

2016

This document contains consultations with regards to the Government of Nunavut, Department of Environment, Wildlife Management, Research Section –High Arctic Region Biologist

Table of Contents

1.0 Peary Caribou Federal Recovery Strategy Consultations.....	4
Main Issue or Concern	4
1.1 Description, Important areas & movement routes, Range	4
1.2 Population Sizes and Trends.....	5
1.2.1 Have Peary Caribou been increasing or decreasing in your area over the past: 10 years / 30 years?	5
1.2.2 Are the changes in population most likely from births/deaths or from Peary caribou moving from one area to another?	5
1.3 Threats to Peary Caribou	6
1.3.1 Climate Change.....	6
1.3.2 Marine Traffic	6
1.3.3 Parasites and Disease.....	6
1.3.4 Resource Extraction.....	6
1.4 Competition / Predation	7
1.4.1 Muskox.....	7
1.4.2 Wolves	7
1.4.3 Grizzly bears & Wolverines.....	7
1.4.4 Human Disturbance	7
1.4.5 Harvesting	8
1.4.6 Pollution and Contaminants.....	8
1.4.7 Are there any threats that exist in your region that we have not identified? Which threats stand out to you as having the most impact on Peary caribou in your area?	9
1.4.8 Do you agree with the order of the magnitude of the threats?	9
1.5 Population and Distribution Objectives	9
1.6 Critical Habitat and Knowledge Assessment	9
1.7 Strategic Direction for Recovery.....	10
1.7.1 Monitoring and research.....	10
1.7.2 Habitat and species conservation and management.....	11
1.7.3 Education and awareness, stewardships and partnerships	11
1.7.4 Law and Policy.....	12
1.7.5 Does your organization have any comment on the broad strategies and general approaches? Are there other things that should be done?.....	12

1.8 Other Comments	12
1.9 Community's attendee lists	13
1.9.1 Kitikmeot Region: February 22-25, 2016	13
1.9.2 Qikiqtani Region: February 29 and March 1, 2016	14
1.9.3 Inuvialuit Settlement Region: March 8-10, 2016	14
1.10 Revised maps	16
2.0 Questions to the GN WRT Baffin Caribou Subpopulation Delineation	18
3.0 RE: Devon survey	19
3.1 From: rbhta [rbhta@qiniq.com]	19
3.1 Comments by Email from Resolute SAO on March 22, 2016	20
4.0 Support from Resolute HTA for POWSI survey	20
5.0 Research Project Updates and Proposals, July 18 2016	21
5.1 Devon Island survey	21
5.2 Upcoming surveys	21
5.3 Peary caribou genetics	22
5.4 Eureka wolf work	22
5.5 Lancaster Sound bears	23
6.0 Devon muskox at NWMB (TAH)	24
6.1 From: rbhta [rbhta@qiniq.com]	24
6.2 From: Iviq HTA [gfiviq_hta@qiniq.com]	24
6.3 From: Anderson, Morgan [mailto:MAnderson@GOV.NU.CA]	24

1.0 Peary Caribou Federal Recovery Strategy Consultations

Kitikmeot Region: February 22-25, 2016

Qikiqtani Region: February 29 and March 1, 2016

Inuvialuit Settlement Region: March 8-10, 2016

Representatives from Environment and Climate Change Canada (ECCC) travelled to communities in February and March 2016 to present the draft *Recovery Strategy for the Peary Caribou in Canada*. Where possible, representatives from the Government of Nunavut (GN), the Government of the NWT (GNWT) and Parks Canada were present to answer questions regarding their respective jurisdictions or to provide insight on Peary caribou biology, surveys, management, harvest and information on other arctic species such as muskoxen. The Hunter and Trapper Organizations/Committees/Associations in nine communities as well as community members participated in these meetings.

Peary caribou were federally listed under the *Species at Risk Act* as Endangered in 2011. A recovery strategy must be written to set out the national plan of how to ensure the survival of Peary caribou into the future. A federal recovery strategy is due to be posted on the Species at Risk Public Registry for the 60-day public comment period by the end of March 2017. ECCC presented key sections of the draft recovery strategy and gathered feedback from each community. The following is a summary of the major concerns / topics of discussion.

See 1.9 Community's attendee lists for the list of attendees for each community.

Main Issue or Concern

1.1 Description, Important areas & movement routes, Range

Gjoa Haven, Taloyoak, Resolute Bay

Some communities spoke about the need for caribou to migrate between islands or to access large areas of landscape (to mate, give birth, feed, and escape bad weather conditions). For example, in fall when food is getting low, the caribou would be found walking along the shore trying to get across to another island. It was noted that they sometimes die trying to cross between islands if the ice is too thin or there is no ice for them to get across (Gjoa Haven).

Taloyoak

Question about the area of the range of Peary caribou? → *ECCC: The extent of occurrence of Peary caribou is estimated as 1.9 million km²*

Paulatuk

Wanted the long "important area" area south of their community (previously identified at the Technical meeting as an Important areas) to be removed, it is not an important breeding area. → *Area was removed from figure 2 (see appendix 2 of this document)*

Paulatuk

Caribou on Baffin Island is also Peary caribou. Baffin should then be included in the range.

→ *GNWT: to confirm what subspecies occurs on Baffin Island*

Ulukhaktok

Identified 3 areas where Peary Caribou are seen: Wynniatt Bay, Shaler Mountains (wintering area), and Hadley Bay

1.2 Population Sizes and Trends

Sachs Harbour, Gjoa Haven, Kugaaruk

Recognized the importance and the difficulties to survey Peary caribou: hard to see in the winter time, they mix with Dolphin and Union caribou and other caribou in the southern part of their range, and surveys are very expensive.

Sachs Harbour, Ulukhaktok

Concerns about surveys being too far apart in years and not covering the whole caribou range. [Explained that surveys are very expensive, so GNWT try to survey group of islands at the same time, and prioritize areas where there are communities as they harvest caribou.]

Sachs Harbour, Kugaaruk

Showed interest in knowing how many caribou we need so that populations don't go extinct or to have a healthy population. [Explained that we don't have enough information, have part of the cycle but do not know what the safe range is. GNWT try to survey more often.]

Gjoa Haven

Community members stated that they were not very concerned about Peary caribou because Peary caribou are hardly ever seen there; they are mainly concerned about the Barren-ground caribou.

1.2.1 Have Peary Caribou been increasing or decreasing in your area over the past: 10 years / 30 years?

Sachs Harbour

Notably increasing compared to 5 years ago. Seems to be linked to the decreasing Muskox population.

Ulukhaktok

30 years period: decreased.

Paulatuk

See small herds in fall, very few herds. They are not migrating anymore. Don't seem to expand.

Cambridge Bay

Very few Peary caribou have been sighted close by. Even 30 years ago, used to go many miles north before finding Peary caribou. Had a lot of caribou around in the 80s, it has been way down in the last few years.

Gjoa Haven

We should not expect a big expansion of Peary Caribou, population level was always low.

