survey results from 2002.

7.2.6 Prince of Wales Island Group

Peary caribou in this Group declined from an estimated 5,682 caribou (one year or older) in 1974 to a minimum count of two in 1996. Current scientific knowledge indicates that there has been little recovery since 1996. During the 2004 aerial survey, no Peary caribou were observed on the Prince of Wales Island Group. These results are consistent with ground surveys of Prince of Wales Island in 2004 and Somerset Island in 2005, in which crews reported only four caribou after traveling a distance of 4,831 km. Local knowledge however, indicates that there has been some return or increase in recent years as they see more caribou on the coast of Prince of Wales Island however there is presently no monitoring in place to help determine if the herd is recovering.

7.2.7 Boothia Peninsula Group.

Boothia Peninsula has had aerial surveys from 1961 to 1995. During this time some surveys have counted both Peary and Barren ground caribou together and others have counted them separately so extrapolation of trend is difficult. Regardless, local knowledge indicates that Peary caribou numbers have always been relatively low with some fluctuation over periods of decades. Peary caribou have been seen primarily north of Taloyoak and less frequently north of Kugaaruk and at the north end of the Simpson Peninsula. Peary caribou are known to have used Lady Parry Island.

Hunters in Taloyoak harvest Peary caribou opportunistically with a couple taken every year. Historically more Peary caribou were taken in the 1960's and 1970's when they were more abundant. In Kugaaruk, harvest is also opportunistic with only a caribou harvested every few years. There is currently no system in place to report the Peary caribou harvested at these locations and thus monitor harvest rate.

7.2.8 Victoria Island Group.

Both Victoria Island and Melville Island have a long history of aerial surveys. Peary caribou have been more consistently observed, and at higher numbers on Melville

Island with a high of over 10,000 adults in 1961 and a low of 700 in 1972. A recent survey of Melville Island conducted by the Government of Northwest Territories (GNWT) has produced a new estimate of 2,990 adults in 2012 which suggests a recovery from the 1972 low. No harvest currently occurs in the Nunavut portion of Melville Island.

Local and scientific knowledge indicates that Victoria Island has consistently supported Peary caribou at low numbers. IQ also indicates that the distribution for Peary caribou in the Nunavut portion is largely in the north-east near Hadley Bay. The known high was 4,500 (including calves) in 1980 with a known low of 20 adults in 1993. The most recent estimate conducted by GNWT was 150 adults in 2010. Peary caribou are harvested by Inuit from Cambridge Bay opportunistically, usually in conjunction with polar bear hunters travelling to Hadley Bay. Harvest is low with only a few Peary caribou every few years although their harvest is not monitored. Caribou harvest is targeted to Dolphin and Union caribou which are typically closer to the community. Local preference even when Peary caribou are mixed with Dolphin-Union caribou is to harvest the latter.

7.2.9 King William Island Group

This group has little scientific data and most recent data indicates that this area lies outside the normal range of Peary caribou. Local knowledge indicates that Peary caribou occasionally move from Boothia Peninsula to the north coast of King William Island. Local knowledge suggests that here may also be mixing with Dolphin and Union caribou that migrate from Victoria Island.

8.0 MONITORING

The number of Peary caribou per Island Group shows fluctuation over time, with periods of abundance and periods of scarcity. Caribou are also known to move over time in response to environmental conditions. Monitoring programs collect information about changes in number, distribution, and changes in ecological factors that affect caribou numbers and health. It is important to involve both scientists and community harvesters in monitoring efforts. This plan seeks to ensure that both science and IQ are effectively collected and used for research and decision making.

The effects of individual factors, such as weather or human disturbance, can affect caribou both individually and at the Island Group level. These factors however can work in combination such that the total or cumulative effects may be greater than that which occurs from each factor on its own. These impacts may be either positive or negative.

8.1 MAIN CRITERIA FOR ASSESSING ISLAND GROUP STATUS

The main pieces of information on which management actions will be based include:

- Population size

- Recruitment
- Bull-to-cow ratio
- Body condition and health
- Harvest levels
- Number trend by management units

8.1.1 ISLAND GROUP STATUS

The main factor to assess island group status, and the key consideration when recommending the sustainable harvest level for any given island group, is the estimated number of animals in the Island Group. The current baseline survey completed by GN DoE was conducted with aerial distance sampling. Although effective and accurate for determining the number of Peary caribou in an Island Group, this method is costly. Aerial surveys will continue as required. However the implementation of a community-based monitoring program involving ground surveys can be conducted in predetermined areas, such as traditional hunting areas or areas where caribou are normally seen but absent, and provide data to help inform decision making in the interim between aerial surveys.

8.1.2 RECRUITMENT

Recruitment refers to the number of calves that survive to one-year of age. Calf/cow ratios are used as a measure of recruitment. Herd composition observed during community-based ground surveys and/or aerial surveys will be useful for determining the cow/calf ratio.

These ratios, while informative, are often difficult to interpret as they are influenced by various factors such as changes in cow mortality. Typically, recruitment rates are low before the number of animals begins to decline, whereas high recruitment rates, particularly several years in a row, may indicate an increase in herd size.

8.1.3 BULL-TO-COW RATIO

Caribou bulls can mate with many females within the same season. It is important to monitor the bull-to-cow ratio to help determine if there are enough bulls to impregnate cows. Monitoring herd structure can be done during the rut both by aerial surveys and ground based surveys, by scientists or harvesters, who can provide information on the number of bulls observed in relation to the number of cows.

8.1.4 BODY CONDITION AND HEALTH

The health and condition of individual caribou can affect productivity and survival of calves and adults. Sample kits are provided to harvesters to measure or collect: pregnancy (presence of fetus), back fat thickness, left kidney with the fat to assess contaminant levels and condition, blood samples to assess disease, body condition

score, collection of lower front teeth for age determination, and location, date and sex of the animal harvested. When a sample kit is not provided, harvesters typically have a general overview of the condition of caribou. Body condition information collected by community members, harvesters and scientists provides supporting evidence of health.

8.1.5 HARVEST

Long term monitoring of harvest levels is very important for management decisions, and to help determine sustainable harvest rates. However, there is currently no obligation to report harvest of Peary caribou in the communities. Establishing a harvest monitoring program is a priority and fundamental to the overall monitoring of caribou. Harvest reporting is also a means of participation in management by the users at the individual level.

8.1.6 ISLAND GROUP TREND AND RATE OF CHANGE

The trend or the rate of increase or decrease is also a key indicator of island group status. Trend can be determined by comparing island group estimates over many years. When a population estimate is not possible, we can look at other data to help determine the trend, such as recruitment, body condition and health, harvest levels, and bull-cow ratio. Beyond the scope of scientific studies, information on the changes in abundance, movement, and distribution of caribou on an Island Group can be provided by Inuit Qaujimaqatuqangit.

8.2 ADDITIONAL CRITERIA FOR ASSESSING ISLAND GROUP STATUS

In addition to information on caribou such as population size and cow/calf ratios, there is important information about habitat and land use that should be considered. This can include habitat quality and quantity, predation, and human disturbance that may limit caribou access to parts of their range. Co-management partners can support long-term research and monitoring of these factors that will allow provide greater information for decision making and more effective review into land use permitting processes.

8.2.1 PREDATORS

Predators affect caribou behaviour and mortality. Predator numbers tend to decline as caribou decline but usually there is a delay of one or two years. If other prey species are available, predator numbers may not decline at all. When caribou numbers begin to decrease, the impact of predation may become proportionately greater. Caribou users have requested increased monitoring of predator populations, measurement of predation and the impact of predation on the populations.

8.2.2 ENVIRONMENT AND HABITAT

Better understanding of cumulative effects at the ecosystem level can be obtained through long term research on habitat quality and quantity and impacts of human

activities. Co management partners can continue to call for and support such long-term research and monitoring. With improved understanding there is a better opportunity to use regulatory management tools to limit disturbance on caribou.

Community workshops held in Grise Fiord and Resolute indicate that a combination of heavy snow and increased oil exploration and activity (particularly Bent Horn) in the early 1970s created a combined effect that may have impacted caribou more than either would have on their own. Caribou can move in response to changes in local environmental conditions such as increased snow or severe ice events. However at this time the increased activities on the land, including seismic activity, may have disrupted this ability to move. It was this combination of weather and human activity that caused die-offs during this period. This information highlights the importance of improving our understanding of cumulative effects and collection and use of local knowledge.

Some steps to assess habitat conditions for each island group are:

- Develop and monitor key habitat indicators of quality and quantity using remote sensing and ground surveys;
- Monitor trends in climate and weather; and
- Define seasonal and occasional movement patterns.

8.2.3 HUMAN DISTURBANCE

Disturbance of caribou from human activities such as aircraft over-flights and resource development can influence caribou behaviour and energy use, which in turn can affect condition and health. Indirect effects can also include a reduction in quality and quantity of habitat or access to quality habitat. Particularly when caribou numbers are low, human activities have the potential to alter the rate and extent of the decline or length of time it takes the population to recover.

The range of Peary caribou extends over lands that are protected from development and lands where exploration is occurring. Concern about the impacts of non-renewable resource development has increased as changing ice and weather patterns encourage a renewed surge in exploration and potential resource development.

9.0 TOOLS FOR DECISION MAKING

9.1 HOW CARIBOU POPULATIONS CYCLE OVER TIME

Inuit Qaujimagatuqangit and scientific knowledge agree that caribou populations rise and fall over time. The length of the phases varies, particularly the length of time that a population stays at a low level. Scientific evidence, the journals of missionaries and trading post managers, and IQ all suggest that caribou populations go through cycles 30-60 years long. The causes for these population cycles in caribou are not well

understood, but likely result from several factors such as habitat quality and quantity, climate, and disease. In addition to population cycling, caribou can also move over time.

Although Peary caribou have existed at higher levels than today, they have never existed at numbers such as the large barren ground herds found to the south. The climate and topography of their range favours smaller groups dispersed over the landscape. These groups move with weather and food availability and are more susceptible to extreme weather events which can cause large die offs.

9.2 WHEN TO TAKE ACTION

Actions to ensure the future of Peary caribou will be determined in part by the number of Peary caribou found in each island group, and whether it is increasing or decreasing. Management decisions will also be influenced by other information from harvesters and research and monitoring programs, such as recruitment, bull-to-cow ratio, body condition and health.

In this management plan there are four levels of island group status and associated management actions. These are colour-coded green, yellow, orange, and red. The island group status provides a trigger for specific management actions.

| | |
|----------------|------------------------------------|
| Green: | The population level is high |
| Yellow: | The population level is increasing |
| Orange: | The population level is decreasing |
| Red: | The population level is low |

9.3 USING MONITORING INFORMATION TO MAKE DECISIONS

Accurate and timely information is necessary for making good management decisions. Because the island groups are shared between communities and regions, it is also important that information is collected and shared by all harvesters and managers.

Island group status (e.g. green, yellow, orange or red) will be determined based on information including:

- Estimate of the overall population size of the island group
- Previous estimates to provide a trend (increasing, decreasing, or stable)
- Additional monitoring indicators such as ground based surveys to supplement the interpretation.

It is important to have up-to-date information so ensuring sufficient frequency of research and monitoring effort is very important. Certain monitoring will take place regardless of whether the island group status is green, yellow, orange or red. However, the frequency and intensity of monitoring will vary in response to island group status.

Long-term monitoring of environmental factors, including range quality and quantity, development activity and trends, and disturbances that influence caribou populations are important in understanding changes in caribou health and abundance.

Some of these indicators of population status can be difficult or expensive to measure. In these cases there may be some information available through long-term research programs or methodical collection of IQ. All of this information will be considered by the co management partners.

Working with all stakeholders an ongoing community based ground survey program will be established with the appropriate financial and technical support. This would occur, due to the spatial scale, on a rotating basis so that areas will be monitored at least every two or three years, unless observations of decline trigger more intensive efforts. The ground based surveys will be primarily in areas where regular community harvest occurs. Surveys should be followed with an annual meeting of stakeholders to review the results and recommend management changes if required.

Further changes observed from community monitoring programs (observations of die offs, starvation, population increase or decrease) can trigger:

- 1) Aerial surveys if declines are considered significant,
- 2) Increased frequency and coverage of community ground survey if declines are considered less significant but still of concern,
- 3) Community-based changes in harvest level that would occur within a predetermined upper and lower limit.

9.4 WHAT MANAGEMENT ACTIONS CAN WE TAKE

The NWMB has the responsibility for decision making as the primary instrument of wildlife management under the NLCA. Regional Wildlife Organizations (RWOs) have the authority to allocate harvest among their member HTOs, and in turn the HTOs can regulate their harvesters and allocate their share of a Total Allowable Harvest (TAH). Through regular annual meetings of the stakeholders, consensus on recommended actions can be reached and submitted to the NWMB for decision. Further, HTOs can make decisions to regulate local harvest through seasons, sex selectivity, area restriction, or reduction. These consensus-based recommendations can also be made to government and land use agencies following the general management actions described below.

9.4.1 HARVEST

As an Endangered species under SARA, Peary caribou are automatically protected from harvest, with the exception of Inuit harvest which would require a decision by the NWMB. Any decision of the NWMB should be informed by the consensus based recommendations of the co management partners developed through annual stakeholder meetings or as recommended in this plan. Recommendations can also take the form of harvest composition (e.g. sex selective) or seasonal restrictions or other Non-Quota Limitations (NQLs).

9.4.2 LAND USE ACTIVITIES

Increasing land use activity demands that meaningful input and review be provided into the various permitting process in Nunavut, whether it be the Nunavut Impact Review Board (NIRB), Nunavut Water Board (NWB), or the Nunavut Planning Commission (NPC) land use plan. Effort should be made to ensure capacity is available within all co management agencies to ensure effective participation. The community-based ground surveys will gather valuable information for both HTOs and DOE to effectively participate in these permitting processes. Co management partners can continue to recommend actions to help reduce the negative impacts of exploration and development on caribou. Advice can be given to avoid important caribou seasonal ranges like calving grounds, and how to mitigate disturbance from noise and access.

9.4.3 COMMUNICATION AND EDUCATION

Co management partners can work together to provide active and accessible communication programs, and recommend education programs. This can include different programs and approaches for elders, harvesters and youth to encourage traditional harvesting practices, use of alternate species and increased trade and barter of traditional foods. It can also include work with members of industry including resource developers.

9.4.4 HABITAT

Co management partners can continue to encourage and support increased research and monitoring related to seasonal range use, key habitat indicators, trends in climate and weather, and delineation of calving grounds.

9.5 MANAGEMENT ACTIONS BASED ON STATUS

The type of management action and the degree of management intervention will vary depending on the status of each island group. There are four levels of island group status which are colour-coded green, yellow, orange, and red. The island group status will trigger specific management actions or a change in the frequency of action, as described below:

Green: the population level is high

Management actions include:

- Support harvest
- Provide standard advice on mitigation of the impacts of exploration and development activities to proponents and regulators
- Provide active and accessible communication, and recommend education programs for all

Yellow: the population level is increasing

Management actions include:

- Recommend easing limits on harvest
- Provide standard advice on mitigation of industrial impacts to proponents and regulators
- Provide active and accessible communication and recommend education programs for all

Orange: the population level is decreasing

Management actions include:

- Recommend a TAH
- Recommend a majority-bulls harvest
- Recommend harvest of alternate species and encourage increased trade and barter of traditional foods
- Recommend increased community monitoring
- Provide active and accessible communication and recommend education programs for all

Red: the population level is low

Management Actions include:

- Recommend no harvest
- Work directly with proponents and regulators of exploration and development activities to advise on mitigation measures
- Recommend harvest of alternate species and meat replacement programs, and encourage increased trade and barter of traditional foods.
- Recommend increased enforcement including increased use of community monitors.
- Provide active and accessible communication and recommend education programs for all.

9.6 PROCESS TO MAKE DECISIONS

The co management partners shall meet annually to discuss results of all recent research and monitoring efforts which may include harvest reporting, caribou health monitoring, and ground or aerial surveys. The purpose of this annual meeting is to review information and reach consensus-based recommendations, if required, for

submission to the NWMB. Action may also be taken at the local level by HTOs based on the information reviewed.

9.6.1 GUIDING DOCUMENTS: ACTION PLAN

This Management Plan is supported by an Action Plan which outlines the management actions to be taken and how they will be implemented. Based in large part on the island group status, the Action Plan will outline specific management actions and how they will be implemented, by whom, and within what timeframe. Funding for the management action will be discussed by the co management partners. A third document, the GN DoE report "*Recent trends and abundance of Peary Caribou (*Rangifer tarandus pearyi*) and Muskoxen (*Ovibos moschatus*) in the Canadian Arctic Archipelago, Nunavut,*" will provide the technical baseline for decision making. Inuit Qaujimagatuqangit will be provided by the participating HTOs in the Stakeholder Working Group (See Appendix B). New information will be reviewed as it becomes available ensuring decisions are based on the most up to date scientific and local knowledge.

Implementation of the Action Plan is cooperative, and ongoing community input and support will help to develop and implement management actions. Each co management partner will be responsible for approving the Action Plan for its implementation. The effectiveness of the Action Plan will be reviewed annually.

9.6.2 STAKHOLDER MEETINGS

Stakeholders will meet annually after survey work has been completed and annual data summarized to review all new information and implementation of the Action Plan. It will be presented with the best available IQ and scientific knowledge and community based monitoring information. The Action Plan will be reviewed, and possibly updated, at the same time that the stakeholders review the current status of the Island Groups. Although normally revised only following an aerial survey, an Island Group's status or Action Plan may be revised more frequently if, for example, there has been some extreme change observed through community-based ground surveys.

9.6.3 ALLOCATION OF HARVEST

If a Total Allowable Harvest (TAH) is recommended it shall be determined and allocated in accordance with processes described in the NLCA.

10.0 COMMUNICATION BETWEEN STAKEHOLDERS AND WITH USERS

Communication is the responsibility of all parties engaged in wildlife management. Knowledge must flow both ways - between local knowledge holders and management agencies. There will be varied communication and education techniques used depending on the message and the intended audience. They may include local radio

programs, visits to schools, posters or presentations, public meetings, and on-the-land gatherings.

Stakeholders will meet on an annual basis to discuss survey results and island group status and to take appropriate actions when needed. Further details on the annual meeting will be provided in the Action Plan.

The information communicated to the public will include island group status; any voluntary or management limits on harvesting; what is being monitored and why; the results of the monitoring programs; why harvesting mostly bulls rather than cows may be preferable; and education of youth in traditional hunting practices.

11.0 UPDATING THE MANAGEMENT PLAN

The Plan will first be reviewed after seven years (i.e. 2020) and at ten-year intervals thereafter. Any party may request a review, at any time, through a letter to the other signatories.

12.0 SIGNATORIES TO THE PLAN

Iviq Hunters and Trappers Association

Resolute Bay Hunters and Trappers Association

Ikajutit Hunters and Trappers Organization

Spence Bay Hunters and Trappers Organization

Ekaluktutiak Hunters and Trappers Organization

Kurairojuark Hunters and Trappers Organization

Gjoa Haven Hunters and Trappers Organization

Nunavut Tunngavik Inc., Wildlife Department

Qikiqtaaluk Wildlife Board

Kitikmeot Hunters and Trappers Association

Nunavut Department of Environment, Wildlife Management Division

APPENDICES

APPENDIX A RECOMMENDATIONS AND TOTAL ALLOWABLE HARVEST BY ISLAND GROUP

General Recommendations

It is recommended to establish management units based on the proposed nine Island Groups. This includes six as presented in “*Recent trends and abundance of Peary Caribou (Rangifer tarandus pearyi) and Muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut*”, and three additional management units in the Kitikmeot region. This will facilitate future collection of consistent data for comparison and management decisions. However there is a need for provisions within the management plans to allow for finer scale management in response to changes in Peary caribou numbers, such as those observed through community observations or by additional survey work where warranted. In particular, the HTOs should control local harvesting within an agreed upon herd size, thus allowing for management at the community level.

Working with all stakeholders, an ongoing community-based ground survey program should be established with the appropriate financial and technical support. This would occur, due to the spatial scale, on a rotating basis so that areas will be monitored at least every two or three years, unless observations of decline trigger more intensive efforts. The ground based surveys would be primarily in areas other than where regular community harvest occurs as normal harvest areas will be monitored through harvest reporting. Surveys should be followed with an annual meeting of stakeholders to review the results and recommend management changes where required.

Observed changes from the community monitoring program (observations of die-offs, starvation, population increase or decrease) would trigger:

- 1) Potential aerial surveys if declines are considered significant,
- 2) Increased frequency and coverage of community ground survey if declines are considered less significant but still noteworthy,
- 3) Community based changes in harvest level that would occur within a predetermined upper and lower limit.

Predominately all island groups have declined and remain at low density with the exception of Bathurst and Melville, which are both showing signs of recovery. Caution must be exercised to prevent local extirpations. As harvest restrictions may only be to the level to address a valid conservation concern, there is currently a strong argument to maintain harvest restrictions for several island groups.

Harvest restrictions must allow communities to have input and control over how harvest will be allocated by allowing flexibility for HTO's to respond to changes in Peary caribou numbers that they observe and monitor through community-based ground surveys. These surveys may trigger more extensive ground or aerial surveys in the case of observed declines. An annual survey/meeting structure will allow for management action at the community level to occur in a timely and responsive manner.

Harvest reporting and sample collection is critical information for management. Each harvest should be reported through a hunter report. Information collected on the reports should include date, location (Latitude and Longitude), hunters name, tag number, sex, approximate age, and size of group harvested from. A Peary caribou health monitoring program should be established and sample kits provided to the hunters. The information provided will further our understanding of survival rates, diet, health, and space use. There is also a need to identify population boundaries to better manage Peary caribou.

With the current low numbers of Peary caribou in some of the island groups it is suggested to consider male sex selective harvests to help conserve females in the effort to reduce impacts and promote potential recovery.

Specific Island group TAH recommendations

Ellesmere Island Group (PC-01)

It is recommended to maintain existing harvest levels with a TAH of 45- 50 (allowing community to adjust as required within that amount). This harvest rate may impact caribou on south Ellesmere negatively; to alleviate this effect there should be encouragement and support to increase harvest on north Ellesmere. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Axel Heiburg Group (PC-02)

No harvest occurs here and the population is abundant, therefore no TAH is required. Should harvest start to occur here, as determined through harvest reporting, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Ringnes Islands Group (PC-03)

No harvesting occurs here, therefore no TAH is required. Should harvest start to occur here, as determined through harvest reporting, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Devon Island Group (PC-04)

With only 17 animals observed in 2008 and no abundance estimate, this group should be under a moratorium until such time as an increase is observed through community-based ground surveys. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Bathurst Island Group (PC-05)

Managing for recovery, a conservative TAH based on the preliminary results of the 2013 estimate of 1200 caribou would be 36 caribou (a 3% harvest rate). Although scientific knowledge and local knowledge agree that there is recovery in this group caution is warranted in order to not jeopardize that recovery. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Prince of Wales Group (PC-06)

With too few caribou to support harvesting at current numbers, this group should be under a moratorium until such time as an increase is observed through community based monitoring. Survey frequency should be increase to monitor sign of recovery. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement.

Victoria Island Group (PC-07)

As there is no targeted harvest in the area and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current rate of sporadic opportunistic harvest the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

Boothia Peninsula Group (PC-08)

As there is no targeted harvest in the area, and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current occasional harvest, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

King William Island Group (PC-10)

As there is no targeted harvest in the area and only an occasional caribou is taken opportunistically, no TAH is required. Harvest reporting and sample submission for genetics will assist greatly in understanding the dynamics of Peary caribou genetics and movement. Should harvest reporting indicate an increase over the current rate of

sporadic opportunistic harvest, the stakeholder working group should discuss potential harvest limits. Recommend no harvest by non- Inuit.

