

Baffin Island Caribou Consultations

2012



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2013



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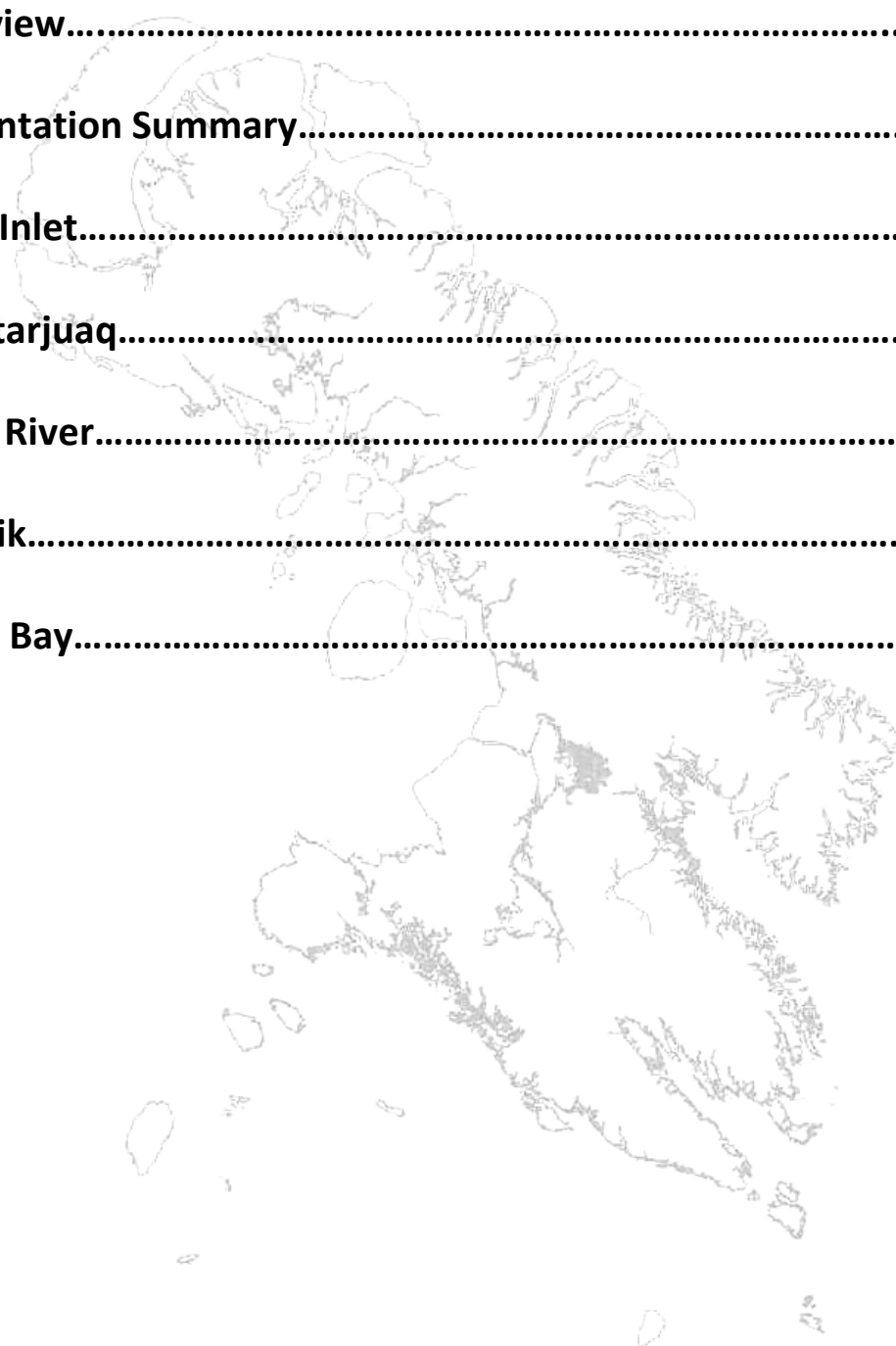
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Overview

In the Baffin Region, consultations occurred across two years for the multiyear research project entitled 'Abundance and Distribution of Barrenground Caribou on Baffin Island, Nunavut'. All communities that currently or traditionally harvested caribou on Baffin Island were engaged. In 2011-2012 the communities of Qikiqtarjuaq, Kimmirut, Cape Dorset, Hall Beach, Igloolik, Pangnirtung, and Iqaluit were visited while, Pond Inlet, Clyde River, Arctic Bay, Qikiqtarjuaq and Igloolik were consulted in 2012. Constructive input on project design and execution was gained through the meetings. At the same time, communities shared invaluable IQ which has been collected and mapped in separate reports (including this one, and Jenkins et al. 2012). In combination, these reports provide a unique and valuable source of information that inform the design and execution of our scientific study(s), and ultimately, their results.