Taloyoak

Saw them in the 80s-early 90s and used to eat them in the mid-80s early 90s but not since then, would not know if they are increasing, mainly because nobody goes there anymore. Started to see a decline in the 80s.

Kugaaruk

Never had large populations. Catch a few in the late 80s but now hardly see them.

Resolute Bay

In the last 4-5 years, seen an increase especially on Bathurst Island (Allison Inlet), but also in Grise Fiord area and on Cornwallis Island. Have seen females with two calves.

1.2.2 Are the changes in population most likely from births/deaths or from Peary caribou moving from one area to another?

No comments.

1.3 Threats to Peary Caribou

1.3.1 Climate Change

Cambridge

Bay Noticing that the summers are warmer; so flies/mosquitoes are now really bad. New types of insects can now be seen.

Sachs Harbour

Have observed new types of mushrooms, some are poisonous for the wildlife (caribou/muskox). Abundance of mushrooms has increased last summer. Have observed land erosion occurring after melting.

Sachs Harbour, Cambridge Bay

Concerns about ecological shifts: advantages for predators (hares still white when no more snow on the ground, grizzly bear's hibernation is shorter.)

Sachs Harbour

Increased temperature might have a positive impact on vegetation, but might not be food that caribou eat/prefer as shrubs are expected to increase.

1.3.2 Marine Traffic

Ulukhaktok, Cambridge Bay, Kugaaruk

More ships of different types (cargo, cruise ship, sail boat, coast guard, etc.) are going through the ocean, opening the water longer than it normally would be. [Need to have the migration routes identified and then work with other governments/jurisdictions to mitigate shipping impacts.]

Ulukhaktok

Increased marine traffic will bring more pollution/contaminant in the north.

Cambridge Bay

Working on preventing ships going through NW Passage and nearby areas. Asking for no sailing by the last week of October for the safety of hunters and caribou.

Was raised that the Elders Committee with the DoE (GN) notified the Minister of Environment that when the ice started freezing no ships should go through.

1.3.3 Parasites and Disease

Paulatuk

Concerns about caribou disease.

Sachs Harbour, Ulukhaktok

Parasites and diseases should be higher in the list, linked with interactions with muskox and migratory birds. Many concerns expressed about the big die-off of muskox recently; parasites and diseases confirmed in other caribou (Woodland and Barren-Ground).

1.3.4 Resource Extraction

Sachs Harbour, Taloyoak

Concerns about resource extraction activities, especially near or at calving grounds.

Sachs Harbour

gave an example where calving areas were identified by the community as conservation areas where the company should not go, but the company did work there anyways.

Ulukhaktok

Concerns about industries and exploration activities pushing wolves and other predators north.
Grise Fiord, Resolute Bay
Concerns that if many mining projects are approved or there is a greater interest in mining, Peary Caribou may go back to being Endangered. Concerns about noise pollution

1.4 Competition / Predation

1.4.1 Muskox

Ulukhaktok, Gjoa Haven, Taloyoak

Concerns about the increasing population of muskoxen. Muskox is moving the caribou off. Often mentioned that caribou avoid muskox, they do not get along (competition for forage, strong smell).

Taloyoak

especially concerned about a calving ground at PoW/Boothia peninsula; used to find a good population of caribou and hardly any muskox. Ancestors say the caribou move away because muskoxen eat the same thing.

1.4.2 Wolves

Paulatuk, Ulukhaktok, Sachs Harbour (public only, not the SHHTC), Cambridge Bay, Gjoa Haven, Taloyoak, Resolute Bay

Communities expressed great concerns about the high and increasing number of predators – mainly wolves – on Peary caribou. Wolves were seen in many communities as becoming a huge problem for caribou

Cambridge Bay

Wolves are more of a concern than Grizzly bears.

Cambridge Bay

Have seen wolves chasing caribou out on the ocean or hunting caribou on the sea ice with still open or partly frozen water. Communities are seeing changes to wolf pack structure. Cambridge Bay noted that wolf packs were getting bigger, and the wolves were healthy and brave. However in Sachs Harbour (where caribou numbers were noted to be increasing) wolves were observed to be thin and packs getting smaller.

1.4.3 Grizzly bears & Wolverines

Sachs Harbour, Cambridge Bay

Concerns about the high/increasing numbers of grizzly bears and the impacts on caribou.

Cambridge Bay

Seeing grizzly bears emerging earlier from their dens, sometimes as early as the first week of April, and returning to their dens for hibernation later in the season.

Cambridge Bay

Wolverine numbers are increasing

1.4.4 Human Disturbance

Ulukhaktok, Sachs Harbour, Cambridge Bay, Taloyoak, Kugaaruk

Concerns about the increasing activities/numbers of helicopters, planes, snowmobiles, drones and their impacts on caribou.

- Noise was the main concern among the communities (increasing in intensity and frequency)

- Minimum height
- Timing of flight (calving season, hunting season-for subsistence)
- Caribou accumulate less fat because often in a flee situation

Cambridge Bay

Flight guidelines are given to the industry/pilot and best management practices have to be followed, but it seems that it is not always followed. Should be reported to GNWT.

Cambridge Bay

Concerns about sensory disturbance associated with military exercises during critical life stages for Peary caribou.

Gjoa Haven

A lot of people get out on the land when it gets warmer: scientists, explorers, etc. All these activities are a major disturbance for caribou and make them move away. One community member suggested that stopping federal government researches or mining exploration for a year might help and make a difference.

Paulatuk

Someone was interested in knowing the proportional contributing impacts of different sectors: tourism, military, research... [Explained it is only the global impact in the recovery strategy but specific contribution or locations could be addressed in an Action Plan.]

Sachs Harbour

An Elder expressed concerns about the use of quads and snowmobiles by the community and the impacts on caribou (scare them)

Resolute Bay

Concerns about the increasing activities in the next few years in the new Park on Bathurst. Community should identify critical area (calving areas, migrating routes) to minimize disturbance. → Will be addressed in a Park Management Plan with Parks Canada

1.4.5 Harvesting

Paulatuk

Not a threat for now, but in the southern range of Peary caribou, where they mix with other caribou (ex. Bluenose), it could become a threat if hunting resumes for herds currently under restrictions. Hunting pressure could increase on Peary and Dolphin and Union caribou.

Sachs Harbour

Quotas are not respected. HTC by-laws are not respected neither enforced. Overharvesting is a big concern/threat for the Sachs Harbor HTC (illegal harvesting, not reporting captures).

1.4.6 Pollution and Contaminants

Sachs Harbour, Paulatuk, Cambridge Bay, Kugaaruk, Resolute Bay

Contaminants left over on sites are seen as a threat as well as the equipment and fuel.

Paulatuk, Cambridge Bay, Resolute Bay

Identifying and cleaning up contaminated sites was identified as a high priority.

Paulatuk, Sachs Harbour, Ulukhaktok, Cambridge Bay

Many communities noted smoke and dust from forest fires in the NWT or surrounding areas, could have negative effects on wildlife including Peary caribou.

Kugaaruk

It had been specified that air pollution was mostly man-made.