APPENDIX B

Recommended stakeholder working group for annual meetings

The stakeholder working group consists of the Chairpersons (and/or their alternates) of:

Iviq Hunters and Trappers Association

Resolute Bay Hunters and Trappers Association

Ikajutit Hunters and Trappers Organization

Spence Bay Hunters and Trappers Organization

Ekaluktutiak Hunters and Trappers Organization

Kurairojuark Hunters and Trappers Organization

Gjoa Haven Hunters and Trappers Organization

Qikiktaalik Wildlife Board

Kitikmeot Hunters and Trappers Association

And staff from the:

- Nunavut Wildlife Management Board
- Nunavut Tunngavik Inc.
- GN DoE, Regional Biologists and Regional Managers

Additional experts, either scientists or qaujimanilik, will be invited as required for support.

APPENDIX C ACTION PLAN

The following action plan supports the implementation of the management plan. It lists essential tasks that the co management partners recommend for the ongoing monitoring and management of Peary caribou. The actions support and emphasize programs and projects that will be invaluable in decision making and recommends what needs to be done to achieve the goals of the management plan.

The Action Plan assigns responsibilities for conducting programs and projects and covers the following categories:

1. Aerial survey program
2. Community-based ground survey program
3. Establishing harvest reporting and caribou health monitoring programs
4. NWMB Decision on Regulatory Changes
5. Annual Stakeholders meeting

1. Establishing an Aerial Survey Program

Background:

Aerial surveys are expensive and require significant logistic preparation. An aerial survey will be used in two fashions, as part of a cyclic program over the long-term to monitor population size and trend as well as other indices such cow/calf ratio and bull/cow ratio.

Problem Statement:

GN DoE has limited funds available for research of all species under its mandate for all of Nunavut. Regular surveys are expensive both in terms of financial and human resources. Co management partners need to agree on a monitoring cycle that is financially viable and still allow for surveys to occur in emergent situations when ground-based surveys observe significant die-offs or declines.

Objectives:

1. Seek support from NWMB for Nunavut Wildlife Research Trust (NWRT) funding for a long term survey as well as seek out other funding sources, such as INAC, and Environment Canada under federal funding programs for species at risk.
2. Stakeholders will agree upon an aerial survey schedule and thresholds that will trigger aerial surveys in emergent situations.

Methods:

1. GN DoE proposal to NWMB for NWRT with inventory schedule and maximum three year term request.
2. GN DoE to make formal requests to other third parties, via letter, for additional financial support for monitoring programs

Schedule:

Upon acceptance of Management Plan – GN DoE to seek support from third parties

January 2015 – GN DoE proposal to NWMB

January 2015 – Letter from co management partners to NWMB supporting DoE proposal

Evaluation: Ongoing at annual Stakeholder meeting

Lead Role: GN DoE

Support Role: HTOs, QWB

2. Establishing a Community-Based Ground Survey Program

Ground surveys are expensive and require significant logistic preparation. Community-based ground surveys will be used as part of a cyclic program over the long term to monitor population size and trend as well as other indices such as cow/calf ratio and bull/cow ratio.

Problem Statement:

HTOs have limited capacity to conduct monitoring programs. Regular surveys are expensive both in terms of financial and human resources. Co management partners need to agree on a monitoring cycle that is financially viable and has the financial and technical support to succeed.

Objectives:

1. Seek commitment from NWMB for HTO proposals to the Community Studies Fund for support of community based ground surveys on an annual and cyclic basis. HTOs to seek out other sources such as Habitat Stewardship Program and Aboriginal Fund for Species At Risk.
2. Stakeholders will agree upon a ground survey schedule and thresholds that will trigger additional ground surveys such as observed die offs and extreme weather events.

Methods:

1. HTOs submit proposal to NWMB for Studies Fund.
2. Co management partners to provide technical, logistic and financial support.

Schedule:

Upon acceptance of Management Plan – HTOs to seek support from third parties

January 2015 – HTO proposals to NWMB

January 2015 – Letter from co management partners to NWMB supporting HTOs proposals.

Evaluation: Ongoing at annual Stakeholder meeting

Lead Role: Each HTO that wishes to participate in the ground-based survey

Support Role: QWB, NIWS, GN DoE

3. Establishing Harvest Reporting and Caribou Health Monitoring Programs

Background:

Harvest monitoring and caribou health monitoring are identified in the Plan as important factors for management decisions. Collection of harvest data and condition and health data are means of Inuit involvement at the individual level

Problem Statement:

Currently harvest monitoring is not official or well-organized. Efforts have been made at establishing a general caribou health monitoring program, but this needs to be expanded to Peary caribou.

Objectives:

1. Get commitment from stakeholders to implement a harvest reporting program.
2. Harvest reporting will include sample submission that will be utilized in the health and condition monitoring program.

Methods:

1. NIWS, NTI and GN DOE to assist QWB, KRWB in preparing Management Plan
2. NTI and GN DOE to provide letters of support

Schedule:

Upon acceptance of plan - Determine harvest and sample collection needs and design reporting form

Evaluation: Annually at stakeholder meeting

Lead Role:

QWB/ KRWB / HTOs/ GN DOE / NTI Wildlife

4. NWMB Decision on acceptance of the Plan and Regulatory Changes

Background:

The co management partners are responsible for the protection, conservation, and management of Peary caribou in a sustainable manner. However the NWMB has the mandate to make decisions under the NLCA with regards to changes in TAH and approval of management plans. GN DoE has the responsibility to develop regulations under the *Wildlife Act*. This Plan will serve as the basis for development of Regulations for the management of Peary caribou under the *Wildlife Act*.

Problem Statement:

The NWMB must approve the proposed management plan, action plan and recommended changes to the regulations. The plan is the result of consultation with the co-management partners.

Objectives:

The co management partners have developed the Management Plan and Action Plan in regard to implementing changes in the management of Peary caribou. The objective is to have the plan approved by NWMB so that the plan can be implemented and regulatory changes can be implemented.

Methods:

1. DoE will submit the draft plan to the NWMB for decision.

Schedule:

Upon completion of an acceptable draft plan submit the draft and briefing note to NWMB for first available regular meeting

January 2014 –submit briefing note and supporting documents to NWMB

Lead Role: GN DOE

5. Annual Stakeholder Meeting

Background:

The co-management partners need to ensure that all information gathered annually on Peary caribou, such as harvest and survey results, are shared fully and reviewed

collaboratively for the purposes of taking action when needed. The action plan shall undergo annual review at this meeting and be amended as required.

Problem Statement:

Scheduling and financing meetings in the remote communities of Nunavut is a challenge. Support is needed by all co management partners to ensure that the parties can meet and discuss, by whatever means available, the current information available.

Objectives:

To ensure that participants are adequately supported to effectively participate in the annual stakeholder meeting.

Methods:

1. Co management partners will seek to plan and budget the adequate resources for their respective participants to effectively participate in the annual meeting.
2. Where possible the participants may already be in joint attendance at other meetings (i.e. NWMB) and this should be capitalized upon.

Schedule:

The annual general meeting shall occur at a mutually convenient time that allows for the data collected in the previous year to be analyzed and summarized for use by the co management partners.

Evaluation: Annual stakeholder meeting

Lead Role: QWB/KRWB / GN DOE / NTI Wildlife/ HTOs

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Evaluation: Annual stakeholder meeting

Lead Role: QWB/KRWB / GN DOE / NTI Wildlife/ HTOs

**Kugluktuk Angoniatit Association
Hunters' and Trappers' Organization
P.O. Box 309
Kugluktuk, Nunavut X0B 0E0
Ph. (867) 982 – 4908
Fx. (867) 982 – 5912
kugluktukhto@giniq.com**

January 5, 2011

Webb Outfitting (Nunavut) Ltd.
Southern Booking Office
P.O. Box 313
Pritchard, BC V0E 2P0

Dear Fred, Martin and George;

On behalf of the Kugluktuk Hunters & Trappers Organization (KHTO), I have to inform you that it was decided that the KHTO no longer supports the sports hunting of caribou in the Kugluktuk area and the Kitikmeot Region. And therefore, does not support the issuance of sports hunting tags for all caribou.

A motion M/C # 057/10 was passed by the Kugluktuk Hunters & Trappers Organization Board of Directors on September 9, 2010 as follows:

**“Whereas the Kugluktuk Angoniatit Association would like to stop the practice of issuing sports hunting caribou tags for the following caribou; Bathurst, Bluenose East and West, Dolphin and Union herds, as a first step to assist the herds from further decline. This motion was approved and carried. This will take into effect September 9th, 2010.
M/C # 057/10 David Klengenber/Peter Taktogon Carried”**

We ask for understanding of the importance to assist in preserving all caribou herds and look for your support on this matter. At this time, this is only a notice of the KHTO motion and will follow-up with you on all updates to the motion made. I have attached copies of (3) other documents pertaining to the Kugluktuk Hunters & Trappers decision.

We would like to continue the relationship with Webb Outfitting Ltd., and to continue to work together! Please feel free to contact us at anytime by phone, fax, mail or email.

Sincerely,

Barbara Adjun
Manager

c.c. Allan Niptanatiak, Conservation Officer, DOE, Kugluktuk
Department of Environment (HQ), Kugluktuk



Kugluktuk Angoniatit Association • Hunters' and Trappers' Organization
P.O. Box 309, Kugluktuk, Nunavut X0B 0E0 • Phone: (867) 982-4908 • Fax: (867) 982-5912
E-mail: kugluktukhto@qiniq.com

September 14, 2015

Kitikmeot Regional Wildlife Board
Ekaluktutiak Hunters & Trappers Association
Bathurst Inlet Hunters & Trappers Association
Bay Chimo Hunters & Trappers Association
Kurairojuark Hunters & Trappers Association
Taloyoak Hunters & Trappers Association
Department of Environment, Regional Office
Nunavut Wildlife Management Board – Iqaluit
Nunavut Tunngavik Inc. – Wildlife & Environment

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pirngaut@tunngavik.com

RE: Sports Hunting of Caribou in the Kitikmeot Region & Tags

This has become an ongoing and urgent issue for the Kugluktuk Angoniatit Association, Hunters & Trappers Organization (HTO), since 2009, when the HTO Board of Directors decided to take action by announcing in a statement that they will no longer support sports hunts on caribou.

In the past, the Kugluktuk HTO created priorities on what actions to take when caribou are in decline. The first priority being to stop all issuance of sports hunting tags on caribou for Kugluktuk. This was requested and sent for support from the other Kitikmeot Region communities. This statement was sent on December 7th, 2009. To date, this issue has not been addressed by the Kitikmeot Regional Wildlife Board or the other communities in the region.

A letter was sent to the outfitter that worked out of Kugluktuk, and it was Fred Webb's sports hunting outfitter stating that we are asking that all sports hunts be stopped on caribou until further notice, who sent a letter back to the Kugluktuk Angoniatit Association (HTO), stating that he fully supported the Kugluktuk Hunters & Trappers decision and would no longer conduct sports hunts on caribou. He also stated that he would still like to continue to conduct sports hunts on other animals, and continue to work side by side with the Kugluktuk HTO. The Kugluktuk HTO support the outfitter and continues to work closely with the outfitter and continues to receive reports.

What the Kugluktuk HTO cannot understand is how sports hunting is still being conducted on caribou while the caribou are in decline? How the caribou sports hunting tags are being issued in Nunavut and being hunted in the NWT, when NWT has a decision to stop sports hunting on caribou. Where is the logic? How does this assist our Inuit when Inuit are fighting to have caribou on our tables, and the sports hunters are allowed to hunt them for the big dollar, and in the pocket of the few Inuit, while the larger Inuit population struggle.

The Kugluktuk Angoniatit Association is requesting support from the Kitikmeot Regional Wildlife Board on the decision to stop issuing sports hunting tags on ALL caribou herds. It has become such a dire issue, the caribou are in further decline and still there are communities in the region who continue to conduct sports hunts, all for the big dollar.

The outfitters are supporting the sports hunters and their game of hunting, while Inuit are struggling to harvest caribou for subsistence, to put food on their table. Each community has a right to stop sports hunts on caribou, or can seek to work together with outfitters.

There is a bigger incentive that needs to be addressed, and that is to save our caribou to help our Inuit and to see that our younger generation will have caribou. Right now, our community members are not getting any caribou because the caribou are scarce, and the caribou have been too far away.

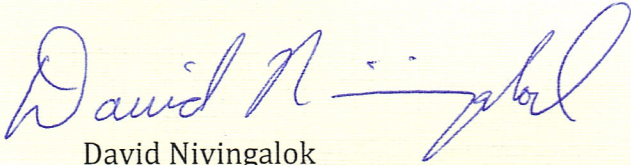
The caribou that our community harvests are the Bluenose East Caribou herd, the Dolphin and Union Caribou herd and sometimes the Bathurst Caribou herd. All the herds are presently showing major signs of decline. This has to be a major concern as a large picture. We need to address it as a Kitikmeot community, so larger issues do not come about. Which can be a moratorium like what happened in Iqaluit. And that is something we cannot allow.

We are asking each Kitikmeot community to support the Kugluktuk Angoniatit Association to stop the issuance of sports hunting tags on ALL caribou, and those are the Bluenose East Caribou, Dolphin and Union Caribou and the Bathurst Inlet Caribou. The Kitikmeot Region can fight together to save our livelihood, which is so important, to save the caribou for the younger generations to come. Do you want your grandchildren and great grandchildren to continue to have caribou while they grow up? Then there is action to be taken. We need to think of them now.

There are ways to educate our hunters to harvest other animals to help each community sustain them with country food. It can be done. Instead of conducting large community harvests on caribou, provide other country food instead, there is muskox, fish, rabbits, ptarmigan, seals, whale. We can teach and educate our communities that there are other country food and not caribou only.

The Kugluktuk Angoniatit Association, Hunters & Trappers Organization (HTO) is now requesting and seeking support to stop all sports hunts in the Kitikmeot Region. We need to do this until our caribou are in healthy populations again. We need to do this for our Inuit.

Regards,



David Nivingalok
Chairperson

ba/dn

| | | |
|------|---------------------|--|
| c.c. | NWMB | jakeagok@nwmb.com |
| | NTI | bdean@tunnigavik.com |
| | DOE - Lisa Leclerc | lleclerc@gov.nu.ca |
| | MLA - Peter Taptuna | premier.taptuna@gov.nu.ca |
| | DOE - Minister | jmike@gov.nu.ca |



Ekaluktutiak Hunters & Trappers Organization
P.O. Box 1270 Cambridge Bay, Nunavut X0B 0C0
Telephone #: (867) 983-2426 Facsimile #: (867) 983-2427
Email: ehtocb@qiniq.com

July 15, 2016

Nunavut Wildlife Management Board
Iqaluit, Nu
Attn: Jason Akearok, Executive Director

RE: Dolphin & Union (D/U) Caribou Herd Sports Hunt – Community Management Initiative

Mr. Akearok,

The Ekaluktutiak Hunters and Trappers Organization (EHTO) made a board decision to continue the FY-2016/17 sports hunt at twenty-five (25) tags for EHTO, five (5) tags for local outfitters and five (5) tags for High Arctic Lodge Sports hunts which is thirty-five (35) tags in total for the Dolphin/Union caribou herd.

Next fall FY-2017/18, the EHTO will voluntarily reduce the number of tags allocated to the Ekaluktutiak Sports Hunt Limited (ESHL) to ten (10) tags. For the time-being, the local outfitters and High Arctic Lodge Sports hunts allocation will remain the same with five (5) each.

The EHTO is not giving up its' total allowable harvest for sports hunts, but only voluntarily placing a reduction. Annually, the EHTO will review the number of tags with recommendations to be allocated to the sports hunt of the Dolphin/Union caribou herd.

The EHTO board is also suggesting the non-beneficiary resident's allocation to be reduced from five (5) tags down to two (2) tags. Although this may go against the entitlement in the New Nunavut Wildlife Act, the EHTO has rarely been encountered by non-beneficiary residents to acquire more than two (2) tags.

Regards,

Bobby Greenley, Secretary-Treasurer, EHTO

For: Bobby Greenley
EHTO, Chairman

Cc: Lisa-Marie Leclerc, Regional Biologist, Department of Environment, GN

Dolphin and Union Caribou Second Joint Meeting Report

Cambridge Bay, January 11 - 13, 2016



Department of Environment, Government of Nunavut
Iqaluit, Nunavut

Executive Summary

A workshop focusing on Dolphin and Union Caribou took place in Cambridge Bay between January 11 and 13, 2016. During this workshop, the Government of Nunavut, Department of Environment (DOE), Government of Northwest Territories (GNWT), Environment and Climate Change Canada (ECCC), NTI, and the Kitikmeot Wildlife Regional Board (KRWB) representatives conducted consultations with the Hunters and Trappers Organizations from Nunavut and Northwest Territories. The primary purpose of the workshop was to provide co-management partners with an update on progress on the draft Dolphin and Union Caribou Management Plan, and to seek further input and knowledge to help complete the draft plan.

The review of efforts on the management plan was followed by discussions on a pathway forward with the intent of developing a draft management plan suitable for community consultation. The meeting format was a series of presentations on herd status, reviews of the draft outline, framework, threats, and potential harvest management options, followed by questions and comments. The meeting was an open exchange of knowledge, both scientific and traditional and local.

Presentations on herd status and reports on research projects provided up to date knowledge for participants to start their discussions. The discussions on threats and actions to mitigate those threats will help further develop the management plan. A discussion on harvest management options will be used to define what recommended actions should be taken as caribou move through their natural population cycle. Finally a process and timeline were identified for the co-management partners to advance the management plan through each respective process.

This report attempts to summarize the comments made by participants during the workshop. A full record of the workshop is available in the minutes.

Preface

This report represents the Dolphin and Union Caribou working group's best efforts to accurately capture and translate all of the information that was shared during workshop.

The views expressed herein do not necessarily reflect those of one specific organization, but rather, the best advice and opinions from the participants.

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1.0 Summary Purpose

This summary is intended to collate and summarize comments, questions, concerns, and suggestions rose during the joint meeting held with representatives from the co-management partners from the Northwest Territories, Nunavut, and Environment and Climate Change Canada. The summary and notes herein only reflect what was shared during the meeting.

2.0 Purpose of the Workshop

The primary purpose of the workshop was to engage co-management partners from Nunavut, the Northwest Territories, and Environment and Climate Change Canada in an ongoing dialogue on Dolphin and Union caribou. It also allowed management partners to continue, based on the 2015 Kugluktuk meeting, directing the development of a multi-jurisdictional management plan for the Dolphin and Union caribou herd. Review of efforts to date was followed by discussions on a pathway forward with the intent of developing a draft management plan suitable for community consultation.

2.1 Format of Meetings

The meetings were held during three days (January 11, 12, and 13 2016) in Cambridge Bay at the Arctic Islands Lodge meeting room. Meetings were co-chaired by Joanna Wilson, Species at Risk Biologist with GNWT, and Mathieu Dumond, Regional Manager, DOE. The meeting format was a series of presentations on herd status, management process, reviews of the draft outline, framework and threats, and potential harvest management actions (presentations are in Appendix 2), followed by questions and comments. The meeting was an open exchange of knowledge, both scientific and traditional.

2.2 Meeting Participants

| Name | Community | Organization |
|-------------------------|---------------|---|
| Simon Qingnaqtug | Taloyoak | Kitikmeot Region Wildlife Board |
| Ema Qaqqutaq | Kugaaruk | Kitikmeot Region Wildlife Board |
| Jimmy Haniliak | Cambridge Bay | Cambridge Bay Hunters & Trappers Organization |
| John Lucas Jr. | Tuktoyaktuk | Wildlife Advisory Management Council (NWT) |
| Joe Ilisiak | Paulatuk | Inuvialuit Game Council/ Paulatuk HTC |
| Joshua Oliktoak | Ulukhaktuk | Inuvialuit Game Council/ Ulukhaktuk HTC |
| Larry Adjun | Kugluktuk | Kugluktuk Hunters & Trappers Organization |
| Joanna Wilson Co-Chair | Yellowknife | Government of Northwest Territories (GNWT) |
| Lisa Worthington | Yellowknife | Government of Northwest Territories (GNWT) |
| Tracy Davison | Inuvik | Government of Northwest Territories (GNWT) |
| Sam Kapolak | Bay Chimo | Bay Chimo Hunters & Trappers Organization |
| Bert Dean | Rankin Inlet | Nunavut Tunngavik Inc. (NTI) |
| Lisa-Marie Leclerc | Kugluktuk | Government of Nunavut (GN) |
| Drikus Gissing | Iqaluit | Government of Nunavut (GN) |
| Mathieu Dumond Co-Chair | Kugluktuk | Government of Nunavut (GN) |
| Amy Ganton | Yellowknife | Canadian Wildlife Service (CWS) |

3.0 Workshop Summary

The goals of the meeting were made clear to the participants prior to the meeting as well as at the start of it (See Appendix 1 Agenda). Participants actively engaged in many discussions that were preceded by a presentation. Participants raised many similar questions, concerns, and suggestions in addition to providing direct feedback to draft the management plan. The workshop maintained a positive tone throughout and many participants commented on the need to work together to find solutions to assure caribou conservation.

3.1 Review of Outcomes from the March 2015 workshop

A review of what was accomplished at the March 2015 workshop was provided as some participants were new to the process. The draft goals and objectives and the threats were revisited. A teleconference in October 2015 had already reviewed potential harvest management models to be discussed during this workshop.

3.2.1 GN Knowledge Update and Background and Species Information

An update of the DOE April 2015 collaring and the October 2015 survey was provided. The analysis is not completed, but the preliminary results revealed 14,730 (CI= 11,475-17,986) in the visual stratum. A presentation on the biology of the species, the history of research and monitoring, and the current and historical use of the herd were provided as a review of what will be comprised in the future sections 3 and 4 of the management plan.

Participants focused discussion on the historical and current use of the herd including accuracy of the original Nunavut Harvest Study, which only grouped caribou harvest and did not differentiate between herds. Most co-member partners felt that the record was accurate for their respective communities; however more effort is required to determine current harvest rates. This was discussed in terms of potential HTO/HTC based community monitoring, efforts at the second Nunavut Harvest Study, and the requirement under Section 5.7.43 of the NLCA to provide information. Additional discussion on harvest included the situation when one herd becomes scarce; it often results in another herd being targeted for harvest. This has been the case when Peary caribou is low, and the Dolphin and Union caribou is targeted in Ulukhaktuk, and when Bluenose East herd becomes low, the Dolphin and Union caribou is targeted in Kugluktuk. Both communities have increased their harvest of Dolphin and Union caribou in response to decreases in access or availability of other herds.

General support of harvest monitoring, as well as increased cooperation with industry to incorporate voluntary best practices, and reduced flying during calving summarized participant concerns.

3.2.2 Traditional Knowledge Research

The results of Traditional Knowledge collection were presented. The study took place in 2014 and 2015 in Cambridge Bay. Thirty individual interviews were conducted in the summer of 2014 and 7 group interviews in the winter of 2014. There were follow up interviews to validate the results of the 2014 interviews in the summer of 2015. The results provided excellent examples of quantification of oral knowledge depicting the caribou population recovering from a low in the 1960's to a peak in the late 1990's to the current decline being observed today using scientific methods.

In addition to describing population trend, key findings of scientific research conducted in October 2015, included: observation of poorer caribou body condition status since the decline, increased observations of caribou with abnormalities since the decline, and observation of diseases that might be new to the area.. The study participants' perceptions of factors that may have contributed to the decline of caribou in the area include; change in migratory routes (more to the east and west side), an increase in predators, deterioration of health status, human disturbance, and a change in climatic conditions that can have a direct or indirect effect on caribou populations.

Questions on the potential effects of climate change included an increase in new insects and new diseases. Although this was noted in the interviews, additional research is required. Additionally participants were interested to know if the interviews indicated an increasing muskoxen population and the potential impacts of increased competition between the two species. Although not an interview question, it was a recurring response.