Presentation Summary

Eyes In the Arctic

Debbie Jenkins

For the Regional Biologist, Debbie Jenkins, the theme 'Eyes in the Arctic' captures the vision of scientists and community members working together for the benefit of caribou. The meeting is structured to support this, providing everyone an opportunity to speak and share their knowledge.

An outline of the proposed research programs was provided, which included a multi-year caribou survey on Baffin Island (Project Title: Abundance and Distribution of Barrenground Caribou on Baffin Island, Nunavut) and a community based caribou monitoring program (Project title: Caribou Health Monitoring Program). A summary of each follows:

Abundance and Distribution of Barrenground Caribou on Baffin Island, Nunavut

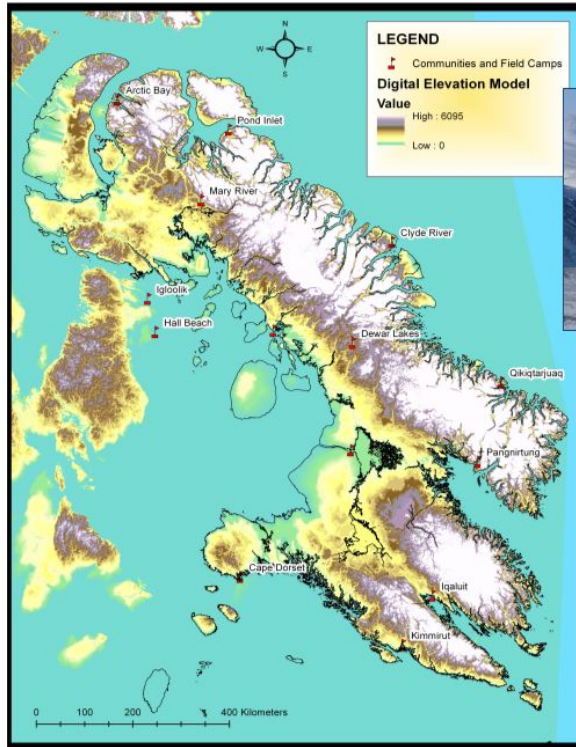
The Government of Nunavut currently recognizes 3 populations of Barren-ground caribou on Baffin Island. The status of these populations is unknown. No reliable current or historic estimates of population size exist for these caribou. Caribou are a critical component of the terrestrial ecosystem; they are culturally significant to Inuit and provide an important source of food. Subsistence harvesting is important; 8 of Nunavut's 28 communities occur on Baffin Island and represent almost half of the territories growing population. Additionally, development and exploration activities are increasing with likely impacts on caribou and their habitat.