1.4.7 Are there any threats that exist in your region that we have not identified? Which threats stand out to you as having the most impact on Peary caribou in your area?

No comments.

1.4.8 Do you agree with the order of the magnitude of the threats?

Ulukhaktok, Cambridge Bay, Gjoa Haven, Taloyoak, Resolute Bay

Although predation (mainly wolves) is ranked as a low threat across the entire range of Peary caribou, these communities rank predation as a high threat in their area due to increasing numbers.

Cambridge Bay, Gjoa Haven, Taloyoak and Resolute Bay

identified wolves as the main threat in their region.

Taloyoak

Muskoxen and wolves are the biggest threats. Caribou started to decline when muskoxen population increased.

Taloyoak

In summer time, starting to witness caribou trying to cross in the ocean in the open water, usually would not witness this. These caribou cannot cross the open water, they froze and die.

Cambridge Bay

A lot of Peary caribou may drown while migrating. Ulukhaktok Already seeing caribou drowning because of shipping or thin ice.

Sachs Harbour, Ulukhaktok

Parasites and diseases should be higher in the list, linked with interactions with muskox or migratory birds.

1.5 Population and Distribution Objectives

Cambridge Bay

Stressed the importance of recognizing the natural cycle of caribou, that fluctuation is natural and that die-offs occur periodically. [The natural limits (upper and lower population level or safe range) have not yet been identified because more data is needed.]

1.6 Critical Habitat and Knowledge Assessment

Paulatuk, Cambridge Bay, Grise Fiord

Community members discussed reasons for needing such large areas of critical habitat. These reasons brought up included that caribou use a wide range of habitats and have unpredictable migration routes, and thus need access to large areas of landscape.

Sachs Harbour, Paulatuk, Grise Fiord

Discussed that once critical habitat is identified in the recovery strategy and posted as final, Environmental Assessments have to consider Peary Caribou habitat in their evaluation. This means development is possible in the future but consideration will be given to the caribou in projects that will be going on in critical habitat.

Sachs Harbour

One calving ground (Community Conservation Plan) at the southern tip of Banks Island might not be all identified as critical habitat. → *GNWT: to confirm* Concerns on how critical habitat will impact their local activities like the establishment of cabins.

Sachs Harbour, Taloyoak

Need to take care/protect the habitat and the calving areas. Sachs Harbour had concerns about effectively protecting sensitive areas identified in the Community Conservation Plan, on a long-term basis.

Cambridge Bay

Had a question about having a plan to identify Critical habitat on the lower hashed out area (critical habitat not yet identified). [ECCC will work with territorial governments to determine how habitat will be identified.]

Cambridge Bay

Beneficiaries working at Alert should be contacted to get information from them on caribou distribution on the northern tip of Ellesmere Island.

Grise Fiord

Corrections to the areas of critical ice habitat in the area of Cardigan Str and Norwegian Bay were pointed out. → *These corrections have been made to the Figure 4 (see 1.10 Revised maps of this document)*

Grise Fiord

Axel Heiberg and Ellesmere are seen as potential locations for future coalmines.

1.7 Strategic Direction for Recovery

Ulukhaktok

Would like to work with Nunavut so they can work in the same direction for the caribou.

Grise Fiord

Had been discussed that once the Recovery Strategy is final it will serve as a high-level guidance document for regional plans as the Nunavut Land Use Plan (LUP). Identified critical habitat in the Recovery Strategy could be one of the ways to set aside Protected Areas as part of the LUP, or to protect critical habitat outside of Protected Areas. As the Recovery Strategy is not yet final, community members should stressed the important of this habitat to QIA/Planning Commission.

1.7.1 Monitoring and research

Ulukhaktok, Kugaaruk

Need to know more about caribou crossing (when and where) and movements on the ice.

Resolute Bay

Need to identify areas of calving routes in summer. Some areas are used year after year.

Cambridge Bay

Monitoring of vessel traffic through the range of Peary caribou for the routes and timing of travel, and type of ships.

Sachs Harbour, Ulukhaktok

Need was expressed that more research is needed on relationships between caribou, muskox and wolf.

Sachs Harbour

HTO receives a lot of demand from university researchers. They now want to prioritize research activities on their territory.

Ulukhaktok

Need to have more studies on grizzly bear.

Sachs Harbour, Ulukhaktok

Surveys are very important. Need for new survey technology: less intrusive and less expensive (by snowmobile, drones,...). More money should be invested into communities to do ground survey with the biologists (by snowmobile with local hunters) – would also be an opportunity to work collaboratively.

Ulukhaktok

Research needed on parasites and diseases, linked with interactions with muskox or migratory birds.

Ulukhaktok

Need more studies on vegetation: eg caribou diet, grazing impact, recovery after grazing, plant growth

Resolute Bay

Showed interests in monitoring the caribou population. This type of work is called community-based monitoring programs (CBMP).

1.7.2 Habitat and species conservation and management

Paulatuk, Ulukhaktok, Cambridge Bay, Taloyoak, Kugaaruk, Resolute Bay

Since wolves have a great impact on caribou, something needs to be done about wolves. Communities suggested that the wolf or predator (wolves + grizzly bears) populations should be controlled. This is something they can control and that had been done in the past for wolves. [There is a lot of controversy about culling wolves; we need to better understand potential impacts of wolf management. GNWT might be considering it; they currently have a wolf program where skulls are collected; there is a fur bonus.]

Paulatuk, Cambridge Bay, Resolute Bay

Concerns about cleaning-up old exploitation sites. Sites identified as critical habitat and containing waste/contaminants (from past researches, extraction sites, military or Ranger exercises...) should be prioritized and cleaned-up. Cleaning up contaminated sites should be done by professionals with the proper equipment.

1.7.3 Education and awareness, stewardships and partnerships

Cambridge Bay

Promote education among the mining and marine sectors (sensitive areas and seasons). Promote education amongst harvesters.

Kugaaruk

Educate young generation (eg don't waste the meat).

Ulukhaktok

Educating young people to identify the different caribou while hunting. Transfer knowledge to the younger people so they can learn where are the important areas to hunt and the migration routes. Young people will be able to hunt for their subsistence when hunting will resume, it is their future.

Resolute Bay

Are developing a program aiming at transferring knowledge to young people on where and how to hunt caribou, but lack of money is big issue. For the Recovery Strategy, would like to see something like: "Promote education amongst youth or young harvesters" or "Better practices for youth". Should also replace the word 'harvesters' with 'hunters'. Harvesting could also mean berry picking or to people who use things from the land for use, not just animals but plants.

1.7.4 Law and Policy

Ulukhaktok, Cambridge Bay

Some communities recommended higher restrictions for flights (minimum height, specific for calving season) or that the existing rules are enforced. The community of Ulukhaktok doesn't allow flying around calving season.

Paulatok, Kugaaruk

Some communities recommended higher restrictions for marine traffic (controlling timing of ship traffic). Migration routes on sea ice should be protected.

Taloyoak

Resource extraction or exploration activities should be prohibited at/near sensitive areas.