Significant discussion was focused on the impacts of late season shipping that disrupts the fall migration and can lead to drowning. It also delays the caribou's staging time on the ice, leading to poor nutritional status. Potential mechanisms to try and implement a *no shipping* period during freeze up were discussed, but the situation is complex and managed by the federal government since international shipping takes place in these waters. More work needs to be directed to pursue the appropriate avenues with the federal government: in this case, Transport Canada. Voluntary agreements with industry to support no shipping during this period are already in place and could be pursued with additional companies.

Additional discussion focused on other community concerns from participants including; an increase in insect harassment associated with climate change and low flying aircraft and its impact (particularly on calving). Other concerns included increasing marine traffic (cruise ships and their passengers), an increase in grizzly bears, and the need for increased predator harvest to help caribou.

3.2.3 GNWT Traditional Knowledge Study

Traditional knowledge interviews were conducted in Ulukhaktuk from 2011 to 2013. The interviews highlighted threats to caribou and included human actions, such as low flying aircraft, development, predation, competition from muskox, and effects from climate change including more freezing rain, thin ice leading to drowning, and dryer weather negatively impacting vegetation.

3.2.4 Health and Disease

Samples taken from 25 Dolphin and Union caribou collared in April 2015 were blood, hair, and fecal samples for analysis. Feces were examined for parasites and results were mostly normal. One unusual finding is the existence of *Parelaphostrongylus andersoni*; this is the first report of this parasite found in Dolphin and Union caribou.

Lungworm was found in the feces. This worm was not historically found on Victoria Island, but as of 2010, it seems to have spread over the Island and appears to be increasing. The level at which this parasite is occurring in caribou does not appear to be a concern at this time.

The bacteria *Erysipelothrix rhusiopathiae* is present in Dolphin and Union caribou. It has caused die-offs in muskox. The prevalence of these bacteria should be monitored, as it may be a causal in the caribou decline. This is transferable to humans and therefore a human health concern.

Newly developed methods for determining stress levels from hair samples (cortisol levels) were performed. Preliminary results indicate that Dolphin and Union caribou had higher stress levels in spring 2015 compared to two other barren-ground herds and one woodland caribou herd. The study of stress is new and although it may be supportive of the decline it is too early to tell. However, it may become a useful tool to monitor stress level in caribou herds.

Concerns from participants on potential human health impacts from animals were discussed. Lungworm does not transmit to humans, but the bacteria *Erysipelothrix rhusiopathiae* does as well as Brucellosis. There are concerns over increasing snow goose populations and the potential for them to be a vector for new and increasing diseases. Birds and small animals can act as vectors, and can explain muskox die-off on Banks Island. Samples of 600 snow geese and rodent samples were taken, and it seems the bacteria were present in these animals

3.2.5 Toxicology

As part of the long term Northern Contaminants Monitoring Program caribou are tested for contaminants such as mercury, cadmium, radioactivity, brominated, and fluorinated compounds. The majority of these contaminants are transported through air currents from elsewhere and deposited on vegetation and ingested by caribou. Levels at this time do not pose a threat to human health from consuming caribou. Long-term monitoring is important to monitor the concentration of these contaminants in the animal.

Most questions were on human health impacts from consumption of caribou. However current standards indicate that the thresholds are below any level of consumption for meat.

3.3 Overview of Draft Table of Contents

The current version of the draft Table of Contents was reviewed for accuracy and completeness. Although many of the sections are yet to be drafted, participants felt that the current content of the management plan adequately covers all the information needs.

3.4 Threats and the COSEWIC Threat Assessment

After a review of the threats drafted for the management plan, participants concluded that the draft accurately reflects what was discussed at the first joint meeting in March 2015. Additional discussion on threats focused on the need for more research to address the impacts of climate change including: how climate change may impact forage quality and quantity, the time of green up in the spring, increase in new insects and diseases. Several participants identified a need to improve education on caribou both by the schools and within the family. There was one participant who felt a quota should be implemented to ensure the declines are not as severe as what is being experienced in Baffin Island. However another participant countered that this should be through HTOs/HTCs as opposed to through the formal decision-making process.

A presentation on the requirements under the *Species at Risk Act* for management plans and how the Threat Assessment Calculator is used to address those requirements was given. The threats calculator is a tool to enumerate and quantify each threat; to rank what threats are a big issues and what may only be a potential threat. The focus is on direct threats that either cause decline, (such as mortality or removal of habitat), or affect reproduction. Threats are scored and tracked, so they are not considered twice, which would skew the overall rating of the threats. The calculator is a complex, but useful tool. A teleconference is to be scheduled as a follow up to complete this agenda item.

3.5 The Management Framework

The management framework consists of the goal of the management plan (still in draft form) and the objectives to reach that goal. There are additional approaches identified to achieve each objective. This approach will ensure that objectives are met and through meeting the objectives, the goal(s) will be met.

Discussions on the current version of the management framework indicated that this section was mostly completed. These groups suggested to include current actions that involve working with industry to establish voluntary agreements on shipping and flying. They also suggested coordinating monitoring with industry, examining what mechanisms can move shipping concerns forward, the role that marine protected areas might play in protecting the sea ice component of the migration route, and specific actions to contact federal departments regarding the impacts of ice breaking activities.

3.6 Harvest Management Options

Three different options were presented as potential models for harvest management; these included the Bluenose Model, the Porcupine Model, and the Southampton Island Model. They are all similar in that they described actions related to distinct sections of a caribou population cycle. For example, if the herd is at its peak and stable, the herd would be assessed as green; a herd that is showing a decline would be assessed as yellow; and a herd at low would be assessed as red. Each of these would have prescribed management recommendations reflecting the respective conservation issues. A herd in the green would have few harvest restrictions, while a herd in yellow may see the removal of sport hunts, while a herd in red may see strict harvest limitations.

Considerable discussions resulted from these options. An exercise was performed to determine what thresholds should trigger each of these categories, and what the recommendations should be. The results (photos in appendix 2) will be used to inform the propose harvest management framework in the next draft management plan. Suggested thresholds for herd triggers between levels green, yellow and red are: 24,000 to 40,000 is high (green); 8,000 to 24,000 is medium (yellow); and below 8,000 is low (red). Within these ranges the population can be increasing, decreasing or stable. A point form summary of participant thoughts on appropriate recommendations during the various stages of the herd cycle follow below.

Herd is at Peak-Green Level

- Provide harvester and youth education when population is high, don't wait for the population to decline
- No Harvest restrictions on beneficiaries,
- Support reporting at the HTO/HTC level (community-based monitoring.),
- Ensure any changes are phased in,
- Allow community to determine if action should be taken,
- Commercial harvest may be a tool to bring down an overpopulation (i.e. Southampton Island caribou),
- Predator control, encourage harvest of predators by paying for samples.

Herd is in Yellow-Declining

- Increased monitoring and sharing of information,
- Harvest Management,

- Sample kits (help ID decline),
- Stop commercial/sport hunts,
- Restrict industry activities on land,
- NQL-bull only,
- Education; how to hunt alternate wildlife, use elders,
- Increase communications between stakeholders,
- Create a working group of stakeholders or commission,
- Periodic review of the state of knowledge

Herd is in Yellow-Increasing

- Easing of industry restrictions,
- Easing of harvest restrictions,
- Education,
- Return to baseline monitoring,
- Easing of Non-Quota Limitations (NQLs).

Herd is in Red

- Increase monitoring, more frequent surveys,
- Setting TAH,
- Harvest from other caribou herds (if appropriate),
- Education; tell people to stop harvest and explain why there are restrictions,
- Harvest seasons.

3.7 Summary of Issues and Actions

The discussions were open and diverse, and some general themes were consistent throughout. Although a quantitative summary was not conducted, it is possible to summarize the key themes that were recurrent throughout the discussions, these are summarized below.

3.7.1 Summary of Key Concerns

- Predation from wolves and grizzly bears and their impacts on caribou number, particularly during calving,
- The number of flights, particularly low level flights during calving,
- The effects of climate change particularly on increasing insect harassment and potential impacts on forage quantity and quality,
- Increased shipping during the fall migration and potential for drowning,

3.7.2 Summary of Key Actions

- Work with industry to voluntarily implement best management practices,
- Pursue avenues for stopping shipping during the key migration; fall and spring,
- Increase education for harvesters in terms of caribou harvesting and how to harvest other species,
- Improve harvest monitoring,
- HTOs/HTCs to implement community-based quotas and monitoring were appropriate,
- Increased predator harvest through incentives and/or increased sport hunts.

4.0 Next Steps

The following text defines the proposed next steps and timeline to see the draft management plan through the respective territorial and federal processes.

2016-2018 Timelines for Dolphin and Union caribou management plan

As presented at joint management planning meeting, Cambridge Bay, January 13, 2016

- Finish drafting plan using input from this Cambridge Bay meeting (GN, GNWT & EC technical staff & managers)
- Teleconference organized by EC to work on COSEWIC threat assessment table (end of January)
- Draft plan and accompanying presentation to be provided to WMAC(NWT) for March 13-15, 2016 meeting - this would be the version to go out for community consultations
- April 2016
 - Consultation meetings held in individual communities, with HTC/HTOs
 - Review of draft by GNWT, GN, PC, WMAC (NWT), KRWB, NTI, KIA, IGC (“first jurisdictional review”) and by EC headquarters (“first compliance review”)
- GN, GNWT & EC technical staff & managers to edit the plan based on all those comments – edits to be done jointly
- September 2016
 - Revised draft plan reviewed by GNWT, GN, PC, WMAC (NWT), KRWB, NTI, KIA, IGC (“second jurisdictional review”, asking for support to post on SARA registry)
- GN, GNWT & EC technical staff to edit the plan based on all those comments – edits to be done jointly
- By mid-January 2017, EC to send proposed draft plan for translation into French – proposed draft ready for posting on SARA registry
- March 31, 2017 (hard deadline)
 - Draft plan posted as ‘proposed’ on the SARA public registry for 60 day public review
 - Draft plan posted by GNWT for public review
 - All partners including HTO/HTCs to be notified of opportunity to comment
 - If posted on March 31, comment period would end May 30
- GN, GNWT & EC technical staff & managers to edit the plan based on all those comments – edits to be done jointly
- Final management plan completed by August 2017
- Package submitted to NWMB by mid-August 2017 (may be joint submission by GN & EC)
- NWMB to consider the management plan at September 2017 meeting, followed by their hearings if needed
- Plan submitted to WMAC (NWT) for approval at their September 2017 meeting
- GN, GNWT & EC to seek Minister approval of the plan
- Response from NWMB by December 2017 – whether or not they approve the plan
- NWT Conference of Management Authorities consensus agreement by December 2017
- Management plan completed, approved and made public by March 31, 2018

Abbreviations:

ECCC = Environment and Climate Change Canada

GN = Government of Nunavut

GNWT = Government of the Northwest Territories

HTC = Hunters and Trappers Committee

HTO = Hunters and Trappers Organization

IGC = Inuvialuit Game Council

KIA = Kitikmeot Inuit Association

KRWB = Kitikmeot Regional Wildlife Board

NTI = Nunavut Tunngavik Inc

NWMB = Nunavut Wildlife Management Board

PC = Parks Canada

WMAC (NWT) = Wildlife Management Advisory Council (Northwest Territories)

Appendix 1 - Agenda

Dolphin and Union Caribou Joint Management Plan Workshop

Cambridge Bay, Nunavut

January 10 – 13th, 2016

Meeting Information

Goals of the Meeting:

- Integrate community perspectives (IQ/TEK) with scientific knowledge throughout the meeting
- Review and discuss the first draft of the Dolphin and Union Caribou Management Plan
- Review and collect feedback on key sections of management plan: species needs, threats, management objectives and approaches, including inclusion of IQ/TEK information.
- Discuss options for harvest management model and corresponding actions
- Review new knowledge and current research

Schedule:

- Arrival in Cambridge Bay: Sunday, January 10th in the afternoon. Grocery store may be closed by 5:00 so get groceries (if needed) before coming to the meeting room.
- Meeting:
 - o Sunday – lunch served in meeting room (catered), meeting 3:00 pm to 4:30 pm
 - o Monday & Tuesday - 9:00 am to 5:00 pm with health breaks and lunch (catered)
 - o Wednesday – 9:00 to 4:00 pm with health breaks and lunch (catered)
- Breakfast and dinners will be on your own. Green Row is open for dinner 5:00-7:00 p.m. and Arctic Islands Lodge is open for dinner from 5:00-6:45 p.m. Breakfast is available at the Green Row.
- Departure from Cambridge Bay: Wednesday, January 13th in the evening (6:00 pm flight)

Meeting Location: Arctic Islands Lodge, medium boardroom

Accommodation: Green Row Executive Suites (transportation will be provided to and from the airport)

Dolphin and Union Caribou Joint Management Plan Workshop

Cambridge Bay, Nunavut
January 10 – 13th, 2016

Agenda

Sunday January 10th, 3:00 p.m. – 4:30 p.m.

| | |
|--|--|
| 1. Welcome | Co-chairs – Joanna Wilson and Mathieu Dumond |
| 2. Opening Prayer | |
| 3. Opening Remarks | Co-chairs |
| 4. Introductions | All participants |
| 5. Outcomes/Expectations for meeting | All participants |
| 6. Review of Outcomes from March 2015 meeting in Kugluktuk | Lisa Worthington |

Monday January 11th, 8:45 a.m. – 12:00 p.m.

| | |
|--|------------------------------------|
| 7. Knowledge and Research Update | |
| 7.1. GN update | Lisa-Marie Leclerc |
| 7.2. GNWT update | Tracy Davison Matilde Tomaselli |
| 7.3. Traditional Knowledge Research | Tracy Davison |
| 7.4. NWT Traditional Knowledge Study (tentative) | Susan Kutz |
| 7.5. Health and Disease | Mary Gamberg |

Monday January 11th, 1:00 p.m. – 5:00 p.m.

| | |
|--|---|
| 8. Review of Draft Management Plan - Background Information on Dolphin and Union caribou | All participants (lead presenter below) |
| 8.1 Overview of draft table of contents | Lisa Worthington |
| 8.2 Background & Species Information | Lisa-Marie Leclerc |
| - Historical & social perspectives | |
| - Use of the herd | |
| - Population and Distribution | |

| | |
|---|---|
| 9. Review of Draft Management Plan – Threats to Dolphin and Union caribou | All participants (lead presenter below) |
| 9.1. Threats in draft management plan | Lisa Worthington (with technical support from Lisa-Marie Leclerc and Tracy Davison) |

Tuesday January 12th, 8:45 a.m. – 12:00 p.m.

| | |
|--|---|
| 9. Review of Draft Management Plan – Threats to Dolphin and Union caribou (<i>continued</i>) | All participants (lead presenter below) |
| 9.2. Threat assessment by COSEWIC | Amy Ganton / Justina Ray |
| 10. Review of Draft Management Plan – Management Framework | All participants (lead presenter below) |
| 10.1. How the framework links to management plan | Lisa Worthington |
| 10.2. Management goal/vision & objectives | Lisa Worthington |


Tuesday January 12th, 1:00 p.m. – 5:00 p.m.

| | |
|---|---|
| 10. Review of Draft Management Plan – Management Framework (<i>continued</i>) | All participants (lead presenter below) |
| 10.3. Recommended management approaches & actions to achieve objectives | Lisa Worthington |

Wednesday January 13th, 8:45 a.m. – 4:00 p.m. (all day)

| | |
|---|--|
| 11. Options for Consideration of Harvest Management | All participants (led by Lisa-Marie Leclerc) |
| 11.1. Decision on harvest management models | |
| 11.2. Management recommendations | |
| 12. Next Steps | Co-chairs |
| 13. Closing Remarks | All participants |
| 14. Closing Prayer | |

Appendix 2 - Presentations




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Nutigi

Dolphin and Union Abundance and Distribution


Lisa-Marie Leclerc



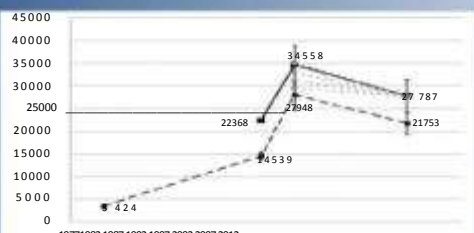
2015 Population and Distribution

- Dolphin and Union caribou are intermediate in size and color between Peary caribou and Barren-ground caribou.
- Dolphin and Union caribou is the most genetically differentiated of the barren-ground caribou (Zittlau, 2004) possibly due to genetic bottleneck.
- Special behaviors:**
 - They do not form well define calving ground, as its calving strategy is mainly individualist (Nagy et al., 2011).
 - Migratory herd crossing the sea-ice to reach their wintering and summering ground.

(Dumond and Lee, 2013)




4.4 Population and Distribution






Map of final systematic reconnaissance flights on October 25 (East of Cambridge Bay) and October 31 (West of Cambridge Bay) and second

(Dumond and Lee, 2013)




4.4 Population and Distribution

4.4 Population and Distributio n

The resulting estimate of caribou of 14,730 (CI= 11,475-17,986).




2015 Survey



Ulukhaktok Traditional Knowledge Interviews 2011-2013



Humans Activities

- Five people mentioned human activities as a threat.



Predators



- Everyone Mentioned Predators as a threat to Caribou.
- They kill caribou, kill calves and also some are
- Both Wolves and Grizzly Bears
- People also concerned about their own safety because of increase in Wolves and Grizzly Bears

Threats

“When they do exploration they always fly around and when they see animal they turn around, fly low and take pictures. That’s when the caribou start running away.” – PIN02

“Any place where there are machines or planes start travelling every day or every second day and that they could easily move from that spot. Because from they come in start making noise they spook them off. Interrupt whatever they’re doing.” – PIN07

“When they work on the land, like, they’re drilling, the smell of smoke, the sound of the drills, the sounds of vehicles, maybe people, the smells of those drives the caribou away and that’s a threat to caribou. So they go somewhere else to where it can be at peace.” – PIN11

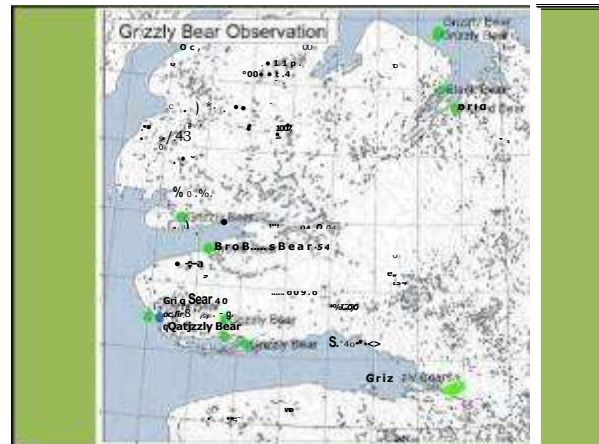
“Even now the wolves are still following the caribou. Everywhere they go they follow caribou. Not only the wolves, even so the Grizzly Bears are killing them. Right now there’s more Grizzly Bears that have been spotted.” –PIN07

“All because of the wolf, the wolf make eight pups and caribou make one pup. One caribou calf. That’s a big difference there. So like I said, that’s how come it’s really hard to see a female caribou with a calf. Females have lots of milk because it’s already been chased by the wolves and it’s really easy to be spooked now.” –PIN07

"Yeah, the population of the wolves have really increased because long ago there used to be hardly any wolves." – PIN02

"Used to never see Grizzlies when we were younger. Just few years now start seeing them more every year." – PIN02

"I never, never seen one when I was growing up anywhere. Grizzlies. I don't know why they're moving to our island." – PIN08



Competition - Muskox

- When talking about competition 9 people mentioned muskox. The reason they compete varied:
 - 7 people thought they might eat the same, 2 people thought they didn't.
 - 4 people thought caribou didn't like to be around the same place as muskox, with two of those people thinking the smell caribou didn't like.
 - It was observed that in the past when there was lots of caribou, there was no muskox

"They eat the same food. They just don't hang around together." – PIN03

"The caribou don't want to feed where the muskox feed because it's too strong for them, the smell, where they feed. But they eat the same food, that's why." – PIN07

"He said caribou has a different diet with the seasons. But the muskox diet never changes. When they open up their gut to check the contents are always the same. They never change. They eat these big leaves off the ground." – PIN04

Plant Growth

- Three people talked about plant growth as a concern for caribou



"The poor growth of the plants they eat." – PIN02 "the weather is changing and the land is also changing and so if there's hardly any rain and the weather doesn't go the way for the plants then there's nothing for them to eat." – Pin01

"Late spring early summer when people first started getting caribou their meat was tough, they had no fat, and it was due to the way the plants grew. Freezing, they'd start shooting out then freeze, shoot out and freeze, and that wasn't good for them. That is why the caribou was very skinny this year." – Pin10

Thin Ice

- Four people mentioned hearing about or seeing caribou going through thin ice, mostly in the fall time during freeze up.

“ You know when they go through the ice and drown. That’s another one.” –PIN01

“It doesn’t freeze fast anymore and the ice doesn’t get solid fast like it used to. When it used to freeze we used to just start walking on it the next day. On the ocean.” - Pin07

Freezing Rain

- Eight people mentioned Freezing Rain – or Rain on snow making a layer of ice on the ground.
- Some people recorded that it happened in the past. Other People noticed it happening more now than in the past, but one person notices it happening the same as in the past.

“Got snow now and then rain and then freeze again then it’s going to be hard for them for feeding.”– Pin07

“They can’t paw through the ice when it’s thick.” – PIN10

“Caribou, no matter what weather, they will graze but when the snow gets covered over with ice they find a lot of dead caribou. Because they can’t go pawing through that ice that’s on top of the snow.” – PIN04

“If you got a lot of storm. You know, some years winter time it could storm for many days. If there’s too much storm and it wells up a little bit then they get cold and iced up and all that, they get cold and they get stuck to the place where they’re sleeping, where they’re laying down. From the climate or whatever the weather changes fast sometimes. We’ve seen a couple of those do like that. Just laying there, dead from bad weather and all that. Sometimes it takes a long time to get nice out. Must be probably not the healthy ones, that’s why.” –PIN07

“Yeah, when it’s too much wind and cold weather and stuff like that, I guess, you know. Big storm. Got to be a big storm when they die like that. I could notice, I look at them, no blood, nothing, not even the blood every one of them they just freeze like that staying down.” PIN08

Caribou can die from weather events like freezing rain but they also have ways to deal with winter weather in the Arctic and extreme conditions.

- Caribou stay still during a storm , they will also move to different areas if the snow is bad or there is ice in an area.

- Three people mentioned they will fatten up for winter.

They know the weather, they know the seas, so they know when to come to these high areas where they can get out of the storm. – PIN04

“Winter time I think they just lay down, hunker down and wait for the weather.” - PIN03

He said in the fall time if we get snow and then rain the caribou leave that area and go somewhere else. They don't hang around in that area where they would have stayed. Due to weather, ice conditions on top of the snow, they will not stay. - Pin06

Health

Sickness isn't very common, some participants had never seen illness in caribou other participants saw the occasional sickness. Most common observation was issues with joints, or legs.

Caribou do get skinny during winter, but they get fat again in the spring and summer.

Like in the winter, like all animals they what you call try and eat as much as they can for the winter months so that they grow a layer of fat to keep them warm so that on days like this they know that they can't be roaming around hunting and that. - PIN01

She said in the winter there was one time when she noticed and first when she seen it there was an area, a grazing area. Her, really deep snow, the caribou just kept pawing at the ground until they could reach to the ground, to the growth under. - PIN10

“Just a couple since I started hunting. One that gets way left behind, that they have a cyst or something in their legs. Liquid. They run for a while and then they can't run anymore. “ - PIN03

When she was hunting she used to travel and she used to never hear of caribou getting sick. – PIN11

How know Caribou are doing well?

Three people commented on how to tell if caribou are doing well.