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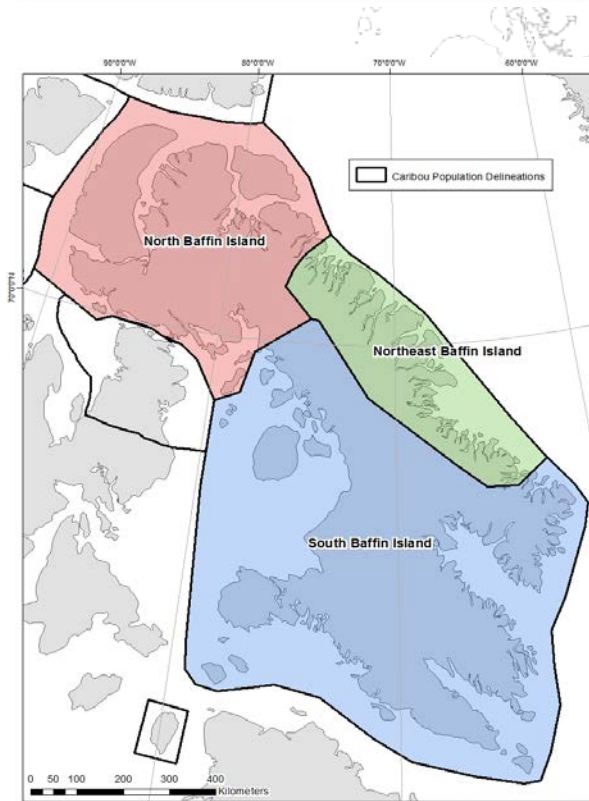
The purpose of this investigation is to determine the abundance and distribution of caribou on Baffin Island. We propose to survey caribou during March-April-May 2012 (South and Central Baffin Island) and 2013 (North and Northeastern Baffin Island) following standard aerial survey techniques and distance sampling methods. Inuit knowledge and existing scientific information multi-year survey units. We will use a systematic transect design with a random starting location. Lines will be positioned 10 km apart, run east-west across the study area, and be stratified by ecoregion. Transects will cover the entire land base with the exception of extensive ice fields or glaciers. Transects will be flown using 2 Bell 206L helicopters and 4 dedicated observers in each unit (includes pilot). Aircraft will fly approximately 120 meters above ground level to detect animals. To maximize accurate detection, air speed will range from 90 to 130 km/h depending on patchiness of snow cover, topography and evidence of wildlife. Upon detection, all individuals and groups will be approached to record location, and identify sex, age and group size. Scat samples for genetic analysis, will be collected when available at fresh feeding site locations. The perpendicular distance of each caribou observation from the transect will be determined using GIS. Program Distance 5.0 (Thomas et al. 2005) will be used to model the detection function and estimate the density of caribou. The detection function models (key function/series expansion) recommended by Buckland et al. (2001) will be used to analyze the data and the most parsimonious model will be selected using Akaike's information criterion (AIC). Fecal samples will be sent to Wildlife Genetics International, British Columbia, Canada, for analysis.

This project provides the first ever comprehensive information on the abundance and distribution of Baffin Island caribou; fundamental information for their management and conservation.

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A



B

Figure 1. Digital Elevation Model of Baffin Island (green-low elevation to white-high elevation: **A**). The area supports Barrenground caribou, which are referred to as the North, Northeast, and South Baffin caribou populations (**B**; modified from DOE 2005).

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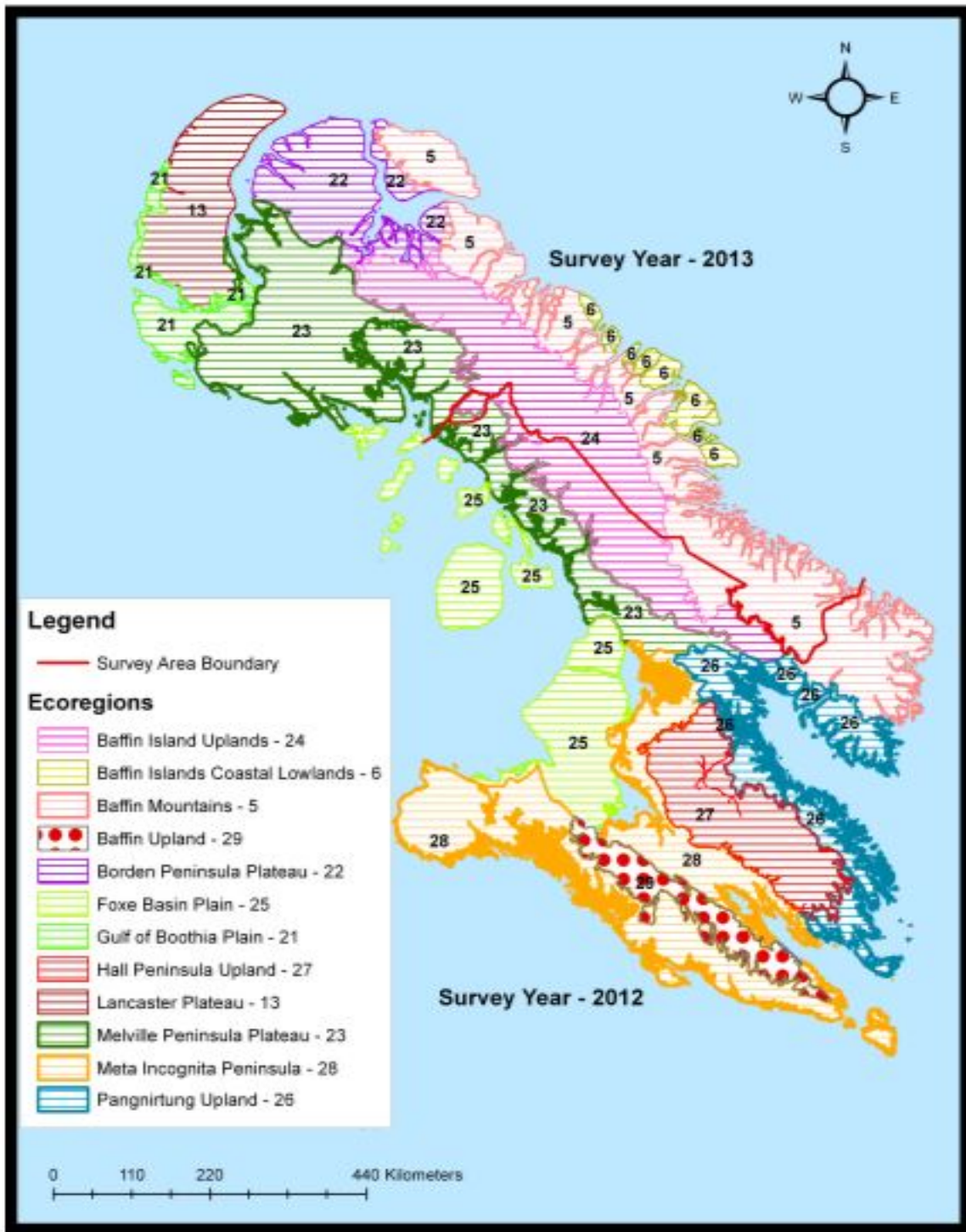