Sachs Harbour

Enforcement on quota should be stronger.

Ulukhaktok

Hunters should have their tag before they go out hunting, like it is currently done for polar bear.

1.7.5 Does your organization have any comment on the broad strategies and general approaches? Are there other things that should be done?

Grise Fiord

In many aspects, Inuit hunters are already practicing the recovery of the caribou. Discussion that imposing laws and quotas may actually increase hunting. Respect for what the community says about how to manage the caribou is important to the success of the recovery effort.

1.8 Other Comments

Gjoa Haven

Had a suggestion to do one-on-one interviews to gather more information in the future.

Cambridge Bay

Breeding between Peary and Barren-ground caribou has started. Peary may be migrating with Dolphin and Union to mainland.

Ulukhaktok

Importance of Elder knowledge on caribou hunting sites since community members cannot travel long distance anymore, too expensive.

Ulukhaktok, Cambridge Bay

Concerns from communities passing information over to the people at the federal level:

- Seem to pass it over often;
- Expect (would like) to receive feedback from them (e.g. noticing wolves, caribou decline);
- Governments take too much time to take actions and save a species.

Taloyoak

Need expressed that biologist should come regularly to their meetings on caribou management; to address wildlife issues, share information. Hunters should go with biologist when they are going to count caribou in the field (aerial survey). Getting funding for surveys is an issue for communities.

Paulatuk

Concerns about NWMB if they want more time to accept the recovery strategy, this will delay the process. Stressed that co-management is essential, cooperation is needed. [Explained that Nunavut, co-management partners and stakeholders were involved in the process from the start in order to address the concerns at the beginning and be refined through the process.]

Communities expressed great hope in this Recovery Strategy to help Peary caribou populations.

1.9 Community's attendee lists

1.9.1 Kitikmeot Region: February 22-25, 2016

Ekaluktutiak HTA Meeting

Location: Cambridge Bay, Nunavut

Date: February 22, 2016

Attendees: Mark Haongak – HTO Director, Peter Evalik – Secretary – Treasurer, Bobby Greenley – Chairperson, Jimmy Haniliak – Director, John Lyall – Director, Howard Greenley – Director, Dennis Kaomayok – Hunter, Devon Oniak – Hunter, Chad McCallum – Hunter, Sam Anghiatok Sr. – Elder, Jimmy Maniyoena – Elder, Roland Eminyak – Hunter, William Pawialak – Hunter, Dawn Andrews – Environment and Climate Change Canada (ECCC), Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

Community of Cambridge Bay Public Meeting

Location: Cambridge Bay, Nunavut

Date: February 22, 2016

Attendees: Jimmy Haniliak – EHTO Director, Ruby Haniliak, Jack Ekpakohk, Nigeonak – Kitikmeot Corp., James Ekpakohak, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

Gjoa Haven HTA Meeting

Location: Gjoa Haven, Nunavut

Date: February 23, 2016

Attendees: Molly Halluqtaluk – HTO Manager, David Qirqqut – Hunter, Jacob Keanik – HTO, Ralph Porter SR – Elder, Paul Ikaullaq – Translator, Rebeccal Ikualluq – Search and Rescue Org., Marvin Aqittuq – HTO, Jimmy Qirqqut – Elder, Kenneth Puqirqak – HTO, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

Spence Bay HTA Meeting

Location: Taloyoak, Nunavut

Date: February 24, 2016

Attendees: Jimmy Oleekatalik – HTO Manager, Anaoyoak Alookie – Secretary Treasurer, Sam Tuluriazik – Chairperson, George Aklah – HTO Member, Bruce Takolik – HTO Member, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

Community of Taloyoak Public Meeting

Location: Taloyoak, Nunavut

Date: February 24, 2016

Attendees: Simon Qingnaqtuq – Chair KRWB, Noah Aklait, Isaac Panigayak – Hunter, Eunice Panigayak – Hunter, Danniki Plookee – Hunter, Participant – name written in Inuktitut, David Totalik – Hunter, Bruce Italkell – Hunter, Lorraine Ukuqtunnuaq – Hunter, Simon Taktoo – Hunter, Ruth Ruben – Hunter, Nannu U., Andrew P – Hunter, Joseph Quqqiaq – Interpreter, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

Kugaaruk HTA & Public Meeting

Location: Kugaaruk, Nunavut

Date: February 25, 2016

Attendees: Joshua Kringorn – HTO Manager, Mariano Uqqarqluk – HTO, Edward Inuituinuk, Adam Pujuardjuk, B. Oralri, Len Anaittuq – HTO, Tom Kayaitok – Interpreter, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife

1.9.2 Qikiqtani Region: February 29 and March 1, 2016

Grise Fiord Board Meeting

Date: February 29, 2016

Attendees: Jaypetee Akeeagok – HTO Chairman, Charlie Noah – HTO V-Chairman, Marty Kuluguqtuq – SEC/MES, Aksakjuk Niniuk – B.O.D., Jopee Kiguktak, Larry – Interpreter, Morgan Anderson – Department of Environment, GN, Igloolik, Andrew Maher – Parks Canada, Iqaluit, Julia Prokopick – ECCC, Canadian Wildlife Service, Iqaluit, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife

Grise Fiord Public Meeting

Date: February 29, 2016

Jaypetee Akeeagok – HTO Chairman, Annie Audlauk, Miinie K., Laisa Watsleo, Tina Qamaniq, Subie Kiguktak, Jopee Kiguktak, Jonathan Kiguktak, Amarulunnquaq A, Amon Akeeagok, Charlie Noah, Naomi Kuluguqtuq, Aksakjuk Niorjuk, Jamie Christensen, Justin Kaunak, Morgan Anderson – Department of Environment, GN, Igloolik, Andrew Maher – Parks Canada, Iqaluit, Julia Prokopick – ECCC, Canadian Wildlife Service, Iqaluit, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife

Resolute Bay Public Meeting

Date: March 1, 2016

Attendees: Martha Kalluk, Nathaniel Kalluk, Tabitha Mullin, Philip Manik – HTO chairman, Aleeeasuk Idiout, Morgan Anderson – Department of Environment, GN, Igloolik, Andrew Maher – Parks Canada, Iqaluit, Julia Prokopick – ECCC, Canadian Wildlife Service, Iqaluit, Dawn Andrews – ECCC, Canadian Wildlife Service, Yellowknife

1.9.3 Inuvialuit Settlement Region: March 8-10, 2016

Sachs Harbour HTC Meeting

Location: Sachs Harbour, NWT

Date: March 8, 2016

Attendees: Joseph Carpenter – President, SH HTC, Wayne Gully – HTC, Norm Anikina – HTC, Richard Carpenter – HTC, Perter Sinkins – Parks Canada, Inuvik, Tracy Davison – Environment and Natural Resources, GNWT, Inuvik, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife, Isabelle Duclos – ECCC, Canadian Wildlife Service, Yellowknife