Things people look for is :

- If hunters are successful
- If the land/plants grown good
- See caribou coming in the spring.

Changes in the number Caribou

Almost everyone saw changes in number of caribou over their life.

There were times when there were less caribou in the past, in the 1970's and 1980's there were a lot of caribou then seem to decrease.

Reasons for the change was similar to the threats however it is also a natural cycle for animals.

Some people also talked about how caribou have moved away, and they will come back

It might deplete because there's so many things that come into consideration like the weather and the plants that grow and things that happen to the Earth and all those things that you mentioned come into what you call play on the survival of the caribou. – PIN01

Conservation

- **Most people mentioned changing harvesting – taking less or not taking Peary Caribou (smaller caribou). One participant mentioned getting muskox instead of caribou and another mentioned not hunting cows with calves.**

Habitat

Caribou like low areas, where it is damp and there is good plant growth. Most participants said this is where you would find them in summer but 2 participate also said you could find them here in winter.

Two participants also mentioned that caribou like shores in the summertime.

In winter most participates though caribou choice areas with less snow; high areas.

Two participants mentioned rocks; one thought they used rocks to get away from wolves.

What Caribou Eat

- Things caribou eat include:
 - Tuktut niqait
 - Lichen
 - Arctic Sorrel
 - Grass
 - Berries

To me their stomach is very green in the summer. –PIN06





2 **Study design**

☐ **SUMMER, 2014 30 INDIVIDUAL** Identified with help of KIA and HTO

- 23 Beneficiaries
- 5 Residents

Specific questions - muskox population

Open questions - emergence of other themes

3 **Study design**

☐ **WINTER, 2014 7 SMALL GROUP INTERVIEWS**

Total of 19 participants

11 from individual interviews

Group according to: age, hunting experience, hunting area of preference

Specific participatory activities

probe observations from the individual interviews

4 **Study design**

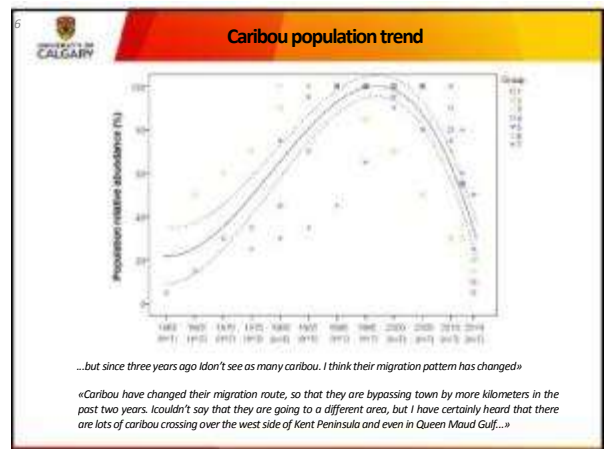
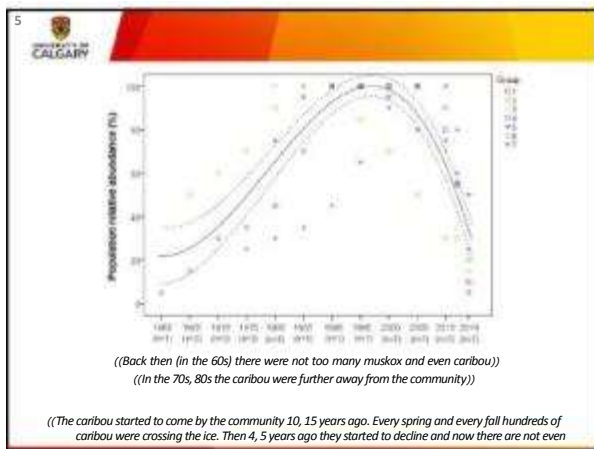
☐ **SUMMER, 2015 VALIDATION OF THE RESULTS**

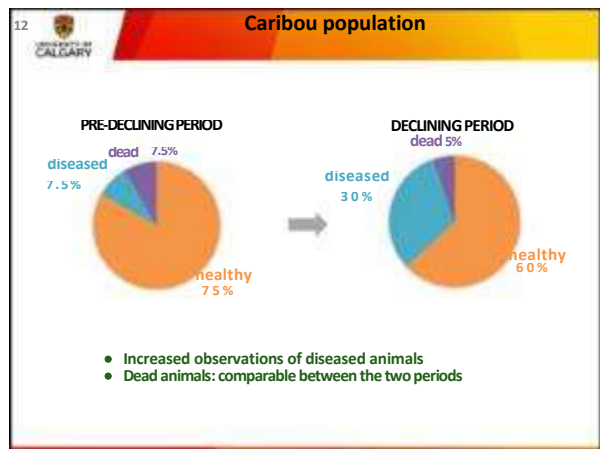
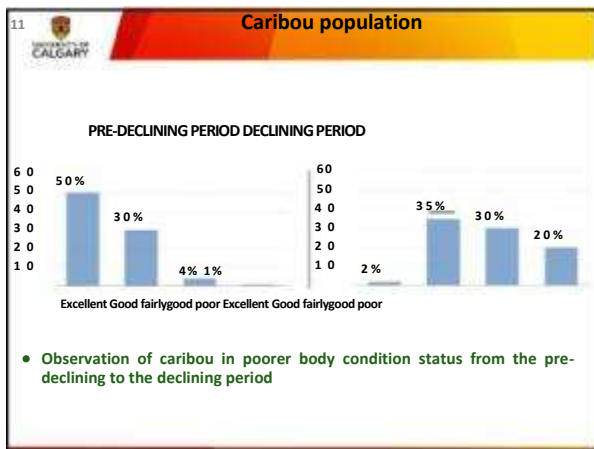
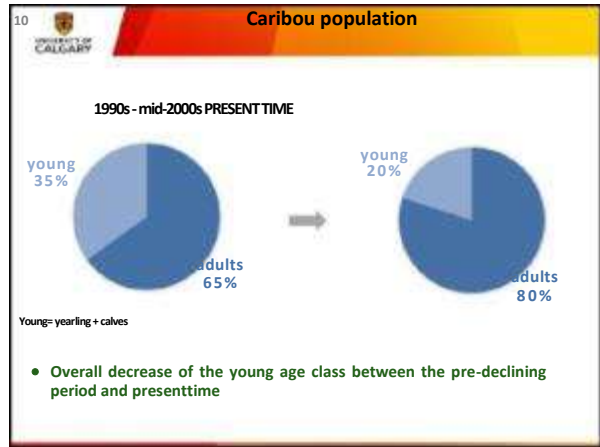
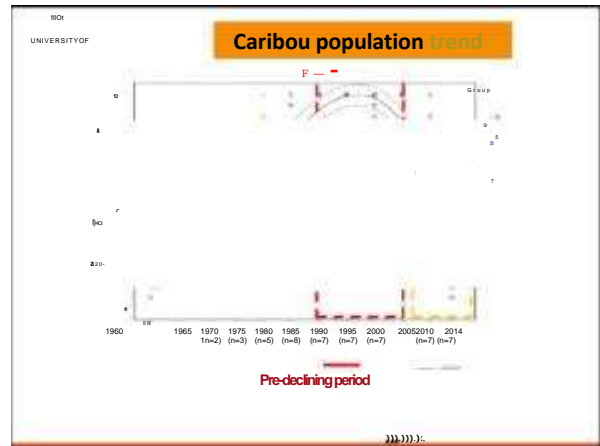
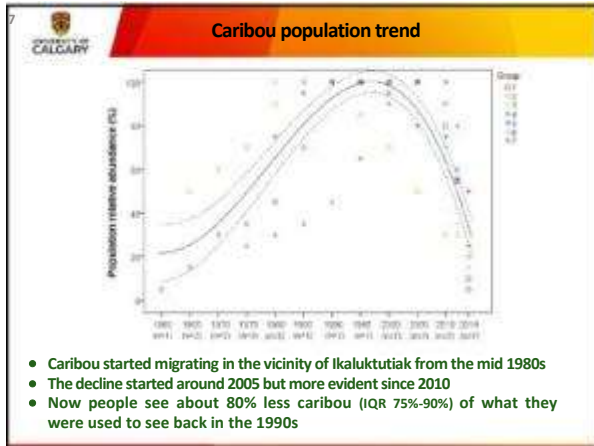
After data analyses

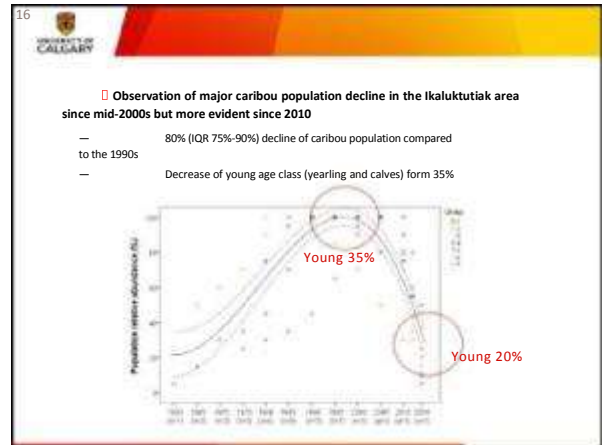
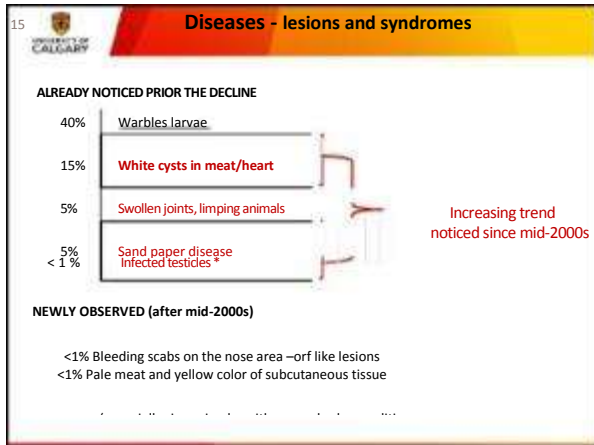
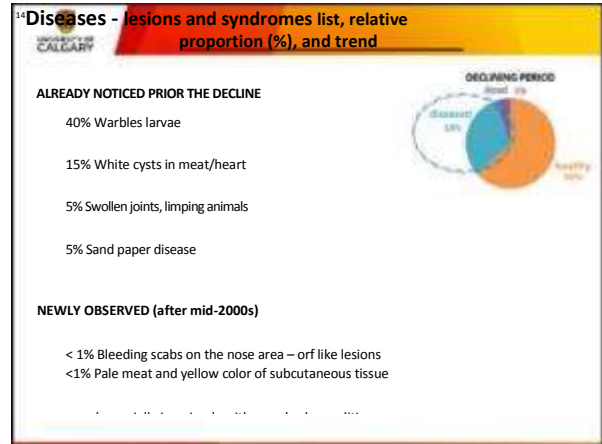
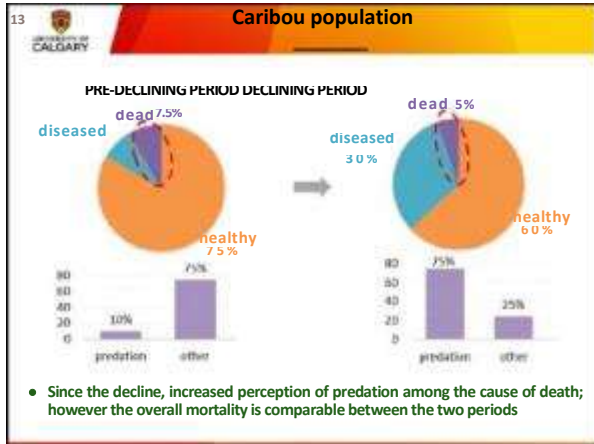
Presentation of results

Feedback from participants

n= 31/38







- 17
- Observation of poorer caribou body condition status since the decline
 - Increased observations of caribou with abnormalities since the decline
 - Increasing trend of some lesions/syndromes
 - Observation of diseases that might be new to the area (e.g. orf like)
 - Unchanged perception of overall caribou mortality between the pre-declining and declining period
 - Participants' perceptions of factors that may have contributed to the decline of caribou in the area
 - Change in migratory routes (more to the east and west side)
 - Increase in predators
 - Deterioration of health status
 - Human disturbance
 - Change in climatic conditions that can have a direct or indirect effect on caribou populations

18 **Acknowledgements**

UNIVERSITY OF CALGARY

Community of Ikaluktutiak

Kitikmeot Inuit Association

Charlie Evalik, Stanley Anablak, Paul Emingak, Julia Ogina, Fred Pedersen, Joey Evalik, Sarah Jancke and Michelle Buchanan

Ekaluktutiak Hunters and Trappers Organization

CHARS Jimmy Haniliak, Alice Maghagak, Brenda Sitatak

January 10,

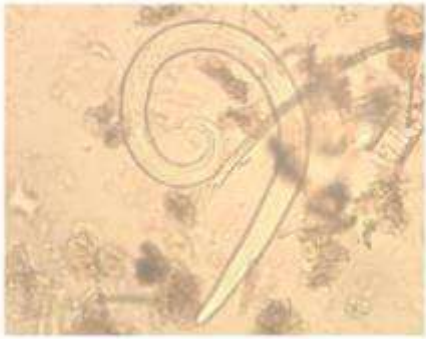


Summary report of the preliminary results of health analyses for caribou collared in the Kitikmeot, April 2015

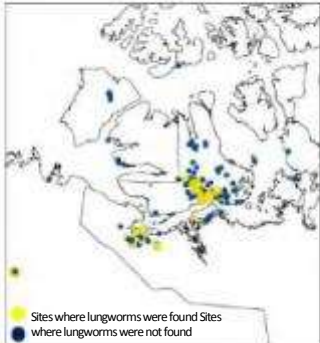
Susan Kutz with [Pratap, Kaffie](#), Angeline McIntyre and [ARS, Carlsson](#)

96NzgAYRic

Feces examined for Parasites






Distribution of lungworm, *Varestrongylus eleguneniensis*, based on muskox fecal samples




● Sites where lungworms were found
● Sites where lungworms were not found

Blood samples: Tested for *Erysipelothrix rhusiopathiae*

- Bacteria that is associated with muskox die-offs on Banks and Victoria Islands
- Can infect caribou and many other species, including people
- Only 'discovered' recently, but probably has been around for a longer time
- Very preliminary results: 5 of 22 (23%) of the tested positive

Blood testing for *Brucella* and other diseases underway



Preliminary results: Stress levels determined from hair

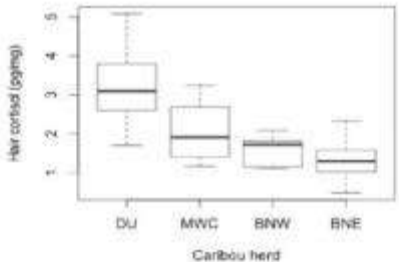
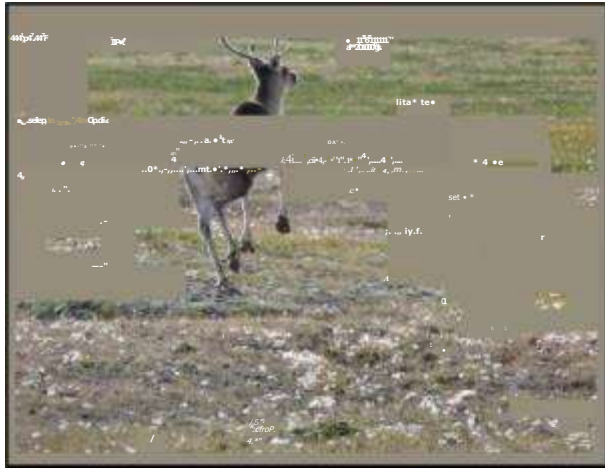


Figure 1. Dolphin Union caribou (DU, n=25) have significantly higher hair cortisol levels compared to Mountain Woodland caribou (MWC, n= 19), Bluenose West caribou (BNW, n=10) and Bluenose East caribou (BNE, 29).



Contaminants in Arctic Caribou



Mary Gamberg
Whitehorse, Yukon

1

NCP Arctic Caribou Sampling Program



2

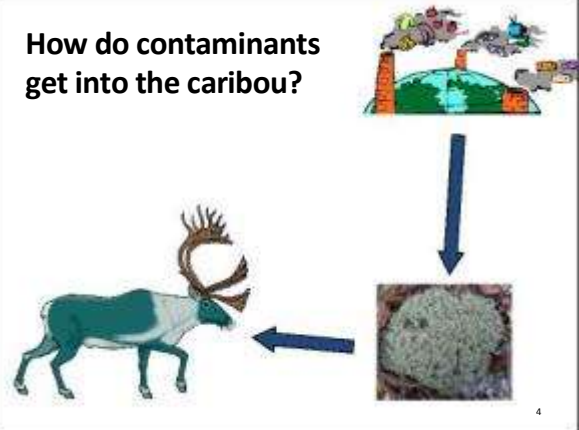
Potential Contaminant Issues in Arctic Caribou

- Cadmium
- Mercury
- Fluorinated compounds
- Brominated compounds
- Radioactivity



3

How do contaminants get into the caribou?



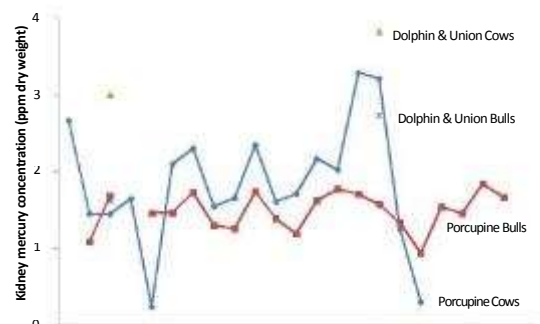
4

Kidney Cadmium in Arctic Caribou



5

Kidney Mercury in Arctic Caribou



6

'New' Contaminants

Brominated flame retardants (PBDEs)

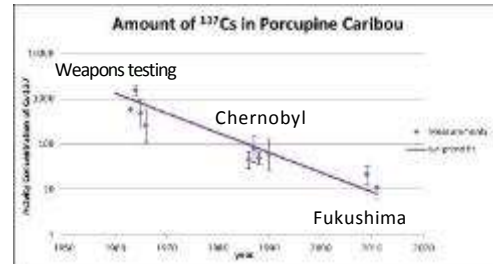


Fluorinated compounds (Teflon™)



7

Effect of Fukushima Nuclear Accident



Geometric means (±SD) of the activity concentrations in the Porcupine caribou (MacDonald et al., 2007 except for

the last two data points which are from this study).

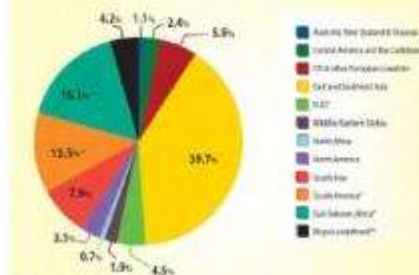
Health Assessment

| CARIBOU | Kidneys | Livers | Meat |
|-----------|---------|--------|--------------|
| Porcupine | 24 | 12 | All You Want |

9

Why do we continue to monitor caribou?

Regional mercury emissions in 2010



Asia and North America are the two largest contributors to mercury emissions in 2010. Africa and South America are also significant contributors.

10

What do we know about mercury in caribou?

- In the fall, mercury is higher in cows than in bulls
- In the spring, mercury may be lower in cows than in bulls
- Mercury is generally higher in spring caribou than fall
- Mushrooms may provide a pulse of mercury in the fall

11

Why do mercury levels fluctuate over years?

- Rain
- Snow
- Wind
- Temperature
- Migration patterns
- Time of green-up
- Industrial emissions
- Volcanoes
- Forest Fires

12

What Can We Do?

Monitoring Programs

Provide information on contaminants to individuals and communities

Provide evidence for Territorial, National and International legislation

13

International Legislation

Stockholm Convention

- 2004
- Limits production of persistent organic pollutants (DDT, PCBs)
- 179 countries signed
- 152 countries ratified

Minimata Convention

- 2013
- Limits emissions of mercury
- 128 countries signed
- 20 countries ratified
- Not ratified by

14

Thank You!

to
All the Hunters who
Contributed to this
Program!

15

Draft Table of Contents:
Dolphin & Union Caribou Joint Management Plan

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 - 2.4 Inuit Qaujimagatuqangit\Traditional Ecological Knowledge
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- 5.4 Knowledge Gaps
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 - 6.4 Managing based on Herd Status (Level)
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 - 6.6 Management Actions and Implementation Schedule (Table)
 - 6.7 Socioeconomic and Environmental Effects of Management
- 7. MEASURING PROGRESS
- 8. NEXT STEPS
- 9. REFERENCES




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Building | *Nunavut* Together
/Vunatiul iuqatigiingniq BAtir
le *Nunattu* ensemble

Nutigi

Background & Species Information

Lisa-Marie Lederc



Sections

- 3. Background
 - 3.1 Historical perspective
 - 3.2 Social perspective
 - History of subsistence and commercial harvesting
 - History of harvest management
- 4. Species information
 - 4.1 Species status
 - 4.2 Species description and biology
 - Life cycle and reproduction
 - Natural mortality and survival
 - Diet


3.1-2 Historical and social perspectives



- Since mankind has colonised the barren-land, his subsistence was based on caribou availability.
- Caribou:
 - At the based of the Northern Aboriginal Cultures
 - Has social and economical impacts.




3.3 Use of the herd



- 3.3.1 Communities that harvest the species
 - Dolphin and Union cross two jurisdictions
 - Winter: Paulatuk, Kugluktuk, Bay Chimo, Bathurst Inlet


3.3 Use of the herd



3.3.2 History of subsistence and commercial harvesting


- Availability in function of the herd distribution and movement.
- Up to 1994 , 289 tags was allocated for caribou commercial harvest in
- Inuvialuit Harvest study (88-97): 681 to 441
- Nunavut Harvest study: Kuelukuk 1..575 Cambridge Bay. R11. Bathurst
- Small Harvest Study 1January 1994- May 1995 and October 1995- June 1996.
- Kugluktuk : 90% of barren-ground caribou and 10% DIU

3.3 Use of the herd



3.3.3 History of harvest management

- No TAH set on the Dolphin and Union Caribou : harvest caribou to the full level of his or her economic, social, and cultural needs.



4. Species information

4.1 Species Status

NMWT Special Concern (2013, 2015)


4.2 Species description and biology

Dolphin and Union caribou are intermediate in size and color between Peary caribou and Barren-ground caribou.

Dolphin and Union caribou is the most genetically differentiated of the barren-ground caribou (Zittlau, 2004) possibly due to genetic bottleneck.

They do not form well define calving ground, as its calving strategy is mainly individualist (Nagy et al., 2011).