Figure 2. Ecoregions, based on biological and climatic factors, provide a coarse but informative approach to stratify the study area into habitat units that may be meaningful to caribou.

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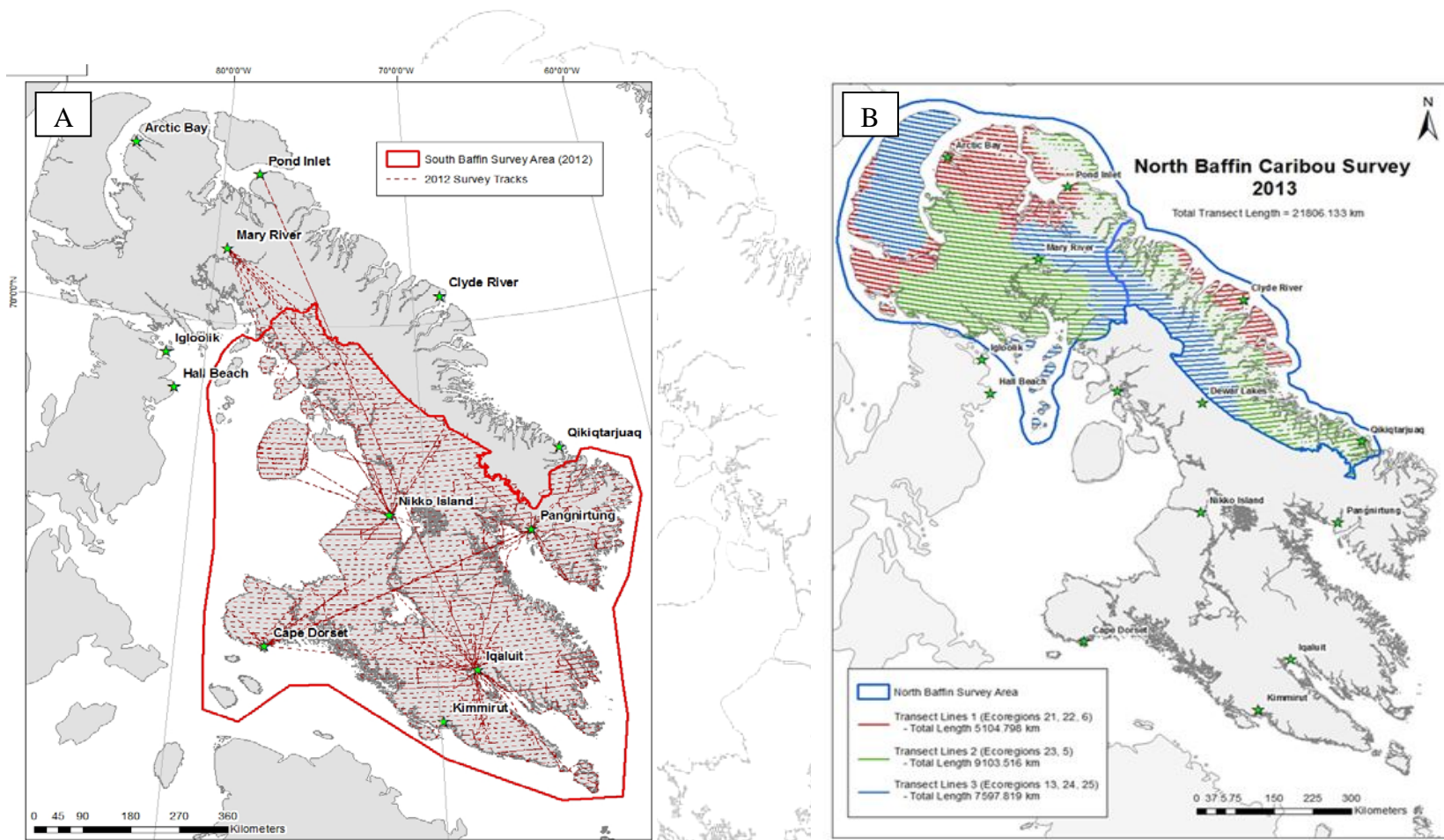