Community of Sachs Harbour Public Meeting

Location: Sachs Harbour, NWT

Date: March 8, 2016

Attendees: Joseph Carpenter – President, SH HTC, Participant – Visitor, Kyle Wolki – SHHTC/SHCC, Bridget Wolki – Caterer / driver, Shanon Green – Parks Canada / Caterer, Norman C. – Sachs Harbour, Edith Hoogak, Warren Esav – Hunter, John Keogak – SHHTC,

Jean Harry – Translator, Perter Sinkins – Parks Canada, Inuvik, Tracy Davison – Environment and Natural Resources, GNWT, Inuvik, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife, Isabelle Duclos – ECCC, Canadian Wildlife Service, Yellowknife

Ulukhaktok HTC & Public Meeting

Location: Ulukhaktok, NWT

Date: March 9, 2016

Attendees: Matthew Inuktalik, Willy Akoakhion, Corrie Soss Alice Omingmak – Elder, Markus Kuptana Margaret Kanayok – Elder, Laura Inuktalik, Allison Ekpahkyoak, Isaac Inuktalik – Hunter + trapper, Mason Alanak, Annie Inuktalik, Allison KlenKenberg, Kolten? Inuktalik, Macayla Alanak, Laverna Klengenberg – OHTC, Kieranne Joss, T. Kuptana, Grant Kuptana, Morris Nigiyok – Elder, Tobin, Mabel Nigiyok – Elder, Angen, MaryJane, Nigiyok Allison, Sadie Joss – OHTC, Corben, Donald Inuktalik – Member of Ulukhatok, Krista, Lily Alanak – Community member, Blaine, Margaret Notaina – Elder, Kaia, Mollie Oliktoak, Chelsey, Devon Notaina, Joe Nilgak, Madison Nigiyok, Maegan Klenkengberg, Pat Ekpakohak – Elder, Trent Kuptana, Jean Ekpakohak – Elder, Peter Koplomiak, Connie Alanak, Tyrell Kuptana, George Alanak, Nickolas Alonak, Andy Akoakhion, Niami Klengkenberg, Gibson Kudlak – OHTC, Allen Joss – Elder, Mary Akoakhion – Elder, Joshua Oliktoak, Jack Akhiatak, Gibson Kudlak, Julia Ekpakhoak, John Alikamik, Darlene Nigiyok, Collin Okheena, Lena Nigiyok – Youth Council, Wyatte Joss, Patrick Joss, Ross (Carmella Klengkenberg), Effie Katoyak – Elder, Perter Sinkins – Parks Canada, Inuvik, Tracy Davison – Environment and Natural Resources, GNWT, Inuvik, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife, Isabelle Duclos – ECCC, Canadian Wildlife Service, Yellowknife

Paulatuk HTC & Public Meeting

Location: Paulatuk, NWT

Date: March 10, 2016

Attendees: Lawrence Ruben – HTC, Ray Ruben – HTC, Joe Illasiak – PHTC, Bill S. Ruben – PTHC, Tony Green – PHTC, Liz Kuptana – Elder, Eric Lede – Student, Sarah Green – Member, Charlene Green, Perter Sinkins – Parks Canada, Inuvik, Tracy Davison – Environment and Natural Resources, GNWT, Inuvik, Amy Ganton – ECCC, Canadian Wildlife Service, Yellowknife, Isabelle Duclos – ECCC, Canadian Wildlife Service, Yellowknife

1.10 Revised maps

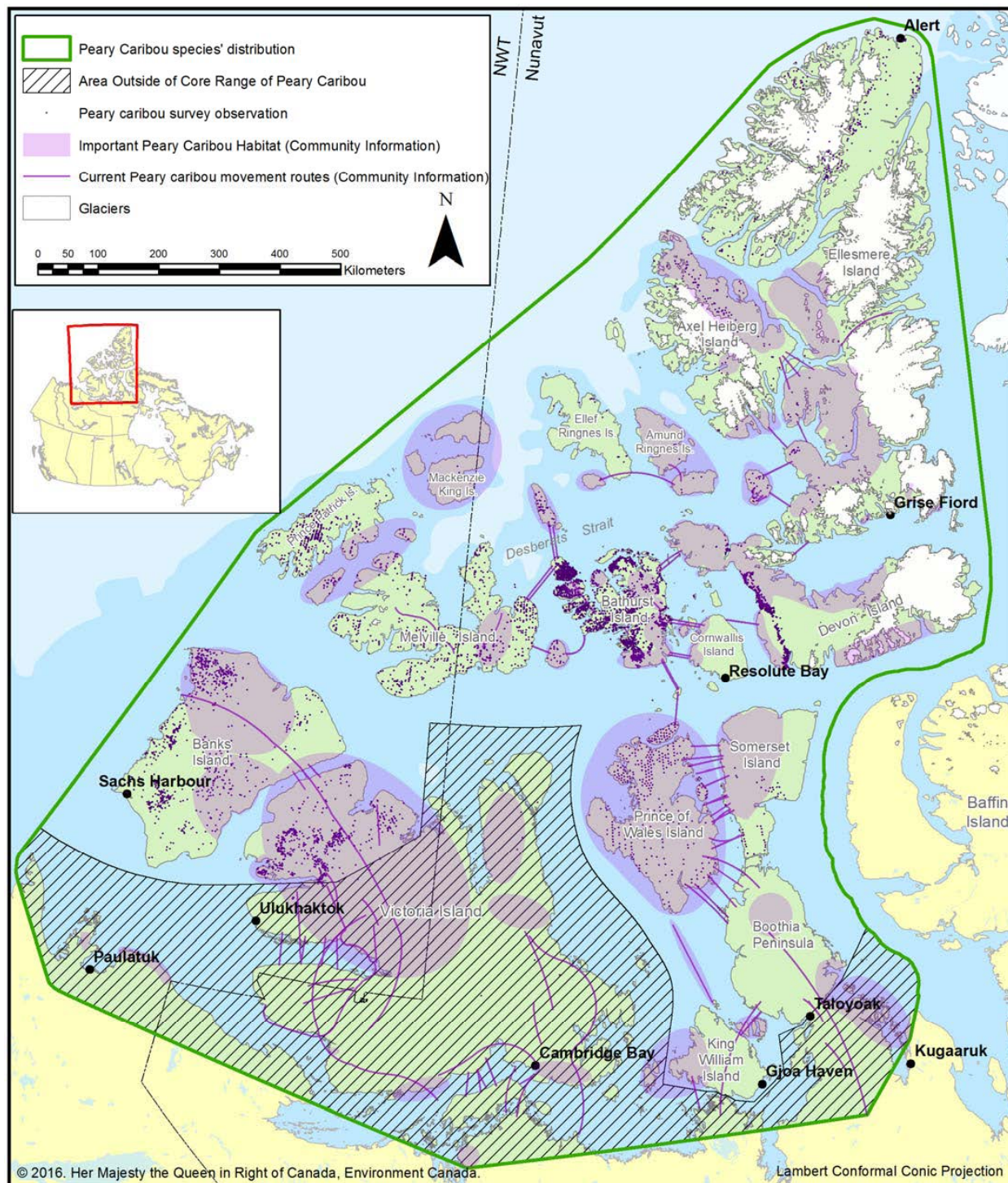


Figure 2. Peary Caribou distribution defined using a standard convex polygon methodology enclosing survey data and community information (1970-2015) modified from Johnson et al. 2016 (Johnson et al. 2016) to differentiate between core range and areas outside of core range.