*Important: hard crossing the species to reach



4. Species information

4.2.1 Life cycles and reproduction

- Calves at 3 years of age

4.2.2 Natural mortality and survival

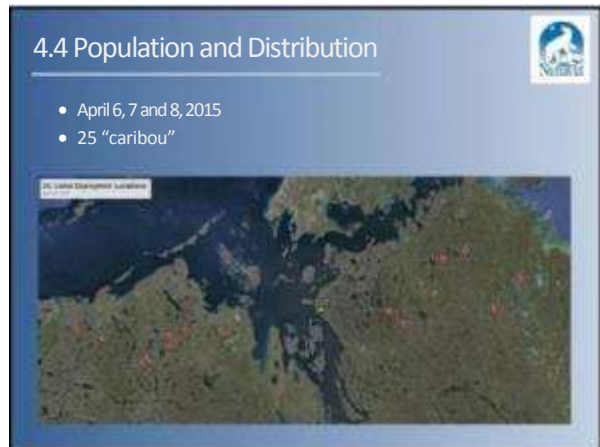
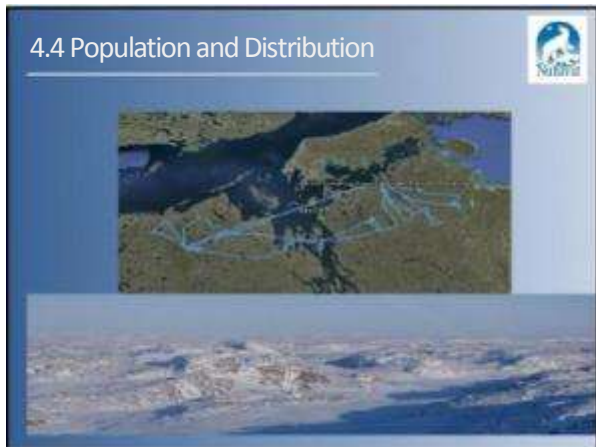
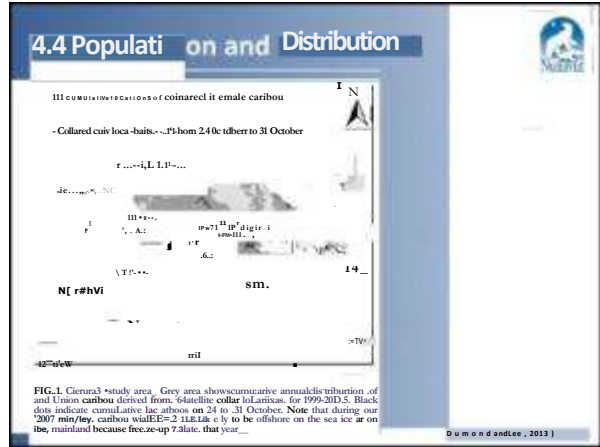
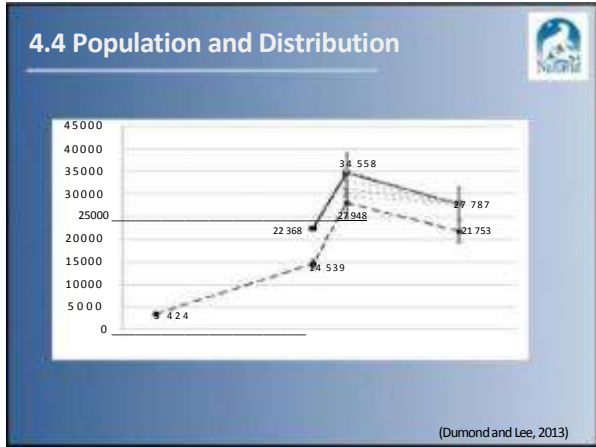
- Knowledge gaps

4.2.3 Diet

- Mid-tall grasses and green willows

4.3 Habitat Needs

- Victoria Island, Mainland, sea-ice



4.4 Population and Distribution

The slide features a satellite map of Cambridge Bay, Nunavut, at the top. Below the map are two side-by-side photographs of caribou in a snowy environment. The caribou on the left is facing away from the camera, while the one on the right is in profile, facing right.

4.4 Population and Distribution

- Body condition was assessed according to CAR MA's Rangifer Health & Body Condition Monitoring Protocol Level II, section 3.
- The body index condition is scored to healthy caribou as health female caribou were targeted for this program. Healthy animal will have a better chance to resist disease, harsh winter conditions and predation and stay alive for the duration of the study.

The slide includes a bar chart on the left with the y-axis labeled 'Frequency of Body Condition Index' and the x-axis labeled 'Body Condition Index'. The chart shows three bars of increasing height. To the right of the chart is a photograph of a caribou with large antlers running across a snowy field.

2015 Survey

The slide shows a wide-angle aerial photograph of a herd of caribou scattered across a vast, flat, snow-covered landscape. The animals appear as small dark spots against the white snow.

2015 Survey

The slide displays a map of Cambridge Bay with flight paths marked. A legend in the bottom left corner lists 'Displacement (km) (range)' with values 0.0, 5.0 - 10.0, 10.0 - 15.0, and 15.0 - 20.0. The map shows several flight paths radiating from the center of the bay. Text at the bottom of the slide reads 'Reconnaissance flights on October 27 (West of Cambridge Bay)'.

2015 Survey

The slide shows a map of Cambridge Bay with flight paths marked. A legend in the top right corner lists 'Displacement (km) (range)' with values 0.0, 5.0 - 10.0, 10.0 - 15.0, and 15.0 - 20.0. The map shows several flight paths radiating from the center of the bay. Text at the bottom of the slide reads 'Map of final systematic reconnaissance flights on October 29 (East of Cambridge Bay) and October 31 (West of Cambridge Bay) and second'.

2015 Survey

The slide shows a map of Cambridge Bay with flight paths marked. A legend in the bottom left corner lists 'Displacement (km) (range)' with values 0.0, 5.0 - 10.0, 10.0 - 15.0, and 15.0 - 20.0. The map shows several flight paths radiating from the center of the bay. Text at the bottom of the slide reads 'Map of final systematic reconnaissance flights on October 29 (East of Cambridge Bay) and October 31 (West of Cambridge Bay) and second'.

Dolphin and Union Caribou Management Plan Threats



Photo by Mathieu Dumond

Lisa Worthington

Environment & Natural Resources



Dolphin and Union Caribou

- Killiniq, Island,
- Arctic-Island,
- Mainland caribou,
- Tuktu, tuktu, tuttu
- caribou du troupeau Dolphin-et-Union
- *Rangifer tarandus groenlandicus x pearyi*



Photo by Kim Poole



Dolphin & Union Caribou Limiting Factors

Limiting Factors

- * Non-human factors that limit the abundance and
- * Make a species more vulnerable
- * Ea. age at first reproduction, prev abundance

Threats

- * Caused by human beings
- * Contribute to the population

Dolphin & Union Caribou Limiting Factors

- * Parasites and disease
- * Predation
 - Wolves, grizzly bears



Photo by Kim Poole

Dolphin & Union Caribou Threats

Climate Change

Warmer temperatures cause:

- * Later fall freeze-up and earlier spring thaw = longer staging time before migration.
- * Insect harassment
- * Warm weather = New parasites and diseases

***Impact on vegetation = increase in high quality forage



Photo by Kim Poole

Dolphin & Union Caribou Threats

Industrial Activities and other Human Disturbance

- * Tourism activities
- * Aircraft
- * Mining projects



Photo by Kim Poole

Dolphin & Union Caribou Threats

Presence of other species

- Muskox
- Geese
- Other herbivores (e.g. hare, lemmings)



Photo by Kim Poole

Dolphin & Union Caribou Threats

Harvesting beyond a self-sustaining level

- NWT: there is no mechanism to collect harvest data.
+
- Nunavut: harvest reporting is not mandatory.
=
- When a population declines, a consistent rate of harvest could become a threat.



Photo by Kim Poole

Dolphin & Union Caribou Threats

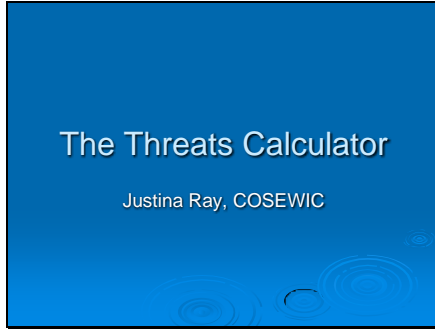
Other threats:

- Contaminants (includes impact of salt on habitat)



Photo by Kim Poole

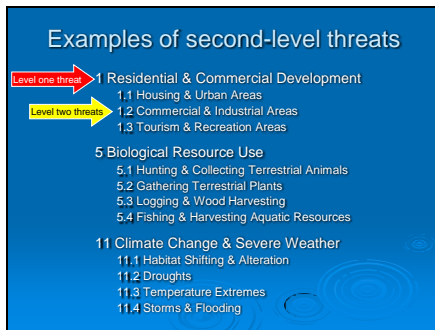
Slide 1



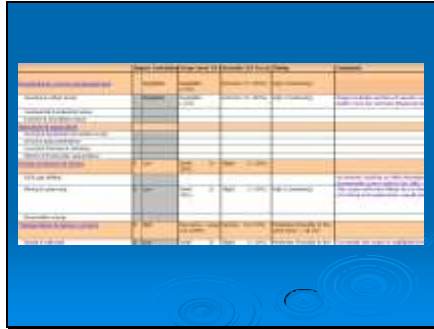
Slide 2



Slide 3



Slide 4



Slide 5

Scope

- "the proportion of the population that can reasonably be expected to be affected by the Threat within ten years with continuation of current circumstances"

| IUCN-CMP (draft) Scope of Threats Scoring | |
|--|---|
| Permanent | Affects all or most (71–100%) of the total population or occurrences |
| Large | Affects much (51–70%) of the total population or occurrences |
| Restricted | Affects some (11–50%) of the total population or occurrences |
| Small | Affects a small (1–10%) proportion of the total population or occurrences |

Slide 6

Severity

- Within the **scope**, **severity** is the level of damage to the species from the Threat that can reasonably be expected with continuation of current circumstances
- **Severity** of Threats is assessed within a ten-year* or three-generation time frame, whichever is longer (up to 100 years).
- **Severity** is usually measured as the degree of reduction of the species' population

Slide 7

Severity

| IUCN-GMP (draft) Severity of Threat Scoring | |
|--|---|
| Extreme | Within the scope, the Threat is likely to destroy or eliminate the occurrence of an ecological community, system or species, or reduce the species population by 71–100%. |
| Severe | Within the scope, the Threat is likely to seriously degrade/reduce the affected occurrence or habitat or, for species, to reduce the species population by 51–70%. |
| Moderate | Within the scope, the Threat is likely to moderately degrade/reduce the affected occurrence or habitat or, for species, to reduce the species population by 31–50%. |
| Slight | Within the scope, the Threat is likely to only slightly degrade/reduce the affected occurrence or habitat or, for species, to reduce the species population by 1–30%. |

Slide 8

Impact

- The degree to which a species is observed, inferred, or suspected to be directly or indirectly threatened.
- Based on the interaction between **scope** and **severity** values
- reflects a reduction of a species population

| Severity (S) | Scope (S) | | | | |
|--------------|-----------|-------|------------|-------|-----------|
| | Prevalent | Large | Restricted | Small | |
| Extreme | 15–30 | 21–50 | 6–30 | 1–10 | Very High |
| Severe | 11–20 | 30–49 | 6–21 | 2–7 | High |
| Moderate | 8–10 | 3–21 | 1–10 | 0–1–1 | Medium |
| Slight | 3–5 | 0–1 | 1–3 | 1–2 | Low |

Slide 9

Timing

- Recorded, but not used in **Impact** calculation

| IUCN-GMP (draft) Timing of Threat Scoring | |
|--|--|
| High | Continuing |
| Moderate | Only in the future (could happen in the short term [less than ten years or three generations]), or now suspended (could come back in the short term) |
| Low | Only in the future (could happen in the long term), or now suspended (could come back in the long term) |
| Insignificant/ Negligible | Only in the past and unlikely to return, or no direct effect but lasting |

DOLPHIN AND UNION CARIBOU MANAGEMENT FRAMEWORK

Outline of draft goal, objectives, approaches and actions Based on Group Discussion in Kugluktuk: March 25 – 27, 2015

MANAGEMENT GOAL/VISION:

The long term persistence of healthy Dolphin and Union caribou recognizing their cultural importance.

To support a healthy and viable population of Dolphin and Union Caribou that moves freely between mainland and Victoria Island, and offers harvesting opportunities for present and future generations.

OR:

To support a healthy and viable population of Dolphin and Union Caribou that moves freely between mainland and Victoria Island, that allows for human use of caribou and their habitat while respecting conservation concerns..

To keep Dolphin and Union caribou from becoming threatened or endangered.

OBJECTIVES:

These are five objectives for the management of Dolphin and Union caribou. These objectives apply broadly across the herd's range in NWT and Nunavut.

1. Adaptively co-manage Dolphin and Union caribou by using a grassroots, community-based approach and the best traditional, community, scientific and technical information available.
2. Communicate and exchange information on an ongoing basis between co-management partners, communities, industry and the public with regard to monitoring and managing Dolphin and Union caribou.
3. Collect information on Dolphin and Union caribou using TK and IQ, community monitoring and scientific methods to inform sound management decisions.
4. Promote minimal human disturbance to habitat (particularly sea-ice crossings) to maintain a healthy, migratory population of Dolphin and Union caribou.
5. Ensure management actions including harvest are based on herd status.

APPROACHES TO ACHIEVE THESE OBJECTIVES:

Recommended approaches (numbered as X.X.) are grouped on the following pages under each objective. More specific actions (numbered as X.X.X) are grouped below under each approach but will not be included in management plan (for implementation plan).

Objective #1:

Adaptively co-manage Dolphin and Union caribou by using a grassroots, community-based approach and the best traditional, community, scientific and technical information available.

- 1.1 Work with co-management partners, Aboriginal governments and organizations, local harvesting committees, and industry to share information and collaborate on management actions.
- 1.2 Co-ordinate research among different co-management partners and research institutions.
- 1.3 Assess and manage cumulative impacts on Dolphin and Union caribou population and habitat.

Objective #2:

Communicate and exchange information on an ongoing basis between co-management partners, communities, industry and the public with regard to monitoring and managing Dolphin and Union Caribou.

- 2.1 Encourage flow and exchange of information between parties, using various approaches, depending on group/demographic.

Objective #3:

Collect information on Dolphin and Union caribou using TK and IQ, community monitoring and scientific methods to inform sound management decisions.

- 3.1 Improve our understanding of Dolphin and Union caribou health, distribution, key habitat and population indicators, impacts of human activities, cumulative effects and relationships.
- 3.2 Monitor Dolphin and Union caribou population.

Objective #4:

Promote minimal human disturbance to habitat (particularly sea-ice crossings) to maintain a healthy, migratory population of Dolphin and Union caribou.

- 4.1 Monitor human and industrial disturbance.
- 4.2 Minimize human and industrial disturbance.
- 4.3 Monitor changes to habitat on an ongoing basis.
- 4.4 Work with all levels of governments to manage populations of other species that affect Dolphin and Union caribou habitat (e.g., overabundant geese).

Objective #5:

Ensure management actions including harvest are based on herd status.

Ensure long term harvest of Dolphin and Union caribou can be supported by the population.

- 5.1 Obtain accurate harvest data.
- 5.2 Access herd status based on information collected.
- 5.3 If necessary, manage harvesting activities within acceptable limits to ensure that harvesting opportunities are available in the future by respectfully harvesting today.

MORE DETAILS – List Actions

APPROACHES AND ACTIONS TO ACHIEVE THESE OBJECTIVES:

Objective #1:

Adaptively co-manage Dolphin and Union caribou by using a grassroots, community-based approach and the best traditional, community, scientific and technical information available.

- 1.1 Work with co-management partners, Aboriginal governments and organizations, local harvesting committees, and industry to share information and collaborate on management actions.
 - 1.1.1 Incorporate community and traditional knowledge and ensure that plans and actions for Dolphin and Union caribou management are informed by this knowledge.
 - 1.1.2 Continue to work with wildlife management advisory boards, game councils and local HTO/HTAs on Dolphin and Union caribou monitoring, stewardship and management.
 - 1.1.3 Work with industry on best practices and mitigation, monitoring and research.
 - 1.1.4 Continue engaging hunters, industry and public about Dolphin and Union caribou management.
 - 1.1.5 Annually review new information on demographics and habitat, and adapt management practices accordingly.
 - 1.1.6 If necessary, recommend alternative management actions (e.g., stricter habitat and/or harvest management) allowing for natural variation in numbers.
 - 1.1.7 Annually report on management actions and progress made toward meeting objectives in management plan.
- 1.2 Co-ordinate research among different co-management partners and research institutions.
 - 1.2.1 Identify knowledge gaps and establish high priority research questions.
 - 1.2.2 Co-ordinate research activities with different research institutions and promote high priority research.
 - 1.2.3 Ensure local involvement in research activities (planning, field research).

Objective #2:

Communicate and exchange information on an ongoing basis between co-management partners, communities, industry and the public with regard to monitoring and managing Dolphin and Union Caribou.

- 2.1 Encourage flow and exchange of information between parties, using various approaches, depending on group/demographic.
 - 2.1.1 Conduct “out on the land” trips, where experienced hunters (elders if they’re able) take youth out on the land.
 - 2.1.2 Use social media and the internet to reach out to youth.
 - 2.1.3 Conduct school visits to educate youth about managing Dolphin and Union caribou.
 - 2.1.4 Conduct community meetings to exchange information with communities about management of Dolphin and Union caribou.
 - 2.1.5 Investigate the potential of having industry contribute information to research and monitoring.
 - 2.1.6 Ensure ongoing communication between co-management partners and through supporting community monitoring programs.

Objective #3:

Collect information on Dolphin and Union caribou using TK and IQ, community monitoring and scientific methods to inform sound management decisions.

- 3.1 Improve our understanding of Dolphin and Union caribou health, distribution, key habitat, relationships and cumulative effects.
 - 3.1.1 Identify geographic areas of importance to Dolphin and Union Caribou through research and community/traditional knowledge.
 - 3.1.2 Monitor changes in predator abundance through community-based monitoring.
 - 3.1.3 Promote research on relationships between Dolphin and Union caribou and predators (including relatively new predators such as the grizzly bear on Victoria Island).
 - 3.1.4 Promote research on relationships between Dolphin and Union caribou and other species (e.g. other ungulates, geese).
 - 3.1.5 Promote research on Dolphin and Union caribou population, habitat, vital rates, and health and condition, including possible contaminants.
- 3.2 Monitor Dolphin and Union caribou population and periodically assess herd status.
 - 3.2.1 Expand community monitoring programs that provide information on Dolphin and Union caribou condition, population trends, and predators.
 - 3.2.2 Periodically estimate population size and trend.
 - 3.2.3 Assess herd status annually, based on framework.
- 3.3 Assess cumulative impacts on Dolphin and Union caribou population and habitat.
 - 1.3.1 Develop an approach to modelling cumulative effects.

Objective #4:**Promote minimal disturbance to habitat (particularly sea-ice crossings) to maintain a healthy, migratory population of Dolphin and Union caribou.**

- 4.1 Monitor and minimize human and industrial disturbance.
 - 4.1.2 Develop guidelines, standard advice, and best practices for shipping, tourism and industry that can be regulated and evaluated;
 - 4.1.3 Identify organizations (e.g., HTOs and communities) who could/would play a lead role in promoting standard advice and guidelines for shipping, tourism and industry.
 - 4.1.4 Work with Transport Canada, tourism operators and other industry to regulate shipping and industry activities (e.g., establishing seasonal limitations for industry shipping and cruise ships during migration season and adjusting these in response to caribou status, if necessary).
 - 4.1.5 Develop guidelines for oil spill response related to caribou.

- 4.2 Monitor changes to habitat on an ongoing basis.
 - 4.2.1 Track human-caused landscape changes.
 - 4.2.2 Monitor industrial activity including shipping traffic.
 - 4.2.3 Track changes to sea ice and potential impacts to Dolphin and Union caribou.
 - 4.2.4 Monitor and evaluate compliance with (or implementation of) guidelines, standard advice, and best practices mentioned in 4.1.2.
 - 4.2.5 Work with communities to reduce release of contaminants through various venues (see 2.1.4).

- 4.3 Work with all levels of governments to manage populations of other species that affect Dolphin and Union caribou habitat (e.g., overabundant geese).
 - 4.3.1 Promote traditional harvesting of overabundant species through subsistence and sport hunts.
 - 4.3.2 Approach other governments to open hunting season earlier for geese.
 - 4.3.3 Promote collection of eggs within communities.

Objective #5:**Ensure management actions including harvest are based on herd status.**

- 5.1 Obtain accurate harvest data.
 - 5.1.1. Educate people on the importance of reporting harvest.
 - 5.1.2. Work with local Hunters & Trappers Committees/Organizations and regional Wildlife Advisory Boards to collect accurate information on harvest levels.
 - 5.1.3. Report estimated total harvest levels, including the number harvested and the sex ratio, to caribou management authorities and co-management partners.

- 5.2 Assess herd status based on information collected.

- 5.3 If necessary, manage harvesting activities within acceptable limits to ensure that harvesting opportunities are available in the future by respectfully

harvesting today.

- 5.2.1. Investigate and consider defining *acceptable harvest* levels appropriate for different population size and trend in the herd.
- 5.2.2. Elders teach youth about wise harvesting practices that minimize negative impacts on caribou; includes no wasting of meat, harvesting only what is needed, proper marksmanship, ability to distinguish types of caribou; avoiding harvest of cows with calves.
- 5.2.3. Investigate the possibility of promoting alternative food sources through harvest of other species.
- 5.2.4. Annually review harvest levels and make management recommendations if necessary (e.g. temporary harvest limitations).

FOUR OPTIONS FOR DOLPHIN & UNION CARIBOU MANAGEMENT GOAL



1. The long term persistence of healthy Dolphin and Union caribou recognizing their cultural importance.
2. To support a healthy and viable population of Dolphin and Union Caribou that moves freely between mainland and Victoria Island, and offers harvesting opportunities for present and future generations.
3. To support a healthy and viable population of Dolphin and Union Caribou that moves freely between the mainland and Victoria Island, and allows for human use of caribou and their habitat while respecting conservation concerns.
4. To keep Dolphin and Union caribou from becoming threatened or endangered.

From the Bluenose Management Plan

9.2 When Do We Take Action

Our actions to help the caribou herds will be determined in part by the herd size, and whether it is increasing or decreasing. Management decisions will also be influenced by other information from harvesters and scientists such as recruitment, bull-to-cow ratio, body condition and health.

In this Management Plan there are four levels of herd status and management actions. These are colour-coded yellow, green, orange, and red.¹⁴ Management actions are based on defined phases of the population cycle. The herd status provides a trigger for specific management actions.

-  **Yellow:** The population level is intermediate and increasing
-  **Green:** The population level is high

- Orange:** The population level is intermediate and decreasing
- Red:** The population level is low

A representation of these thresholds is provided with corresponding colours in **Figure 8**.

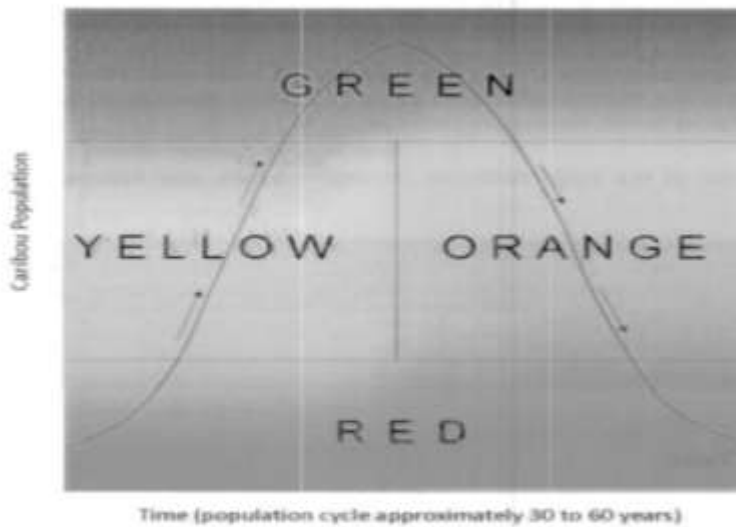


Figure 8: Caribou population status as colour zones.

Thresholds to help guide management actions were determined with input received from community and technical experts in a consensus-based process (**Table 2**). ACCWM members combined available science (historical high and low populations) with traditional knowledge and experience. Slight differences in thresholds between herds reflect the results from community engagements. The historic high, as measured by surveys, for each of the three herds, and the change over time, are shown in **Figures 4-6** of this report and described in more detail in the **Scientific Report**. Sufficient information was not available from results of modelling simulations to help set thresholds. However, this could be a helpful tool to provide further evaluation or adjustments in future planning. In addition, ENR has recently developed a “Rule of Thumb Approach” that describes a framework for barren-ground caribou harvest recommendations based on herd risk status. This approach relies on indicators – such as population size and trend – to help estimate the potential risk to a herd under different management scenarios; it is included with the **Scientific Report**.