Figure 3: Combined survey track logs, recorded from March 27th to May 27th, 2012 by GPS units mounted in each helicopter during the first year of the multi-year aerial survey. In 2012, helicopters flew almost 30,000 km of transect and covered over 275,000 km²(A). Three small islands in Hudson Strait and 4 islands in Foxe Basin were not completed due to open water and inclement weather. The Foxe Basin islands, at the northwest edge of the 2012 study area, are included in the 2013 study area (B) which covers the range of North and Northeastern Baffin caribou.

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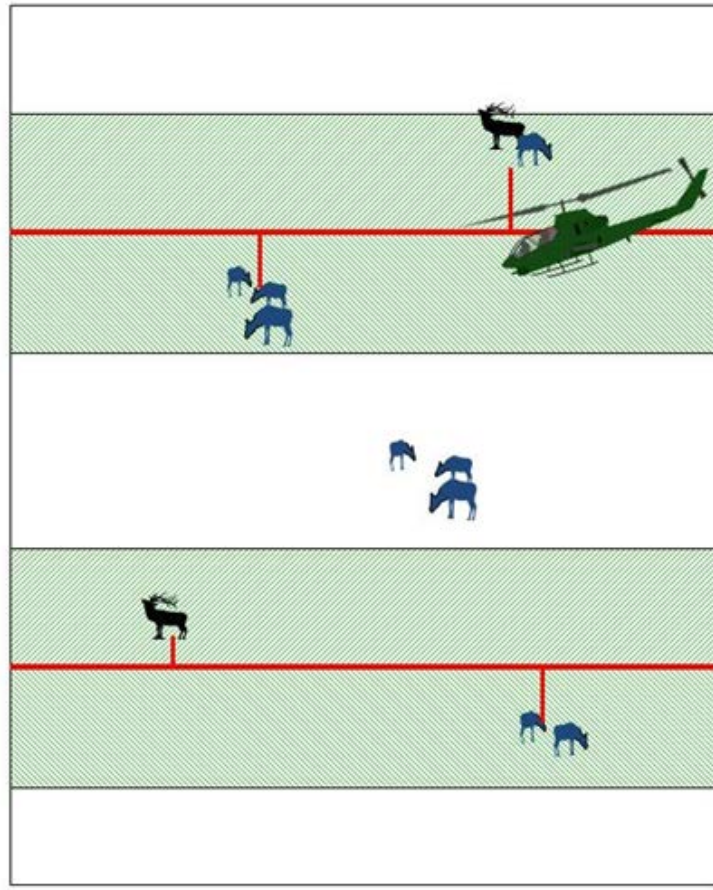


Figure 4. Distance sampling survey protocol.