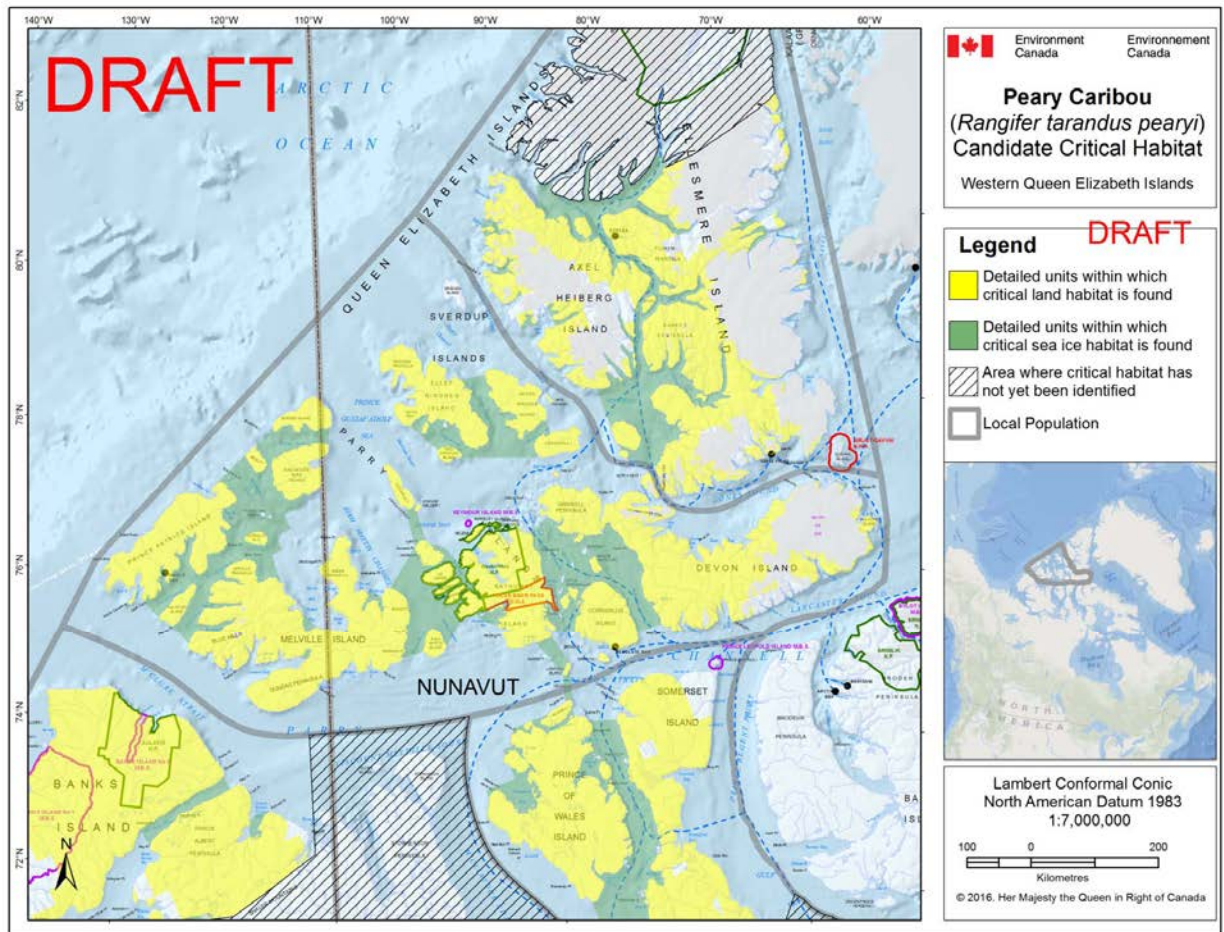


Figure 4. Detailed units that contain critical habitat for Peary Caribou in the Western Queen Elizabeth Islands local population (NT & NU).

2.0 Questions to the GN WRT Baffin Caribou Subpopulation Delineation

QWB Caribou Ranges Workshop – Jun 22 2016 ~16:00

Ben – how were the boundaries developed, and what consultation was conducted in determining them? Could have serious consequences to harvesters so requires consultation under NLCA

David – how many years would the system be imposed? Also note that the male-only harvest could have impacts on people since cows are better for clothing and hunters can select cows without calves to reduce the impact. Imposing boundaries on harvest would require consultation under the NLCA

Joannie – frustrated by the boundary, Kimmirut's recommendation would be not to have boundaries since they are allowed to harvest anywhere as beneficiaries, and the reindeer on Baffin from the 1930s have been used up or are gone and that's the only place where it seemed like a boundary would make sense

Mike – overview that populations change over time and the boundaries change over time and need to be updated, for example Pangnirtung wouldn't originally have fallen within the range delineated for south Baffin caribou but as the caribou moved this was updated. Usually this is based on IQ to update boundaries. Lines are developed for a point in time – Elders suggest that when the population is low there is less well-defined structure and more mixing, there may be one population at those times, and they are located less predictably on the landscape

Qikiqtarjuaq – these boundaries were not presented during consultations – concerned that they would not be able to harvest

Jackie – Troy and Jaylene did meet with the communities and QWB was invited but they were short-staffed and unable to attend, so she can't speak to what information was exchanged at those meetings

David – these boundaries might have been presented for research purposes but not for harvest purposes, so maybe the boundaries were consulted on in the context of research rather than for tag distribution and harvest areas

Ben – some people around the table may not know what we're discussing, and it isn't meant as a slight against researchers but there needs to be incorporation of peoples' harvesting areas and need for understanding of where and when people harvest – boundaries should be removed until that can be incorporated. Boundaries may not be valid if they were developed at a different population level and should be evaluated for current situation as well.

Abraham – thought he might be thinking of a different boundary than the one under discussion – this would be like for polar bears? Seems like an underhanded move by the government to force the NMWB into making a decision

David – current system allows communities to renegotiate tags if some are not used so that other communities could use them – can't see how that would be possible with the boundaries in place

Would there be something like for polar bears where a 30-km overlap area is incorporated around the boundary?

Mike – the lines are meant to be for caribou, not people

Lynda – People could theoretically harvest from multiple zones that reflect their hunting practices, it would be a matter of HTOs and QWB working together to assign tags in different areas to different communities, while addressing the concern that arose with the NWMB that there would be too much harvest pressure in areas where there were few caribou – i.e. south Baffin communities transferring a large number of tags to Pond Inlet and potentially exerting unsustainable harvest pressure on the north Baffin caribou

Since the hall had to be vacated and cleaned up by 17:30 and it was now 17:00 the discussion was put on hold until it could be addressed at a later date and the meeting was adjourned.