The thresholds in **Table 2** are approximate and will be used to help guide management decisions and actions based on herd status. As explained earlier, estimated herd size is not the only indicator used to set a herd status into one of the four colour zones. Herd status decisions will use estimates of the overall number of caribou, whether a herd is growing in size or is declining (trend), and other monitoring indicators to assist in interpretation. In practise this means that although an estimate for a herd may cross or be very near a threshold, the determination of herd status will take into account all available information – it is not only the threshold value that is used to determine the colour zone. For example, a recommendation could be made to set a herd in a colour zone before a population estimate reaches a threshold value, or a decision could be made to keep a herd in a colour zone despite an estimate placing it just outside the threshold, if this is the best action based on all indicators considered together and according to the principles stated in this Management Plan.

Table 2: Thresholds for the status of the Cape Bathurst, Bluenose-West, and Bluenose-East Caribou Herds.

| HERD | Historic High As measured by surveys | Threshold Between green & yellow/orange | Threshold Between red & yellow/orange |
|--------------------|--|---|---|
| Cape Bathurst Herd | 12,000 | 12,000 | 4,000 |
| Bluenose West Herd | 56,000 | 56,000 | 15,000 |
| Bluenose East Herd | 60,000 | 60,000 | 20,000 |

Table 3: Summary of management actions.¹⁶

| Management Actions Based on Herd Status/Colour Zone | | | | |
|---|--|--|--|--|
| Management Action | The population level is intermediate and increasing | The population level is high | The population level is intermediate and decreasing | The population level is low |
| Education | <p>Recommend education programs for all status levels. Ideas for educational themes include:</p> <ul style="list-style-type: none"> • Promoting total use of harvested caribou, and proper butchering and storage methods; • Limiting wounding loss; • Letting the leaders pass; • Promoting community hunts with experienced hunters; • Use of alternate species; and • Increased sharing of traditional foods. | | | |
| Habitat | <ul style="list-style-type: none"> • Identify and recommend protection for key habitat areas; • Review results of monitoring, including cumulative effects, to ensure enough habitat is available and caribou are able to move between areas of good habitat; • Recommend important habitat as a 'value at risk' for forest fire management. | | | |
| Land use activities | <ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of industrial impacts to proponents and regulators. | <ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of the impacts of exploration and development activities to proponents and regulators. | <ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of industrial impacts to proponents and regulators; • Provide active and accessible communication and recommend education programs for all including proponents and airlines; • Recommend increased enforcement of land use regulations, including community monitors. | <ul style="list-style-type: none"> • Work directly with proponents and regulators of exploration and development activities to advise on mitigation measures; • Review results of cumulative effects monitoring programs; • Provide active and accessible communication and recommend education programs for all including proponents and airlines; • Recommend increased enforcement of land use regulations, including community monitors. |

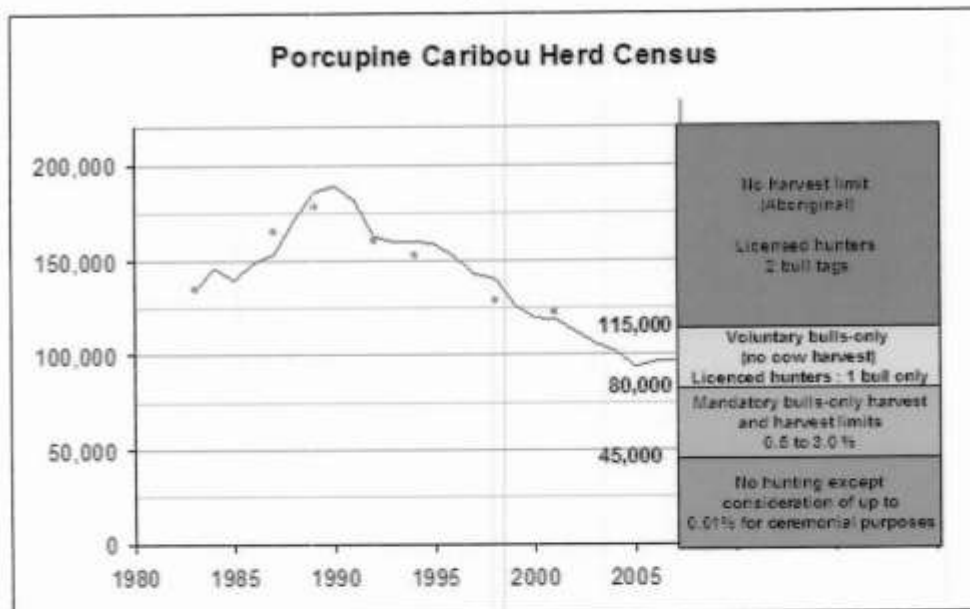
¹⁶ These management actions are in addition to the research and monitoring actions described in section 8.0 and summarized in Table 1.

| Management Actions Based on Herd Status/Colour Zone | | | | |
|---|--|---|---|--|
| Management Action | The population level is intermediate and increasing | The population level is high | The population level is intermediate and decreasing | The population level is low |
| Predators | <ul style="list-style-type: none"> Continue research programs to monitor predator condition (e.g., carcass collection and community monitoring programs). | <ul style="list-style-type: none"> Continue research programs to monitor predator condition (e.g., carcass collection and community monitoring programs). | <ul style="list-style-type: none"> Review results of research programs that monitor predator abundance and predation rates; Consider recommending options for predator management. | <ul style="list-style-type: none"> Review results of research programs that monitor predator abundance and predation rates; Consider recommending options for predator management. |
| Harvest | <ul style="list-style-type: none"> Recommend easing limits on subsistence and then resident harvests ; Consider recommending outfitter and commercial harvests at discretion of the ACCWM. | <ul style="list-style-type: none"> Support harvest by beneficiaries of a Land Claim and members of an Aboriginal people, with rights to harvest wildlife in the Region; Recommend that if subsistence needs are met resident harvest should be permitted (with limits); Potentially recommend resident (non-beneficiary), non-resident, sport hunts, and/or commercial harvests. | <ul style="list-style-type: none"> Recommend a mandatory limit on subsistence harvest based on a TAH accepted by the ACCWM; Prioritize the collection of harvest information; Recommend no resident, outfitter or commercial harvest; Recommend a majority-bulls harvest, emphasizing younger and smaller bulls and not the large breeders and leaders; Recommend harvest of alternate species and encourage increased sharing, trade and barter of traditional foods, such as the use of community freezers; Recommend increased enforcement including community monitors. | <ul style="list-style-type: none"> Recommend harvest of alternate species and meat replacement programs, and encourage increased sharing, trade and barter of traditional foods; Prioritize the collection of harvest information; Review of mandatory limit for subsistence harvest for further reduction; Recommend increased enforcement including community monitors; Resident, commercial, or outfitter harvest remain closed. |

B. Colour Chart

At the Inuvik workshop it was agreed to use a colour chart for showing what the harvest should be in relation to how big the herd is. Such colour charts are already used for fire management and salmon management, and so many people understand what they mean and how to use them.

Harvest Management Colour Chart



Red dots are estimates of the number of caribou from counts during the photocensus.

Blue line is the trend in population size predicted by the Caribou Calculator using available data each year.

All hunters in all colour zones must report their harvest at all times. Rigorous and verifiable harvest monitoring will be an important information source for ongoing herd management.

Green 'Take what you need' — This means no aboriginal harvest restrictions; in other words, nothing special would be done, and people could hunt for what they need. Of course, respect for the caribou would always be emphasized. Licensed hunters would receive a maximum of two bull tags.

Yellow 'Voluntary Bulls only' — Bulls-only harvest, with the understanding that the goal is to have no cows harvested — governments will use tools like education initiatives, legislation, regulations, and/or bylaws to work cooperatively to achieve this 100% bulls-only target. Licensed hunter harvest would be reduced to one bull tag. The Parties are committed to achieving 100% bulls-only harvest. If this target is not effectively met, the Parties will commit to review the measures, including the potential application of a mandatory bulls-only harvest.

Orange 'Mandatory bulls only and harvest limits' — This means that the Parties would take steps to ensure hunters took only bulls and the total harvest and the related sub-allocations are collectively within the annual allowable harvest.

Red 'No hunting' — This means all hunting would cease except for the opportunity of a very small (0.0%-0.1%) bull-only subsistence-ceremonial aboriginal harvest.

Herd Management

The Management Plan recommends three approaches to overall monitoring and management of the population that accounts for natural long term population fluctuations (Table 3).

Level – 1: Core Management (Stable or increasing trend/high population)

Level 1 core management actions apply at all times during the population cycle and represents the minimum level of population management activities that need to be conducted. Core management actions are used to detect a decline in productivity and abundance.

Level – 2: Enhanced Management (Declining trend)

Level 2 is implemented when there is an indication that the population is declining. The management actions are designed to detect changes at a finer scale. At this level a total allowable harvest may have to be applied and/or modified.

Level – 3: Critical Threshold Management (Population level below Basic Needs Level)

Level 3 is implemented when there are not enough caribou to meet the basic needs level. Management actions for level 3 will remain the same for those at level 2, but would involve more intensive harvest management. At this level it is expected that non-quota limitations will be introduced and a Total Allowable Harvest will have to be set below the Basic Needs Level.

A → High/Stable

- > ^{**1} Education - youth
(including other wildlife)
- > Encourage harvest of Predators
(\$\$ + Education)
- > No Harvest Restrictions
on Beneficiaries

- > Harvest Monitoring
(Community Based monitoring)
- > Community Based
Mgm
 - Commercial - Meat Plant
 - Sport hunting
 - Resident hunting
 - Community (commercial) harvest
- > Consider other
harvest
based on community
land claim

Declining

- > increase ^{Prioritize} monitoring (+ sharing of information)
 - ↳ ex: Sample Kits
- Positive > Harvest Management
 - ↳ limiting / ^{None-quota limitations} Male only +
- > Consider ending "other" harvest (commercial)
- > Restricting Industry (activities)
- ↑ > Education - elders → youth
 - (# include high education)
 - > alternative wildlife (cross youth handling)
 - > Trapper training to encourage harvest predators.
- > Bring Communities / Agencies together (collaboration)

Low
(even begining of increase)

> monitoring → Prioritize

> surveys

> harvest?

> TAH (season?)

> harvest of alternative herds/
wildlife

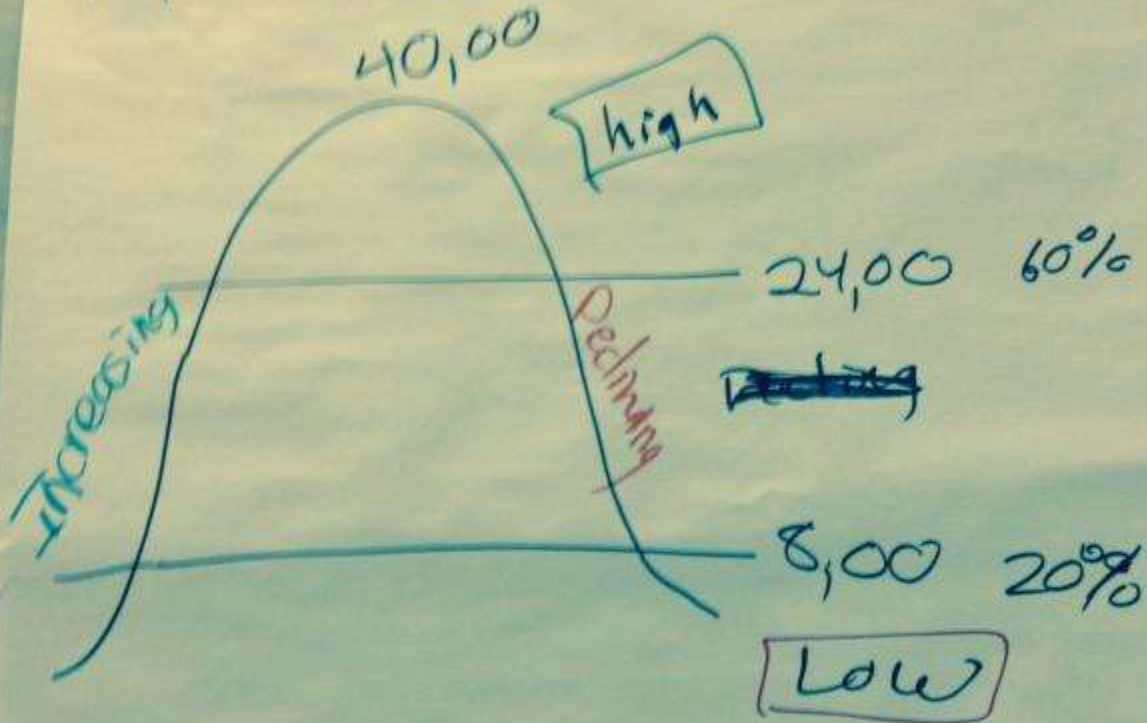
> Education

> why ~~TAH~~ TAH

Increasing

- > Consider lifting restrictions on Industry
- > Consider lifting Restrictions on Harvest
- > Education
- > "Baseline" monitoring (lower priority but some needed)

Population



Other indicators:

- > climate change - insects - ~~range~~
- > health/disease carrier

> recruitment

- > Distribution/migration Δ s
- > other species?

2) ለልሳፍ ልክጋራሎቻቸው:

- ክብርታ 8328.960mt ለክፍሎቹ NAFO ልዩ ልዩ ስልጠና 0A
- ክብርታ 3024.270mt ለክፍሎቹ NAFO ልዩ ልዩ ስልጠና 0B
- ክብርታ 859.639mt ለክፍሎቹ NAFO ልዩ ልዩ ስልጠና 0B ለግብይት

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- ስልጠናው የሥራ ስልጠና ስልጠና ስልጠና:
- ክብርታ 784.33mt ለክፍሎቹ የሥራ ስልጠና ስልጠና
- ክብርታ 1133.921mt ለክፍሎቹ የሥራ ስልጠና ስልጠና
- ክብርታ 418.295mt ለክፍሎቹ የሥራ ስልጠና ስልጠና 1-ፍ
- ክብርታ 159.129mt ለክፍሎቹ ስልጠና ስልጠና
- ክብርታ 2870.602mt ለክፍሎቹ ስልጠና ስልጠና

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ስልጠና: ስልጠና 24, 2018

Δημόσια Υποστήριξη των Διαφορετικών

Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού του Δήμου με την παρουσία των μελών του Συλλογισμού

Ανάλυση της Συμπεριφοράς, 22 Μαΐου, 2018

Αποτελέσματα:

- Ημερήσια Διάσκεψη - Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού
- Αμεση Υποστήριξη - Υποστήριξη Συλλογισμού
- Ημερήσια Διάσκεψη - Λογιστική
- Μέλη της Κοινωνίας - Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού
- ΔΡ Ημερήσια Διάσκεψη - NWMB
- Αμεση Υποστήριξη - NWMB
- Ημερήσια Διάσκεψη - DFO
- Ημερήσια Διάσκεψη - DFO
- Ημερήσια Διάσκεψη - DFO
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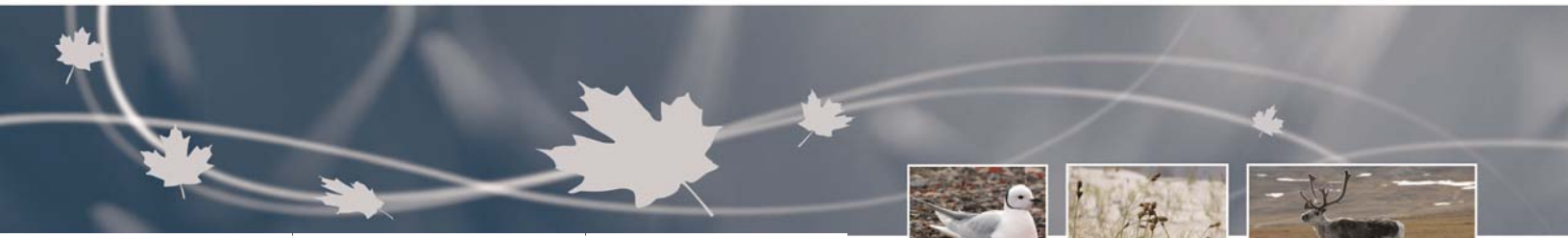
Ανάλυση της Συμπεριφοράς, Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού.

Αποτελέσματα της 3ης Ημερήσιας / Ημερήσιας Διάσκεψης:

- Ημερήσια Διάσκεψη - Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού
- Αμεση Υποστήριξη - Υποστήριξη Συλλογισμού
- Ημερήσια Διάσκεψη - Λογιστική
- Μέλη της Κοινωνίας - BFC
- Ημερήσια Διάσκεψη - NWMB
- Ημερήσια Διάσκεψη - NMRWB
- Ημερήσια Διάσκεψη - DFO (Διαφορετικότητα)
- Ημερήσια Διάσκεψη - DFO
- Ημερήσια Διάσκεψη - DFO
- Ημερήσια Διάσκεψη - DFO

Ημερήσια Διάσκεψη, Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού.

*Μέλη της Κοινωνίας (Υποστήριξη της Ημερήσιας Διάσκεψης με τη συμμετοχή των μελών του Συλλογισμού) Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού. Ημερήσια Διάσκεψη με τη συμμετοχή των μελών του Συλλογισμού.

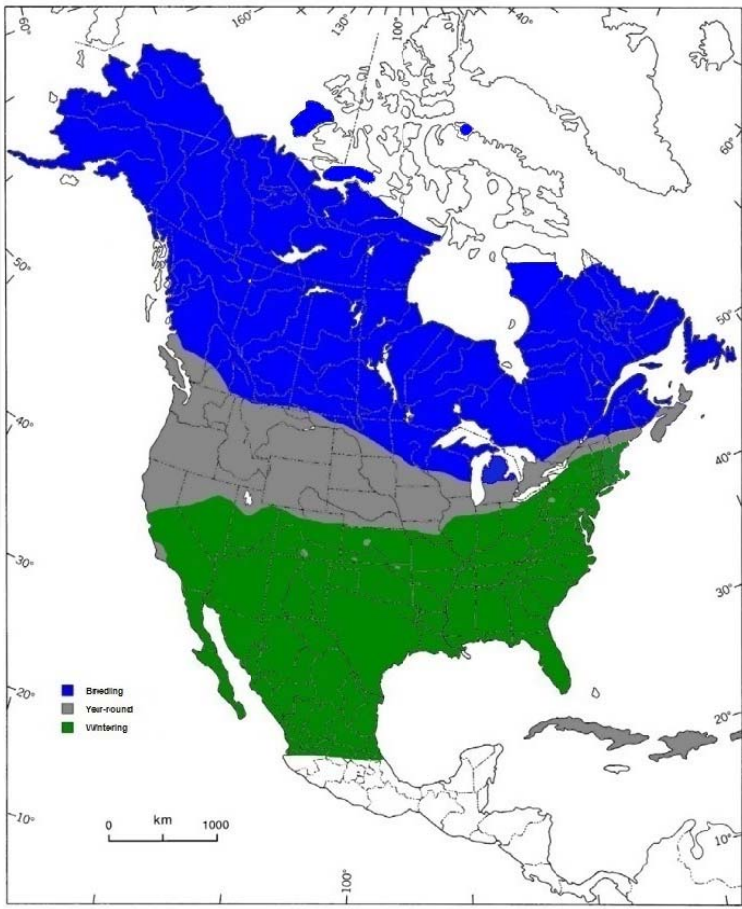


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የክልል ባለሙያዎች :

ልዩ ልዩ ሁኔታዎች : X

ለካላ ሁኔታዎች : ጋራ ጥላቻ ላይ ለሚታዩ ልዩ ልዩ ሁኔታዎች ናቸው - ጋራ ጥላቻ ላይ ለሚታዩ ልዩ ልዩ ሁኔታዎች ናቸው።



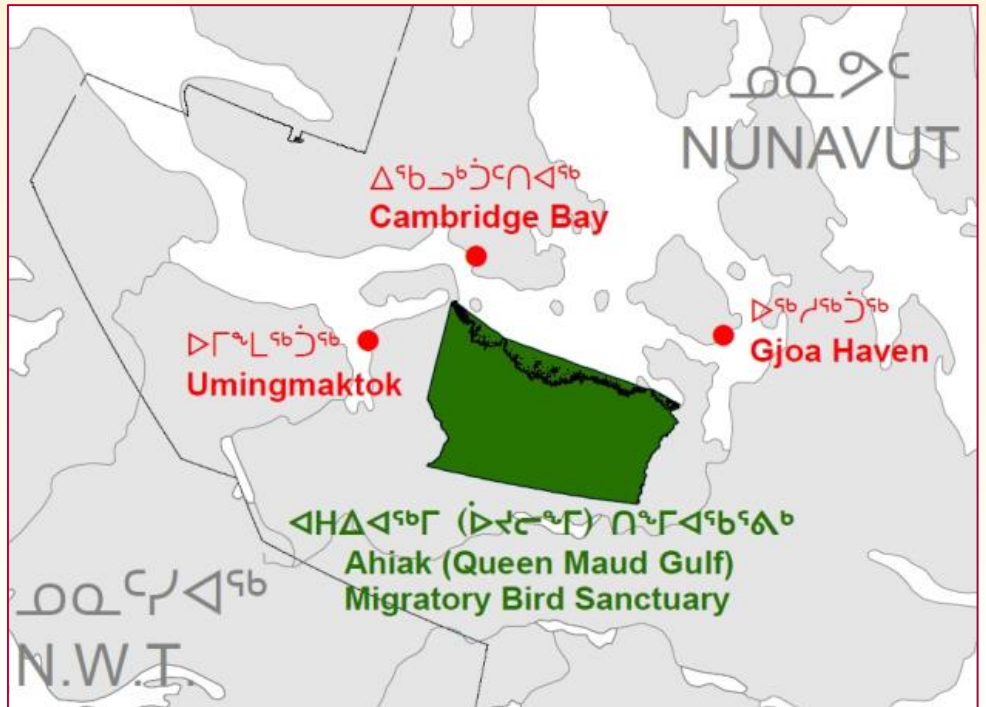
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ዕቅድ ለሚታዩ ጋራ ጥላቻ ላይ ለሚታዩ ልዩ ልዩ ሁኔታዎች ናቸው - ጋራ ጥላቻ ላይ ለሚታዩ ልዩ ልዩ ሁኔታዎች ናቸው።

CLΔ^oσ^b ▷σ^bḅ^hḅΔ^oḅ^oḅ^oḅ^oḅ^o

Outline of this presentation

- ሳፔገሊቦርብኒረቦኔኅልር ኑጋ^oσ^oገገፍርገሊራፍገራፍገራፍገራ ሙጋጋጋ ሙጋጋጋ
- ርገቦርብረራፍገራ ልጋራፍገራፍገራ ሰባፍገራገገፍገራገገፍገራ ልጋራፍገራገገፍገራ ልጋራፍገራገገፍገራ ልጋራፍገራገገፍገራ ልጋራፍገራገገፍገራ
- Information on protected areas in Nunavut
- Show you the content of the Final Draft Management Plan for the Ahiak MBS



ᐃᐅᓕᓃᐅᓃᑦᑲᓕᐅᓂᓃᓯᓯᓕ ᑲᓃᓕᓯᓕᓕ

Area Comanagement Committees (ACMCs)