3.0 RE: Devon survey

3.1 From: rbhta [rbhta@qiniq.com]

You replied on 2/3/2016 11:27 AM.

Sent: Wednesday, February 03, 2016 10:52 AM

To: Anderson, Morgan; Mullin, Tabitha

Hi

RBHTA Directors wanted Devon Island survey if Grise Fiord HTA agree to that to.

Thanks

Nancy Amarualik

Manager

RBHTA

From: Anderson, Morgan [mailto:MAnderson@GOV.NU.CA]

Sent: February 02 2016

8:59 AM

To: rbhta; Mullin, Tabitha

Subject: RE: Devon survey

Oh, looks like I can do Devon afterall... unless people really want Bathurst done, I can try to switch things around.

From: Anderson, Morgan

Sent: January 28, 2016 3:30 PM

To: 'rbhta'; Mullin, Tabitha

Subject: RE: Devon survey

Hi Nancy and Tabitha,

Do you have any thoughts on a Bathurst Island survey this spring? I just found out that my director wants me to fly Bathurst Island instead of Devon. So I'm touching base with you guys to see if you have any preference. I haven't heard of any big changes in the caribou or muskox on Bathurst and we just flew it 2 years ago, so I'm more interested in seeing what's going on with Devon, like if Bathurst caribou have moved over there (plus it gives an update on the northeast side for Grise). I'm still trying to get something going for Prince of Wales and Somerset this summer...

Morgan

From: rbhta [mailto:rbhta@qiniq.com]

Sent: January 25, 2016 5:03 PM

To: Anderson, Morgan

Subject: RE: Devon survey

Hi Morgan,

Directors had a meeting and read your email letter and if have the funding to do the survey at Devon and if Grise Fiord HTA agree too. Director still want Somerset Island and Prince of Wales Island to be survey too.

Nancy Amarualik

Manager

RBHTA

From: Anderson, Morgan [<mailto:MAnderson@GOV.NU.CA>]

Sent: January 12 2016

10:59 AM

To: rbhta

Subject: Devon survey

Hi Nancy,

I was planning on doing a survey on central/northern Ellesmere with Grise Fiord in March, but we don't have enough fuel at Eureka to do it, so I was thinking of switching over to Devon Island, since I have funding to fly a survey until March 31. Grise has been getting a few caribou there in the last couple years and it hasn't been surveyed since 2008, so it seems like a good option. Maybe see what the Board thinks about it, or if they have any recommendations? I was thinking of splitting the survey between Grise and Resolute so both communities flew over the areas where they usually travel and harvest. And I'm still trying to make Prince of Wales/Somerset work for the summer. I'll let you know how it goes as the plans evolve... and I should be able to do a few days of pellet collection on Bathurst and Loughheed Island again this year like we've done in the past, so I'm looking forward to working with the Resolute folks on that again too.

Morgan

Morgan Anderson

Wildlife Biologist, High Arctic Region

3.1 Comments by Email from Resolute SAO on March 22, 2016

- Good Afternoon, Council didn't have any recommendation or concerns regarding the Perry Caribou and Muskox Survey that will be conducted on Devon Island.

Angela Idlout, Senior Administrative Officer

4.0 Support from Resolute HTA for POWSI survey

Resolute Bay Hunters & Trappers Association

P.O Box 61

Resolute Bay NU X0A-0V0

P-867-252-3170

F-867-252-3800

Email- rbhta@qiniq.com

October 9, 2015

To: Morgan Anderson

Wildlife Biologist

Department of Environment

Government of Nunavut

P.O Box 209

Iglolik NU X0A-0L0

RBHTA Directors are giving they support for the air survey at Somerset & Prince of Wales Island for musk ox and caribou .

Thanks

Nancy Amarualik, RBHT

5.0 Research Project Updates and Proposals, July 18 2016

Grise Fiord Hamlet Building 19:30-21:30

Meeting with Iviq Hunters and Trappers Association

In attendance: Jaypetee Akeeagok (chair), Jopee Kiguktak, Amon Akeeagok, Imooshie Nutaraqjuk, Aksakjuk Ningiuk, Etuangat Akeeagok, Charlie Noah, Monasie (secretary-manager filling in for Terry Noah), Morgan Anderson.

Jaypetee introduced Morgan and the purpose of the meeting; Morgan provided an overview of research results to date and upcoming projects for comment; Monasie provided translation throughout the meeting.

5.1 Devon Island survey

Morgan showed maps of the transects and survey strata and rationale, followed by observations of muskox and caribou groups and tracks on the island and total estimates (minimum count of 14 caribou – not an estimate – and $1963 \pm SE343$ muskoxen). Concentration areas for both caribou and muskoxen were in areas where they had previously been observed, although we did not see any caribou around Truelove – they may have been missed between transects if they are at such low densities, and the report acknowledges this. Caribou are believed to be stable at low density on the island, but muskoxen have almost quadrupled from historic estimates, so we can look at changing management for muskoxen on Devon Island. Morgan proposed that the TAH could be increased from the 15 tags currently available (a conservative harvest of 5% of the population would be about 100 tags), and maintaining tags might allow multiple communities to better coordinate harvest. Alternatively, the TAH could be removed entirely, but coordination would still be important. Morgan showed the difference she found between the voluntary reporting of the Nunavut Wildlife Harvest Study and the mandatory reporting of muskox tags. More muskoxen were reported when it was a requirement, and this is important for establishing basic needs level (if it ever needed to be determined for muskoxen) and provides a good dataset for making management changes and supporting decision-making. Morgan pointed out that prior to any official changes for the Devon Island TAH through NWMB in September, if people are interested in doing a hunt, we can put through an exemption to increase the number of tags available for it.

Comments – Jaypetee suggested that the Board further discuss options for Devon Island. His personal opinion was that opening up the harvest completely could be problematic, especially if communities that are not used to hunting muskoxen might not know the best ways to harvest them responsibly. Maintaining tags but increasing the number might be a good approach. Jaypetee and Aksakjuk both reminded everyone that the muskox might be in a 'boom' right now, but that population booms are followed by busts, and we still need to be careful. Aksakjuk pointed out that increasing muskox harvest now, while their numbers are high, could be beneficial for caribou, since Peary caribou tend to be at low numbers when muskoxen are abundant. The Board will be meeting on July 21 and will further discuss.

5.2 Upcoming surveys

Morgan provided a brief overview of plans for Prince of Wales and Somerset island caribou/muskox surveys in August and offered to provide results of the surveys to the Board, since although they do not harvest those areas directly, the population dynamics there might influence populations that they do harvest. In March/April 2017, Morgan is working on setting up an aerial survey, following the same protocols as Devon and south Ellesmere islands in 2015 and 2016, to survey central and northern Ellesmere Island. It be about 180 hours of Twin time,

so getting the funding and logistics in place will determine whether/how much of the survey can be accomplished. It would be from Grise Fiord, Eureka, Tanqary Fiord, and potentially Alert.

Comments – no specific comments.

5.3 Peary caribou genetics

Morgan showed the two most recent maps of population groupings for caribou in the Arctic Archipelago. First, a more broad scale map showed division between mainland caribou, Peary caribou, and Banks Island caribou. Victoria Island and Boothia Peninsula had more mixing. Second, a finer scale map investigating just the island caribou still pulled out Banks Island as a unique group, with another group in the south-central Queen Elizabeth Islands (Bathurst Island) and another group further north (Ellesmere Island). There was more mixing between Bathurst Island/Ellesmere Island groups than with Banks Island, suggesting more movement between these island groups than with Banks Island. Another interesting point was that samples from Bathurst Island before the die-off in the 1990s and afterwards had the same haplotypes, suggesting that caribou on the island now are related to the ones prior to the die-off. This doesn't mean that they didn't move over from other nearby islands, since caribou on nearby islands like Devon also share the same genetics, but it does mean that there wasn't an influx of caribou from the Boothia Peninsula, Ellesmere Island, or Banks Island to aid in the recovery of the population. Fieldwork plans this summer are to gather more samples from Loughheed Island and Bathurst Island, and we will add Dolphin-Union caribou samples to get a better view of how caribou interact on Banks Island and Victoria Island.

Comments – Jaypetee was pleased to see that the genetics reflected what was known about movements and populations through IQ, although it is unfortunate that we have to wait for science to double-check what is already common knowledge to Inuit. Still, he is glad that this information will be better used and incorporated now with both IQ and science backing it up.

5.4 Eureka wolf work

Morgan showed maps of the home ranges and explained the minimum convex polygon ranges, which connect all the locations to provide a total area used by the wolves, and the Brownian bridge movement model home ranges, which show the intensity of use, where wolves spend 95% of their time and 50% of their time. She also showed the time series locations in Google Earth so everyone could watch the wolf movements over the seasons – especially W444's move to Axel Heiberg Island, where he is now the breeding male, and W445's movement to Dundas Harbor on Devon Island. Morgan showed a map of location clusters and pictures of several typical cluster locations – look out points, dens, and kill sites (only muskox kills have been found to date). Even clusters that were created over a couple hours were checked, to make sure caribou were not being missed. The extent to which the muskoxen have been consumed leads us to believe that there might not be any bones left from a caribou, but the rumen and hair pile would likely still be obvious. Morgan also gave a brief overview of some unusual observations from the last 2 field season, including multiple cases of more than one breeding female, and two cases this season where wolves from another pack killed pups.

Comments – Members were quite interested in W445's route along southern Ellesmere, and pointed out where she turned back at Hell Gate and likely skirted open water to cross Jones Sound on the ice. Amon suggested she may have been living off seal pups, since wolves will hunt them. She apparently passed just north of town while most people were at the fishing derby on Devon Island. Jaypetee wanted to know whether the collars that were no longer

functioning had actually dropped off the wolves. Morgan explained that of the 4 collars no longer functioning, 2 had dropped and been recovered, another had apparently dropped in a pond and could not be found, and the one on Devon Island had not been checked yet. She is trying to arrange for aircraft in the area to retrieve it, or if anyone will be boating in the area she will provide coordinates for retrieval. It's important to get the collars back to find out whether they dropped or whether the wolf died, and also to download activity data that helps interpret behaviour. Jaypetee found the cases of pup-killing quite interesting, but pointed out that in sled dogs if you wash the puppies even up to about 6 months old, sometimes the mother will kill them, so it isn't unexpected to happen with wolves, which are closely related. He pointed out that the film crew, if they got footage of the wolves killing the pups, should be careful how they interpret it if they show it, since it is part of nature. Members were also curious how the wolves were captured, so Morgan explained that her preferred method was darting from close range on the ground, since the wolves were less stressed this way, followed by helicopter net-gunning (which allows more control over how much drug is administered and less impact on injection), and finally helicopter darting, which has also been very effective. We've watched darted wolves after recovery to see if they limp or have any obvious issues at the impact site and they've been walking or running normally. As a general comment, Jaypetee was glad to have this kind of in-person communication of research results (not just for the wolf work), since it almost never happens after the Board approves projects, and they're expected to track down and accept whatever results are produced. It's good to be involved throughout the process, and the information is quite useful.

5.5 Lancaster Sound bears

Morgan gave a very brief introduction of plans for genetic capture-mark-recapture work to update population estimates of Lancaster Sound polar bears in 2018, after Gulf of Boothia and Davis Strait populations. Since the method was the same as the Kane Basin work recently completed, it was more of an information item that the Board would consider. She also pointed out some knowledge gaps that the Board might consider assisting the Polar Bear Biologist with, including when the survey should be flown (spring/fall), good places to base operations from, and whether people would consider deploying collars or eartags to update movements and population delineations. It was introduced as questions that the Board might consider and discuss, which could be incorporated into the study design at this early stage of planning.

Comments – Jaypetee was not familiar with the satellite ear tags, and would like more information on their impact and the quality of data as compared to collars, so that the Board could consider options. Jopee explained a little about their size and configuration, as he had worked on the Kane Basin tagging. Jaypetee suggested that basing out of Grise Fiord any time October to March would allow plenty of bears to be sampled right in town. There were not many specific comments, as it was the first time the Board had been introduced to the project, so they will discuss it further.

6.0 Devon muskox at NWMB (TAH)

6.1 From: rbhta [rbhta@qiniq.com]

Sent: Thursday, August 18, 2016 10:54 AM
To: Anderson, Morgan
Subject: RE: Devon muskox at NWMB

Good morning,
Ola the board hasn't made they're decision yet, can bring it up again at the next meeting.I can also tell them we can wait tell next year to do so.

Thank you so much
Delilah manik
Acting manager

6.2 From: Iviq HTA [gfiviq_hta@qiniq.com]

Sent: Thursday, September 01, 2016 2:48 PM
To: Anderson, Morgan
Subject: RE: Devon muskox at NWMB

Hi Morgan,
The board has decided that they would like the TAH for Musk-ox on Devon Island to be raised to 100 and would require a review by all communities involved at an agreed later date. Also, they would like to be informed on how many of those 100 will be designated to North Devon Island (Grise Fiords quota).

Thanks,
Terry Noah
Manager, Iviq HTA
P: (867) 980 9063
F: (867) 980-4311

-----Original Message-----

6.3 From: Anderson, Morgan [mailto:MAnderson@GOV.NU.CA]

Sent: Wednesday, August 17, 2016 7:07 PM
To: gfiviq_hta@qiniq.com; rbhta@qiniq.com
Subject: Devon muskox at NWMB

Hi guys - just a reminder if the Boards have any resolutions or written support letters for increasing/removing TAH on Devon muskox that we'll need to get those into NWMB. Without that support and comment, it's quite likely that NWMB will just defer the Request for Decision to the next meeting, and it would be good to get it at least addressed at the September meeting...

It looks like the department would also potentially support a short-term larger or unlimited harvest as long as there was solid reporting in place, although I have no idea the logistics involved in that and I suspect it might be more realistic for next year... but if you have any comments on that, please add it to any letter or Board decision.

Thanks! Morgan