- 9-ᓃᑦᑲᓕ ᐃᐅᓕᓃᐅᓃᑦᑲᓕᐅᓂᓃᓯᓯᓕ ᑲᓃᓕᓯᓕᓕ ᓃᑦᑲᓕ ᓄᓄᓃᑦᑲ, ᐃᐅᓕᓃᐅᓃᑦᑲᓕᐅᓂᓃᓯᓯᓕ 16-ᓃᑦᑲᓕ ᓃᓂᓄᓂᐅᓃᑦᑲᓕᐅᓯᓯᓕᓂᓃᓯᓯᓕ ᓄᓄᓂᓄᓂ
- ᐃᓕᓃᑲᓃᑲᓂᓄᓂ ᓕᓕᓕᓕᓂᓄᓂ 5 ᐃᓄᓂᓄᓂ ᓄᓄᓕᓂᓄᓂ ᐃᑲᓃᓯᐅᓃᓯᓕᓂᓄᓂᓄᓂ ᑲᓃᓕᓯᓕᓕ ᓃᓯᓂᓄᓂᓄᓂ ᐅᓯᓂ ᐅᓕᐅᓯᓃᑲᓂᓄᓂ 1 ᑲᓄᓕᑲ ᐅᓕᓂᓯᓂᓄᓂᓄᓂ ᐱᓃᓕᓃᑲᓂᓄᓂᓄᓂᓄᓂ ᓃᓯᓂᓄᓂᓄᓂ (ᐅᓄᓃᓂᓄᓂᓄᓂᓄᓂ ᑲᓄᓕᑲ)
- 9 ACMCs were created in Nunavut to co-manage the 16 protected areas
- Made up of 5 people from the Community Beneficiary Committees and 1 from Canadian Wildlife Service (Environment Canada)

Area Comanagement Committees (ACMCs)

- **ᑲᓕᓕᓄᓂᑦ ᓕᓄᓂᑦ:**
 - ᑦᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ
 - ᑦᓄᓄᓄᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ
 - ᓄᓄᓄᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ
- **Responsible for:**
 - Day to day management of the protected area
 - Reviewing permit applications
 - Writing a management plan for the protected area



ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ
ᑲᓄᓕᓕᓄᓂᑦ ᑲᓄᓕᓕᓄᓂᑦ (2012)
Ahiak ACMC in a cabin in the Ahiak MBS (2012)

ግንባታ ወይንም ግንባታ ወይንም

ግንባታ ወይንም ግንባታ ወይንም

ግንባታ ወይንም ግንባታ ወይንም

ግንባታ ወይንም ግንባታ ወይንም

MANAGEMENT PLAN

PREPARATION AND MANAGEMENT

PLAN APPROVAL

ወጋወገን ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው

Outline of the content of the Management Plan

- ስራው የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ወጋወገን ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው
- ልማትና የሥነ ምግባር ልምድ ለውጥ ለማድረግ የሚያስፈልገውን ስራ ለማቅረብ የሚያገለግል ነው



ደብዳቤ ለግብርና ግብርና ግብርና ግብርና <ግብርና ግብርና ግብርና

Outline of the content of the Management Plan

- ግብርና ግብርና ግብርና ግብርና ግብርና
- ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
- ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና -
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
- ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
- ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
ግብርና ግብርና ግብርና ግብርና ግብርና ግብርና
- Management Approaches – what we will do to achieve the goals and objectives
- Authorized Activities and Access – what activities require a permit, who requires a permit
- Site designation: currently a Migratory Bird Sanctuary
- Management Plan implementation and collaboration



▷σ^bβ^c∩◁∂∂^c: ∂∂^α∑^c ∑▷∂^cσ

⁴β∂Δ^c∑^α∑^c∂^c

Description: *Landscape*

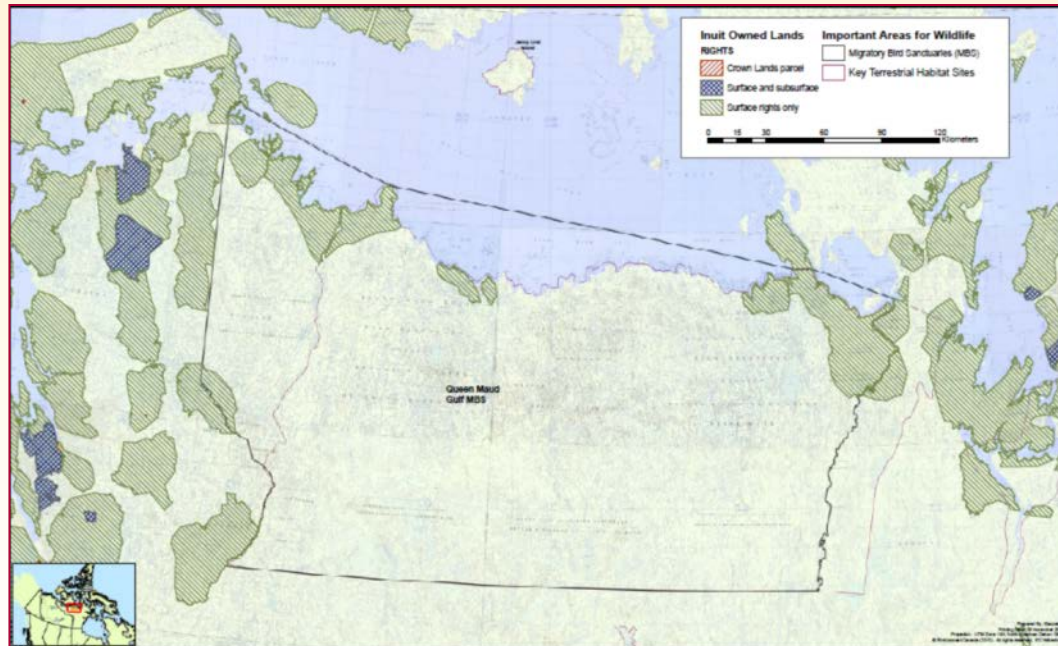
- ⁴∂∂^α∑^cβ▷∂◁^α∂^c∂^c ◁^c∂^b∂^c ∂∂^c
- ∆^cβ^α∂▷^c ∂^α∂▷σ◁∂◁^c∂^α∂^b∂^c∂^c
∆^αβ∂^c∂^α∂◁^c∂^α∂^c∂^α∂^c∂^c
∂^α∂^c∂^α∂^c∂^c∂^α∂^c∂^c (⁴∂^α∂^c∂^c,
∂^c∂^c∂^α∂^c∂^c∂^c, ⁴∂^α∂^c∂^c)
- ◁∂^c∂^α∂^c∂^c∂^c ∑^c, ∑^c∂^α∂^c,
∂^α∂^c∂^c
- ∂∂^αβ^c∂^c ∂^c∂^c∂^c
∂^c∂^α∂^c∂^c∂^c∂^c, ∂^c∂^c∂^c,
∂^c∂^c∂^c, ⁴∂^α∂^c∂^c ∂^c∂^c∂^c∂^c
- Low-lying terrain
- Typical post-glacial features (drumlins, outcrops, eskers)
- Numerous lakes, ponds, and rivers
- Areas of marshes, wet sedge meadows, grasslands, and heath tundra



ᐅᓂᑲᑦᑎᐱᐱᑦ: ᓄᓇᓴᑦ ᑕᐅᓇᓂ ᑦᑲᓄᐱᑦᓴᓂᓴᑦ

Description: *Landscape*

- ᑕᑲᑦᑲᑦᐱᑦ ᑎᓴᑦᑲᑦᐱᑦᓄᓴᑦ ᓄᓴᑦ ᐱᑦᑲᑎᑦᐱᑦᐱᑦᐱᑦ ᑲᓇᑕᐅᑦ ᓴᓴᓴᓄᑦ
- 18-ᓂᑲ ᐱᑦᑲᑎᑦᐱᑦᐱᑦᐱᑦ ᐱᑦᑲᑎᑦᐱᑦᐱᑦᐱᑦ ᐱᓄᓴᑦ ᐱᑦᑲᑎᑦᐱᑦᐱᑦᐱᑦ ᓄᓴᑦ ᐱᑦᑲᑎᑦᐱᑦᐱᑦᐱᑦ
- Most of the sanctuary is crown land
- 18 parcels of Inuit-Owned Lands within the boundaries



Δερεβδρδρεβερερερε Δερερερερερερε: Δερερερερερερε

Cultural Resources: *Historical*

- σδερερερερερερερερε (Ηερερερερερερερε ερερερε ερερερερερερερερε) ερερερερερερερε 1920-ερερερε-1967-ερερερε ερερερερε
 - ερερερερερε, ερερερερε, ερερερερερερερε ερερερε, ερερερερερε/ερερερερερερερε, ερερερερερερερε, ερερερερερερερε
 - σδερερερερερε ερερερερερερερε, ερερερερερερερερερερερερερερερερερε ερερερερε ερερερερερερερερερερερερερερερε (1960-ερερερερε ερερερερε 1970-ερερερερε)

- Trading posts (Hudson Bay and CanAlaska) in Ahiak MBS 1920s-1967
 - Perry River, Ellice River, Whitebear Point, Flagstaff Island, Sherman Inlet, Perry Island
 - Abrupt closures, end of most year-round habitation, movement to communities (1960s and 1970s)



CDJNLBDR, JGNLBDR, ASBCDRDL

Vision, Goals, and Objectives

CDJNLBDR

- Dsbbsjca ddbdc
h>sdscdrslc -
fbdcdsdscncsb
dlc jfb
- Dcrlbdr
h>sdscdrslc -
osrlslc

DLNsjc Jslrc

- Dfbrnc ddaadscsb
JNLBDR
CDJNLBDR dlc
fbsb dslsdslc
drcpdlncdrj
- rcldgca 4 dlcdrcsb
Jslrc dhdrcf
ncfrcsdc

DLNsjc ASBCDRDLslrc

- ddaadrdgca fbsb
lslsdslc
dca JNLBDR
- 12-jrc dlNsjc
ASBCDRslc
dhdrcf
ncfrcsdc

Vision

- A description of what the protected area should be – where we are going and why
- Incorporates the protected area’s purpose – where we have been

Management Goals

- Statements that provide targets for how the vision will be met and maintained
- There are 4 management goals for Ahiak MBS

Management Objectives

- Provide direction on how to achieve each goal
- There are 12 management objectives for Ahiak MBS

◀▶ርብህግጽ ልብ ያለ ጥያቄዎች

Management Considerations

- ልብ ያለ ጥያቄዎችን ለመፈጸም የሚያስፈልጉ ምንጮች እና ደንቦች ለማረጋገጥ አስፈላጊ ምንጮች አሉ።
 - ለመፈጸም የሚያስፈልጉ ምንጮች፡
 - የሰፈራዎችን ምርመራና ልማት ማረጋገጥ
 - አድባቢ ማረጋገጫ

- Possible increased shipping and cruise ship traffic
 - Potential for:
 - Oil spills and other water quality issues
 - Disturbance to wildlife



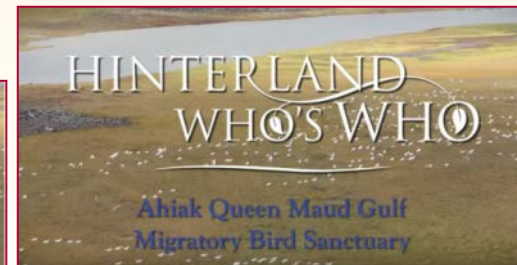
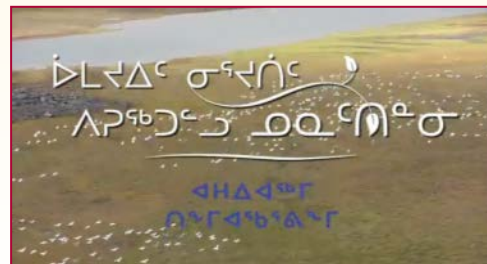
Management Approaches

3. Δομοδοτση Διευθυνση Διαχειριση Διαδωσεισ Διαδωσεισ

- Δομοδοτση Διευθυνση Διαχειριση Διαδωσεισ Διαδωσεισ
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3. Public Information Management

- Increase public knowledge and awareness of Ahiak MBS
 - Create interpretive materials about Ahiak MBS for associated communities and to provide online
 - Promote compliance with permitting through public awareness
- Encourage sustainable tourism operations
- Encourage participation in research within Ahiak MBS by Inuit students



ᐃᐅᓕᑎᓂᓂᑦ ᓄᓂᓂᑦ ᐃᓕᓂᑎᓂᓂᑦ

Management Plan Implementation

- ᐃᓕᓂᑎᓂᑦ ᐃᓕᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ (ᐱᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ) ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ
- ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ 5 ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ, ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ 10 ᓄᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ
- Implemented as resources (time and money) allow
- Plan will be reviewed after 5 years, and then every 10 years after that



AHIAKMI MUNARIQATIGIIKTUT KATIMAYIIT
ᐃᓂᓂᑦ ᐃᓕᓂᑎᓂᓂᓂᑦ ᓄᓂᓂᑦ ᓄᓂᓂᑦ
AHIAK AREA COMANAGEMENT COMMITTEE

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ᐅᑦᑎᐃᑦ ᐅᑦᑎᐃᑦ ᐅᑦᑎᐃᑦ
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ለሰነድ ምዕራፍ ለሰነድ ምዕራፍ ለሰነድ ምዕራፍ ለሰነድ ምዕራፍ80

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| | |
|-----------------------|--------------------|
| NU | ወደጭር |
| PA | ካንታሎናል ስርዓተ ስራ |
| RIA ልዩ ልዩ ኮንትራት ስራ | ልዩ ልዩ ስራ ለሌሎች ስራዎች |
| SARA | የሥራ ስራ ለሌሎች ስራዎች |

ምስልጋት ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዓላማዊነት (2003). ርዕስ ሙሉ ጥያቄ ለማሳሰቢያ ማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል።

በዚህ ደረጃ ላይ ለዓመቱ ለግብር ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል።

3.2.2 ሲሜንት ለማድረግ ተገቢ ይመስላል

በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል።

በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል።

በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል። በዚህ ጉዞ ላይ፣ አቅጣጫው ከሚደረገው አቅጣጫ በላይ ለሚከተሉት ምሳሌዎች ማሳሰቢያ ለማድረግ ተገቢ ይመስላል።

| ጋናሊኒያ | ልማት ስልጠናዎች |
|---|---|
| <p>ጋናሊኒያ 3: የጥያቄው ስርዓት ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> | <p>ልማት ስልጠናዎች 3.1: የኮሙኒኬሽን ልምድ ለጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> <p>ልማት ስልጠናዎች 3.2: ለጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> <p>ልማት ስልጠናዎች 3.3: የጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> |
| <p>ጋናሊኒያ 4: የኮሙኒኬሽን ልምድ ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> | <p>ልማት ስልጠናዎች 4.1: የጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> <p>ልማት ስልጠናዎች 4.2: የጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> <p>ልማት ስልጠናዎች 4.3: የጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።</p> |

4.3 የኮሙኒኬሽን ልምድ

የሥራ ልማት ስልጠናዎችን ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል። ለጥናት ስልጠናዎች ለማረጋገጥ ያለውን ገንዘብ ለማረጋገጥ የሚያስፈልጉትን ጋራ ልማት ስልጠናዎችን ለማግኘት ማዘጋጀት ይቻላል።

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| <p>Δፈረኛ ነጠቅታዊ የብሔራዊ ልማት ጥናት ደብዳቤ ለማዘጋጀት ለሚያስፈልጉ ምንጮች፣ ለርዕሰ ጉዳይ አጠቃላይ ጥናት ማድረግ ይቻላል።</p> | <p>4.1, 4.2, 4.3</p> | <p>6.3 ልማት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች</p> |
| <p>የአጠቃላይ ልማት ጥናት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች ለማግኘት ይህ የጥናት ደብዳቤ ይረዳል።</p> | <p>2.1, 3.2, 4.1, 4.2, 4.3</p> | <p>6.3 ልማት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች</p> |
| <p>ለረዕሰ ጉዳይ ልማት ጥናት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች ለማግኘት ይህ የጥናት ደብዳቤ ይረዳል።</p> | <p>ፍታሙን</p> | <p>6.1 ረዕሰ ጉዳይ ለማዘጋጀት የሚያስፈልጉ ምንጮች</p> |
| <p>የአጠቃላይ ልማት ጥናት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች ለማግኘት ይህ የጥናት ደብዳቤ ይረዳል።</p> | <p>1.4, 2.2</p> | <p>6.2 የረዕሰ ጉዳይ ለማዘጋጀት የሚያስፈልጉ ምንጮች</p> |
| <p>ለረዕሰ ጉዳይ ልማት ጥናት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች ለማግኘት ይህ የጥናት ደብዳቤ ይረዳል።</p> | <p>2.2, 3.2, 3.3</p> | <p>6.2 የረዕሰ ጉዳይ ለማዘጋጀት የሚያስፈልጉ ምንጮች 6.3 ልማት ደብዳቤ ለማዘጋጀት የሚያስፈልጉ ምንጮች</p> |

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| <p>ጥቅም ላይ የዋለው የአገልግሎት ምዕራፍ የጥራት ማሻሻያ ደረጃ ለማረጋገጥ ለሚያስፈልገው ስራ ለሚፈጸመው ማሻሻያ ስራ ነው።</p> | <p>2.1, 3.2, 3.3</p> | <p>6.3 ልማት ስራ የኮሎኒያል ማሻሻያ ስራ ማሻሻያ ስራ</p> |
| <p>የጥራት ማሻሻያ ስራ ይከተላል ለጥራት ማሻሻያ ስራ ላይ የሚያስፈልገው ስራ ለሚፈጸመው ማሻሻያ ስራ ነው።</p> | <p>2.1, 3.1, 4.1</p> | <p>6.3 ልማት ስራ የኮሎኒያል ማሻሻያ ስራ ማሻሻያ ስራ</p> |
| <p>ሌሎች ለጥራት ማሻሻያ ስራ ላይ የሚያስፈልገው ስራ ለሚፈጸመው ማሻሻያ ስራ ነው።</p> | <p>1.3, 3.1, 4.1</p> | <p>6.3 ልማት ስራ የኮሎኒያል ማሻሻያ ስራ ማሻሻያ ስራ</p> |
| <p>የኮሎኒያል ማሻሻያ ስራ ለማረጋገጥ ለሚያስፈልገው ስራ ለሚፈጸመው ማሻሻያ ስራ ነው።</p> | <p>1.2, 2.2</p> | <p>6.1 ማሻሻያ ስራ ለማረጋገጥ ለሚያስፈልገው ስራ ለሚፈጸመው ማሻሻያ ስራ ነው።</p> |

ህዝብ ጠቅላይ ልማት ቢሮ ለጥያቄው ላይ ለመረጃ ለማግኘት ለሚችሉ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል።

የህዝብ ጠቅላይ ልማት ቢሮ ለጥያቄው ላይ ለመረጃ ለማግኘት ለሚችሉ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል።

በዚህ ሰነድ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል።

6.1.3 የህዝብ ጠቅላይ ልማት ቢሮ ለጥያቄው ላይ ለመረጃ ለማግኘት ለሚችሉ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል።

የህዝብ ጠቅላይ ልማት ቢሮ ለጥያቄው ላይ ለመረጃ ለማግኘት ለሚችሉ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል። ለዚህም ማሳሰቢያ ላይ ለሚገኙ ሰነዶች ላይ ማሳሰቢያ ማስገባት ይገባል።

ፊት-ፊት ለሀገር ለሕዝብ ስራ ማድረግ ለማለት የሚገባውን ስራ ይደረግ።

6.2.9 ርዕሰ ጉዳይ ለማስፈጸም የሚገባውን ስራ ይደረግ።

ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

6.3 ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

6.3.1 ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ። ለፍትህ ለማስፈጸም የሚገባውን ስራ ይደረግ።

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| ገጽ | ጥያቄ | | | | |
|------|-----|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| ገጽ 1 | X | X | X | X | X |
| ገጽ 2 | X | X | X | X | X |
| ገጽ 3 | X | X | X | X | X |

13.0 ᐅᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ

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በበጎጥ ልረጃ ስራ

2016-2023

Agreement for National Wildlife Areas and Migratory Bird Sanctuaries in the Nunavut Settlement Area

Agreement for National Wildlife Areas and Migratory Bird Sanctuaries in the Nunavut Settlement Area

2016 TO 2023 INUIT IMPACT AND BENEFIT AGREEMENT FOR NATIONAL WILDLIFE AREAS AND MIGRATORY BIRD SANCTUARIES IN THE NUNAVUT SETTLEMENT AREA

BETWEEN
 The Inuit of the Nunavut Settlement Area represented by Nunavut Tunngavik Inc.
 The Kitikmeot Inuit Association
 The Kivalliq Inuit Association
 The Qikiqtani Inuit Association
 AND
 Her Majesty the Queen in right of Canada, as represented by the Minister of the Environment



Environnement et Changement climatique Canada

Environment and Climate Change Canada

ልረጃ 3 — ልጋሪ ጥናብ

3.1 ኃይል የሚጠይቅ አገልግሎት

3.1.1 ይህ ልረጃ ለህግ ብዙሀን ጥናት ኃይል የሚጠይቅ አገልግሎት ለሚሰጡ ሲሆን፡

- (a) ለጥናት ማድረግ ፈጠራ ጊዜ ለውሎ ለሚገቡ ልጋሪ ጥናታዊ ገቢዎች በሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
- (b) ለሀገር ውስጥ ለሚገኙ የጥናት ገቢዎች ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች ከሌሎች ጋር ሲሳተፍ ለሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
- (c) ለጥናት ማድረግ ፈጠራ ጊዜ ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች በሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤

3.2 ወጭ ምርት ማስገባት የሚገባ ልጋሪ ጥናት

የሀገር ውስጥ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች

- 3.2.1 ለልጋሪ ጥናት ማድረግ የሚገባ ልጋሪ ጥናታዊ ገቢዎች ለሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
- 3.2.2 ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች ከሌሎች ጋር ሲሳተፍ ለሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
- 3.2.3 ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች በሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፡
 - (a) የምርት ማስገባት ለሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
 - (b) ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች ከሌሎች ጋር ሲሳተፍ ለሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤
 - (c) ለውሎ ለሚገኙ ልጋሪ ጥናታዊ ገቢዎች በሚገኝበት ሁኔታ ይህ ልረጃ ለሚሰጡ ሲሆን፤

መደርገብ ለሎታ ባለፈው ሰዓት በብሔራዊ ማህበራዊ ኮሚቴው ላይ ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

- 3.2.9 የአዲስ የሥነ ምግብ ስርዓት በብሔራዊ ማህበራዊ ኮሚቴው ላይ ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።
- 3.2.10 የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።
- 3.2.11 ለአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

ለኮሚቴው

- 3.2.12 አዲስ የሥነ ምግብ ስርዓት በብሔራዊ ማህበራዊ ኮሚቴው ላይ ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

3.2.13 ለሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

- (a) የአዲስ የሥነ ምግብ ስርዓት በብሔራዊ ማህበራዊ ኮሚቴው ላይ ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።
- (b) ለሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።
- (c) የሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

- 3.2.14 ለሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

3.2.15 ለሥነ ምግብ ስርዓት ለማስፈጸም ለሁሉም አባላት ስብሰታ በኩል ጥቅም ላይ የዋለውን የአዲስ የሥነ ምግብ ስርዓት ለማስፈጸም ይረዳል።

ለክፍያናህንጻዎች ገንዘብ አጠቃቀም ላይ ተመክሮ የሚገኝ ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣
የህንጻው ገንዘብ ለውጥ ማረጋገጥ ወይንም ሌላ ማረጋገጫ ማቅረብ ይገባል።

ገንዘብ አጠቃቀም

- 3.2.16 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.17 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.18 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.19 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.20 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.21 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።
- 3.2.22 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።

የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ

- 3.2.23 ለደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ የሚያስፈልገውን ደብዳቤ ማስፈራሪያ ሰነድ ማቅረብ፣ የህንጻው ገንዘብ ለውጥ ማረጋገጫ ማቅረብ ይገባል።

- (b) ላይገጽ በሥራ ስራ ለማድረግ (አር 3.5 በቦታ 3.7);
- (c) ለአጠቃላይ ልማት አገልግሎት ሰጠው - ለሥራ ስራ ለማድረግ (አር 4.3);
- (d) ለአጠቃላይ ልማት ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 5.4);
- (e) ማራገጫ ላይ ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 5.5);
- (f) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 6.4 በቦታ 6.7);
- (g) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 10.2);
- (h) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 11.3);
- (i) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 12.2);
- (j) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 13.3 ላይ 13.5); ላይ
- (k) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 14.2 ላይ 14.4).

3.3.5 ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 13.3 ላይ 13.5); ላይ

3.3.6 ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 14.2 ላይ 14.4).

3.3.7 ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 14.2 ላይ 14.4).

- (a) ለሥራ ስራ ለማድረግ ለሥራ ስራ ለማድረግ (አር 14.2 ላይ 14.4).

3.4.3 ለድርብርብና ጋሳን ለገንጠላው ገንዘብ ለማግኘት ለሚያስችል ቅድመ ጥያቄዎች ቢሆኑም፣ በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.4.4 በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.4.5 በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.4.6 የጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5 ለጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ

3.5.1 ለደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5.2 ለደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5.3 ለደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5.4 በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5.5 ለደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

3.5.6 ለደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ። በደረጃ የሚታወቁ ጋሳን ለማግኘት የሚያስችል ሌሎችም ሊሆኑ ይችላሉ።

ፈርዲናንድስ 5 — ልዩ ልዩ ለገደብ አገልግሎት ለሰጠው የሥራ ልማት ስልጠና ተሳታፊዎች ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

5.1 ደንብ አሰጣጥ

5.1.1 ደንብ አሰጣጥ ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

(a) ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

(b) ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

(c) ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

(d) ደንብ አሰጣጥ ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

5.2 ልዩ ልዩ ለገደብ አገልግሎት ለሰጠው የሥራ ልማት ስልጠና ተሳታፊዎች ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

5.2.1 ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

5.2.2 ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

5.2.3 ደንብ አሰጣጥ ለሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና ለሚሰጡት የሥራ ልማት ስልጠና

10.6 ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

10.6.1 ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

(a) ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

(b) ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

10.6.2 ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

10.6.3 ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

10.6.4 ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ ᐅᓐᓂᓂᓐᓂᓐ

ልረጌ 12 — ማረጋገጫና ጥቅም

12.1 ወጪዎች ለማረጋገጥ ይገባሉ

12.1.1 ወጪዎች ለማረጋገጥ በሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡

- (a) ከግብርና ማረጋገጫ ስርዓት ስርዓቱ ላይ ወጪዎች ለማረጋገጥ ይገባሉ; ለሌላ
- (b) ለሌላ ምክርቤት ለሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡ ለሌላ ምክርቤት ለሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡

12.2 ማረጋገጫ ለማረጋገጥ ይገባሉ

12.2.1 ወጪዎች ለማረጋገጥ በሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡

12.2.2 ወጪዎች ለማረጋገጥ በሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡

12.2.3 ወጪዎች ለማረጋገጥ በሚያስፈልጉበት ሁኔታ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡ ወጪዎች ለማረጋገጥ ይገባሉ፡

- (a) ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡
- (b) ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡ ማረጋገጫ ለማረጋገጥ ይገባሉ፡

(c) ነፍጠናውያን ለመከላከል ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

(d) ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.2.4 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.2.5 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.2.6 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.3 ጋራ ጉዳዮች ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.3.1 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.3.2 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

12.3.3 ለሰውነት ለሚጠበቅ ስነ-ምግባር ለሚያስፈልጉት ለሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡ ስለዚህም ሰውነት ለሚጠበቅ ስነ-ምግባር ይገባል፡፡

14.4 ላይ ልዩ ልዩ ድንጋጌ ለመደባለቅ ለመቻላቸው ለጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

14.4.1 የጠቅላይ ልምድ/ጠቅላይ ስምምነት አላማ ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

- (a) ለጠቅላይ ልምድ/ጠቅላይ ስምምነት የሚጠቀሙ ለጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡
- (b) ለጠቅላይ ልምድ/ጠቅላይ ስምምነት የሚጠቀሙ ለጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

14.4.2 ይህንን የጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

14.4.3 ጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

14.4.4 ጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

14.4.5 ጠቅላይ ልምድ/ጠቅላይ ስምምነት ለመጠቀም የሚችሉ ሆኖታችን በግልጽ የሚታወቅ ይሁንና፡

ለጠቅላይ ሚኒስትሩ ለውጭ ጉዳይ ሚኒስትር የሚሰጡ ስልጠናዎች ለሚከተሉት ምዕራፍ ይዘቶች ይሰጣሉ፡

- 16.3.2 ለጥናትና ምርምር የሚያስፈልገውን ልዩ ልዩ ስልጠናዎች ለሚከተሉት ምዕራፍ ይዘቶች ይሰጣሉ፡
- 16.3.3 ለውጭ ጉዳይ ሚኒስትሩ የሚሰጡ ስልጠናዎች ለሚከተሉት ምዕራፍ ይዘቶች ይሰጣሉ፡

ርኅብ ልዩ ልዩ ክፍል የሆነው ደብዳቤ ለሌሎች የሚሰጡ ልዩ ልዩ አገልግሎቶች ለማስፈጸም የሚያስፈልጉትን ሰነድ (CSFL)

በቅርብ

ሮክሮ ሮክሮ
ድብደባ ሰነድ ለማስፈጸም ለሌሎች የሚሰጡ ልዩ ልዩ አገልግሎቶች



ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭ
 ᑭᑭᑭᑭᑭᑭᑭᑭᑭ
QIKIQTAALUK CORPORATION
 & Group of Companies



ᑭᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭ
QIKIQTAALUK FISHERIES

ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭ

ᑭᑭᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭ

Qikiqtaaluk Corporation

A Nunavut Birthright Corporation Success Story

ᑭᑭ 6, 2018

ᑭᑭᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭᑭ

June 6, 2018

Presented to:



ᑭᑭᑭᑭᑭᑭ ᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭᑭ
Nunavut Wildlife Management Board

ᖃᖃᖅᑕᑦᑕᑦ ᑖᑖᑦᑕᑦᑕᑦ ᖅᑕᑦᑕᑦᑕᑦ

Qikiqtaaluk Corporation Overview

ᑕᑦᑕᑦᑕᑦ ᖅᑕᑦᑕᑦ:
 ᖃᖃᖅᑕᑦᑕᑦ ᑕᖃᖅᑕᑦᑕᑦᑕᑦ
 ᖃᑖᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᖅᑕᑦᑕᑦ,
 ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦ
 ᖃᖃᖅᑕᑦᑕᑦᑕᑦ ᖃᖃᖅᑕᑦᑕᑦᑕᑦ
 ᑕᑦᑕᑦᑕᑦ

Mission Statement
 To create meaningful economic,
 employment and career development
 opportunities for Inuit

- ᑕᑦᑕᑦᑕᑦ ᖅᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑖᑕᑦᑕᑦ ᖃᖃᖅᑕᑦᑕᑦᑕᑦ 1983
- 100% ᖅᑕᑦᑕᑦᑕᑦᑕᑦ ᖃᖃᖅᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ
- ᖃᖃᖅᑕᑦᑕᑦᑕᑦ 13 ᖃᖃᖅᑕᑦᑕᑦ ᖃᖃᖅᑕᑦᑕᑦ ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ 14,000 ᑕᑦᑕᑦᑕᑦ
- ᑕᑦᑕᑦᑕᑦ 81% ᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᖃᖃᖅᑕᑦᑕᑦᑕᑦ
- 30 ᖃᖃᖅᑕᑦᑕᑦ (ᖃᖃᖅᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ, ᖃᖃᖅᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ, ᖃᖃᖅᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ)

- Inuit birthright corporation established in 1983
- 100% owned by QIA
- Represents 13 communities across the Qikiqtani Region and over 14,000 Inuit
- More than 81% of the employees are Nunavut Inuit
- 30 companies (subsidiaries, joint-ventures, partnership and affiliated)



ᑦᕿᕿᑦᑕᓗᑦ ᓄᓐᓂᓴᑦ ᑕᕿᑕᓐᓂᓴᑦᑕᓄᓴᑦ

ᑦᕿᕿᑦᑕᓗᑦ ᓄᓐᓂᓴᑦ ᑕᓴᑕᓴᑦᑕᓄᓴᑦ
 ᓄᓴᓴᓴᑦᑕᓄᓴᑦ ᑦᕿᕿᑦᑕᓄᓴᑦ
 ᓄᓴᓴᑦ ᑕᓴᓴᓴᑦᑕᓄᓴᑦ

QC is governed by a Board of Directors that is selected by QIA




ᕿᓴᓴᓴᑦᑕᓄᓴᑦ ᑕᓴᓴᓴᑦᑕᓄᓴᑦ
 ᓄᓴᓴᑦᑕᓄᓴᑦ ᓄᓴᓴᑦ
 For-profit business development corporation

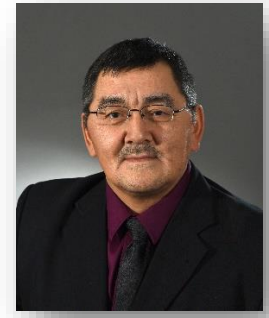


ᕿᓴᓴᓴᑦᑕᓄᓴᑦ ᑕᓴᓴᓴᑦᑕᓄᓴᑦ
 ᓄᓴᓴᑦᑕᓄᓴᑦ ᓄᓴᓴᑦ
 Non-profit economic development association

QC Governance

ᓄᓴᓴᑦᑕᓄᓴᑦ | Chair

ᓄᓴᓴᑦᑕᓄᓴᑦ ᑕᓴᓴᑦᑕᓄᓴᑦ | Vice Chair

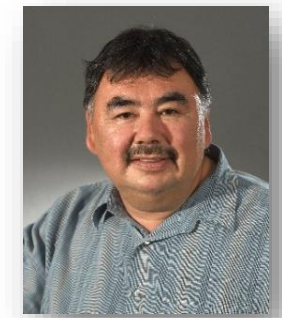


ᓄᓴᓴᑦ ᓄᓴᓴᑦ
 Olayuk Akesuk

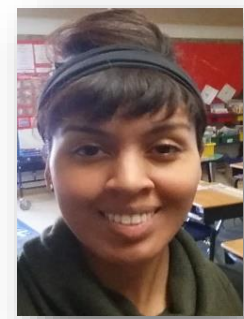


ᓄᓴᓴᑦ ᓄᓴᓴᑦ
 Anne Curley

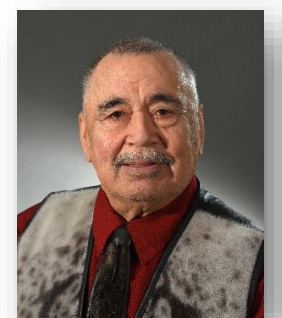
ᑕᓴᓴᑦ | Directors



ᓄᓴᓴᑦ ᓄᓴᓴᑦ
 Mathew Alaing



ᓄᓴᓴᑦ-ᓄᓴᓴᑦ ᓄᓴᓴᑦ
 Miali-Elise Coley



ᓄᓴᓴᑦ ᓄᓴᓴᑦ
 Ludy Pudluk



ບໍລິສັດ ລາຄາແຮງ ແລະ ຈຸດສະໜອງ COMPANIES AND SECTORS OF ACTIVITY

ວາງສັນຍາ | LEGEND

- ➡ ມີຮຸ້ນສ່ວນຮຸ້ນ 100% ມີຮຸ້ນສ່ວນຮຸ້ນ QC
Subsidiaries 100% owned by QC
- ➡ ປະກອບສ່ວນຮຸ້ນສ່ວນຮຸ້ນ 51% ມີຮຸ້ນສ່ວນຮຸ້ນ QC
Joint-Ventures Majority owned by QC
- ➡ ປະກອບສ່ວນຮຸ້ນສ່ວນຮຸ້ນ < 51% ມີຮຸ້ນສ່ວນຮຸ້ນ QC
Joint-Ventures < 51% owned by QC
- ➡ ບໍລິສັດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ | Affiliated

ສາມາດ, ຕະຫຼາດ, ຕະຫຼາດ ແລະ ຈຸດສະໜອງ RETAIL, TRADE AND SERVICES

ການຂົນສົ່ງ ແລະ ການສື່ສານ TRANSPORTATION AND COMMUNICATION

ການສ້າງສັນ ແລະ ການສ້າງສັນ CONSTRUCTION AND MAJOR PROJECTS

ການປະກອບສ່ວນຮຸ້ນສ່ວນຮຸ້ນ ແລະ ຈຸດສະໜອງ FISHERIES AND MARINE SERVICES

- ➡ ຈຸດສະໜອງ ມີຮຸ້ນສ່ວນຮຸ້ນ 100%
Qikiqtaaluk Business Development Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtani Retail Services Ltd.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtani Resource Agency Ltd.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunavut Nukkiksautiit Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtaaluk Environmental Inc.
- ➡ QC ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
QC-Scarlet Security Services Inc.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Larga Baffin Ltd.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Toromont Arctic Inc.

- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtani First Aviation Ltd. (QFAL)
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunavut Petroleum Corporation
➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Uqsuq Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunavut Sealink and Supply Inc.(NSSI)
- ➡ QC ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
QC Canadian (Helicopters)

- ➡ 3379442 ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
3379442 Canada Inc.
- ➡ ຈຸດສະໜອງ ມີຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtaaluk Properties Inc.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtani Industry Ltd.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Akiuq Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Sanavalliani Ltd.
- ➡ NCC ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
NCC Investment Group
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunasi Corporation
- ➡ QC/ATCO ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
QC/ATCO Structures & Logistics
- ➡ CLAC ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Pan Arctic Inuit Logistics Corp

- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Qikiqtaaluk Fisheries Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Unaaq Fisheries
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Sikku Corporation
➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Tulaktarvik Inc
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Natsiq Investment Corporation
➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Arctic Ocean Development Corp.
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Northern Shrimp Research Foundation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Northern Coalition Corporation
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunavut Fisheries and Marine Training Consortium
- ➡ ຈຸດສະໜອງ ສາມາດສ່ວນຮຸ້ນສ່ວນຮຸ້ນ
Nunavut Offshore Allocation Holders Association

ᑦᕈᕈᑦ ᑕᓗᑦ ᑖᑖᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ

QC Reinvestment in Nunavut



ᑦᕈᕈᓐᓇᑦᑎᓐ ᑖᑖᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ.

QC Group of Companies invests millions into growing Nunavut's economy.

ᑦᕈᕈᓐᓇᑦᑎᓐ ᑖᑖᑦᑎᓐ 5 ᑖᑖᑦᑎᓐ ᑕᓗᑦ ᑦᕈᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ \$44 ᑖᑖᑦᑎᓐ.

QC has developed a 5-year inshore fishery development that will see leveraged investments in excess of \$44 million.

ᑦᕈᕈᓐᓇᑦᑎᓐ ᑖᑖᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ ᑦᕆᕈᓐᓇᑦᑎᓐ.

QC is spearheading many projects, and economic and career development initiatives for the Qikiqtani Region and Nunavut .



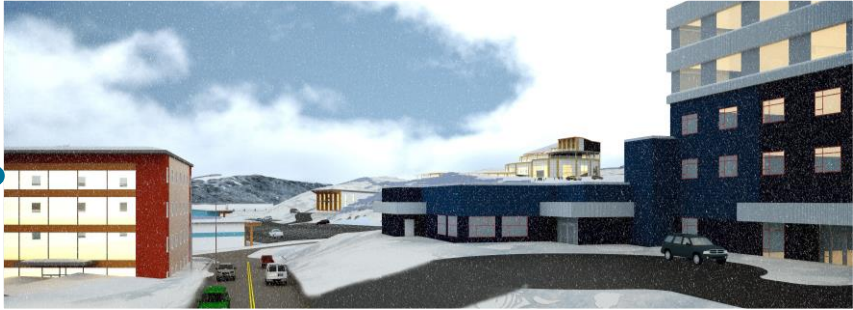
ᐃᖃᓗᐃᑦ ᐃᓂᐃᑦ ᓂᓇᖃᓂᓄᓐᓂ ᐃᓪᓗᑦᓂᓄᓐᓂ

Iqaluit IOL Development

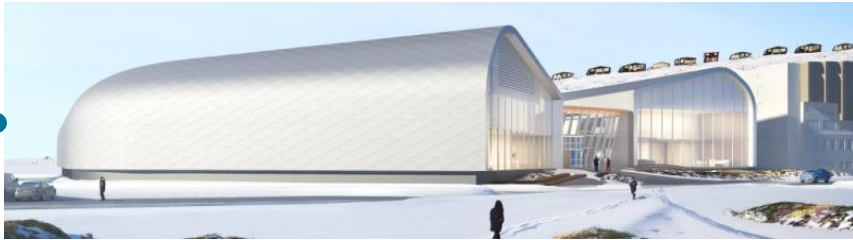
\$300-\$400 ᑦᑦᓂᓄᓐ ᓂᓄᐃᑦ ᑦᓂᑦᑦᑦᑦ
 ᐱᓇᑦᑦᑦᑦᑦᑦᑦᑦᑦ
 ᑦᑦᑦᑦᑦᑦᑦᑦᑦ
 ᑦᑦᑦᑦ ᐱᑦᑦᑦᑦᑦᑦᑦᑦᑦ
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 ᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦ

\$300-\$400 million investment to progress economic and program delivery potential of the land

ᐃᓂᐃᑦ ᓇᖃᓂᓄᓐᓂ
 ᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦ
 Inuit-owned Hotel and Conference Centre



ᓂᓄᑦᑦ ᐃᑦᑦᑦᓂᓂᓄᓐᓂ
 Nunavut Heritage Centre



ᑦᑦᑦᑦᑦᑦᑦᑦᑦᑦ ᐃᓪᓗᑦᓂᓄᓐᓂ ᓇᖃᓂᓄᓐᓂ
 Affordable home ownership opportunities



ᐃᑦᑦᑦᑦ ᓂᓄᐃᑦᑦ
 Incubator Mall

ᐃᓇᑦᑦᑦᑦᑦᑦᑦ ᑦᑦᑦᑦᑦᑦ
 Elders Care Facility



ᑲᕐᓴᐃᓃᕐᑦᑕᕐᓂᕐ ᐅᑭᑭᓐᓃᑦᑕᓐᓴᑦ

Clean Energy Projects



ᐃᓂᓴᑦ ᐅᑭᑭᓐᓃᑦᑕᓐ ᐃᑦᑦᑕᓐᓴᓂᕐ ᓴᓂᕐ
Wind energy studies



ᓂᓃᑦ
ᐅᑭᑭᓐᓃᑦᑕᓐ ᓂᑦᑕᑦᑕᑦ
ᓃᕐ ᓴᓂᕐᓴᐃᓃᕐ ᐃᑭᓴᓴ
ᓃᑭᑭᓐᓴᑦ

Net-zero energy ready hotel and conference centre

ᐱᑦᓴᑦᑕᑦᑕᑦ ᑲᕐᓴᐃᓃᕐᑦᑕᕐᓂᕐ ᐅᑭᑭᓐᓃᑦᑕᓐ ᓂᑦᑕᑦᑕᑦ ᐱᓴᑦᑕᑦᑕᓐ ᐃᓂᓴᑦ ᓂᓃᕐᓴᓂᕐ ᐃᓃᓂᓴᑦ
21st Century Energy Infrastructure to service Inuit Owned Land in Iqaluit



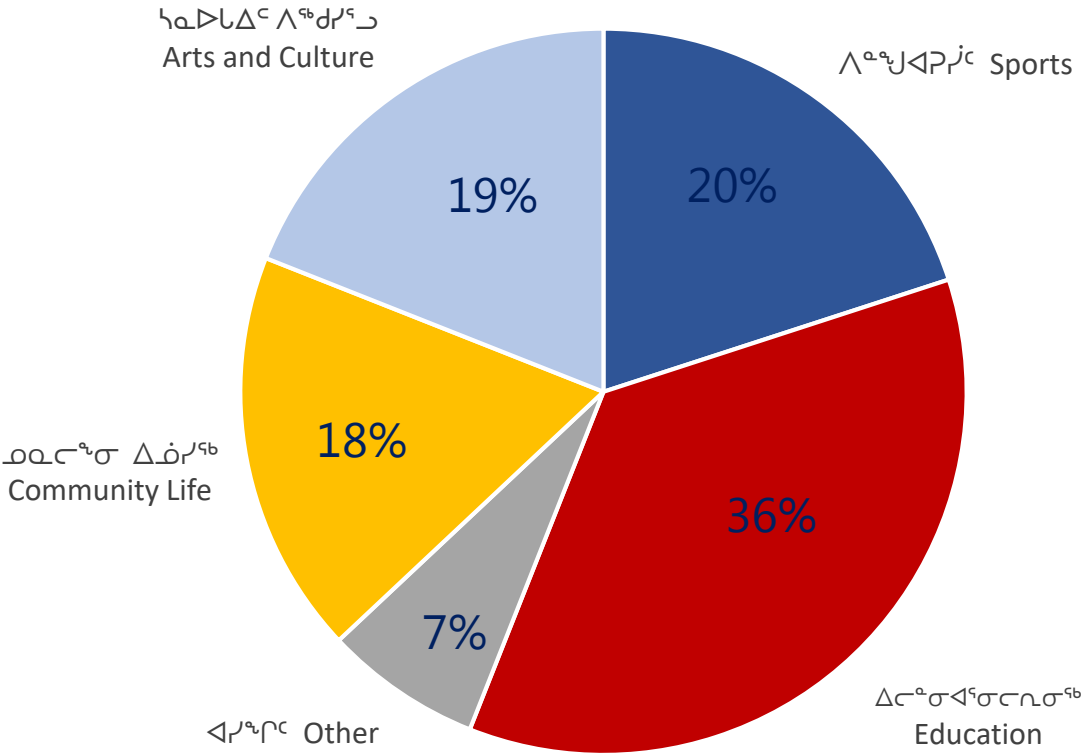
ᑕᑎᐅᑦ ᓂᓃᑦ
ᐅᑭᑭᓐᓃᑦᑕᓐ ᐃᑦᑦᑕᑦᑕᓐ

Marine renewable energy resource study



ᑭᑭᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ

Financial Contributions Provided by Qikiqtaaluk Corporation



- ᐃᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦ, ᑕᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ: **\$164,220**
 - ᐱᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦ: **\$85,668**
 - ᑕᑕᑦᑕᑦᑕᑦ ᐱᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ:
 - ᐱᑕᑦᑕᑦᑕᑦ ᐱᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ: **\$88,956**
 - ᐃᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ ᑕᑕᑦᑕᑦᑕᑦ ᐃᑕᑦᑕᑦᑕᑦᑕᑦᑕᑦ: **\$33,269**
-
- Scholarships and Grants: **\$164,220**
 - Event Sponsorship: **\$85,668**
 - Fundraising and Christmas Activities: **\$83,363**
 - Sports Teams and Events: **\$88,956**
 - And many more projects supported by QC!: **\$33,269**





ᐃᓄᓐᓇᓂᓐ!

ᐃᓄᓐ ᓇᓇᓇᓂᓐ,

ᐃᓇᓂᓐᓇᓂᓐ ᐃᓄᓐ ᓇᓇᓇᓂᓐ ᓇᓇᓇᓂᓐ
ᓇᓇᓇᓂᓐ ᐃᓄᓐ ᓇᓇᓇᓂᓐ

Thank you!

Harry Flaherty

President & CEO

QIKIQTAAALUK CORPORATION & GROUP OF
COMPANIES



ᓇᓇᓇᓂᓐ ᓇᓇᓇᓂᓐ

ᓇᓇᓇᓂᓐ

QIKIQTAAALUK CORPORATION

& Group of Companies