The survey design across both years (2012-2013) involves placing a number of lines, with a random start location, across the study area. Here, the survey lines are systematically spaced 10 km apart and run east west. Using Distance Sampling methods, the lines are then flown by helicopter with a 4-person team of wildlife spotters that record any caribou groups observed. The method assumes that all caribou on the transect line will be detected and that the probability of detection decreases with distance from the line. Thus, some animals will be missed.

By measuring the distance from the transect line to each of the caribou groups observed, the distribution of these distances can be used to estimate the proportion of animals that were detected. This allows us to then estimate animal density and abundance by accounting for the animals that were missed.

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Figure 5. Increasing local involvement in research through the 1) collection of IQ and 2) participation in field operations and logistics, is an important first step in growing local capacity and providing a more comprehensive approach to wildlife research and management.

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Caribou Health Monitoring Program

The purpose of this project is to establish a hunter-based program of information and sample collection for caribou health monitoring and genetic analysis across Baffin Region, Nunavut. This research addresses key wildlife concerns of local HTOs and wildlife managers while providing an opportunity for hunters and scientists to combine their knowledge and resources for the benefit of caribou.

Local harvesters have on-going contact with caribou and can provide important information on this species. A Caribou Health Monitoring Program makes use of this opportunity by training Inuit hunters to collect both samples and data from animals that they already harvest. The goals of this program include the establishment of baseline values for health parameters and genetic variation, with the potential for long-term monitoring to detect future change. Increasing the capacity in communities and the participation of youth in research is a priority.

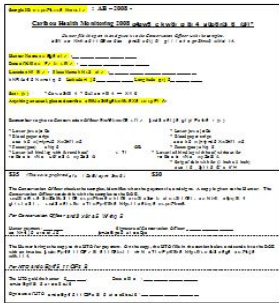





Figure 6. Some examples of caribou samples collected by local hunters.

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Sample kits are pre-made and contain a data sheet plus materials for the collection of 1) a back-fat measurement, 2) a fecal sample, 3) a blood sample, and 4) a skin sample. These basic samples provide meaningful information on body condition, disease, diet, space use, and genetics.

TYPICAL SAMPLE KIT

\$60	Data Sheet 	Back Fat 
	Fecal Sample 	Blood 

BONUS SAMPLES

The lower jaw and the lower left hind leg (with hoof) are not part of the Typical Sample Kit but considered as bonus samples to provide additional information on age, bone growth, body condition, and disease. These samples are valuable to hunters and an additional \$40 is provided when they are included.



All communities that hunt on Baffin Island are invited to participate; however, only one community needs to engage for this program to start successfully building fundamental baseline data.

Presentation Summary (Cont'd)

During each consultation, an overview of the caribou populations on Baffin Island and a summary of historical research on the caribou were presented. The current issues facing caribou on Baffin Island were outlined, along with concerns that had been voiced by hunters and community members about caribou becoming increasingly harder to find. Historical estimates of the caribou populations on Baffin Island were also reported and discussed.

The results of the North Baffin Collaring Program (documented in the North Baffin Space Use report; Jenkins and Goorts 2011) were summarized, and brief discussions about the results were held within the group.

The research proposal for the Baffin Island Caribou Survey (multi-year program 2012-2013) and the Caribou Health Monitoring Program were presented. This included details of the study area and ecoregions, a summary of the 2012 caribou survey effort, and an outline of the survey design and effort scheduled for 2013. An overview of the Caribou Health Monitoring Program, was also provided and sample collection methods explained.

During the consultation, all participants were encouraged to ask questions, provide input, and express any concerns.

The second portion of the meetings focused on information gathering. Members of the HTO and consultation participants were invited to share their knowledge about caribou, caribou habitat, and changes over time. This knowledge is documented here, and when possible, digitized onto maps. The information continues to be a powerful tool for understanding caribou on Baffin Island and complements the scientific information gathered through DoE research.

The information collected is presented, below, by community:

**Pond Inlet
December 5th, 2012**

Participants

Debbie Jenkins – Baffin Regional Biologist, DoE, GN

Jaylene Goorts – Wildlife Technician (Baffin Region), DoE, GN

Elijah Panipakoocho – HTO Board Member

Brian Koonoo – HTO Board Member

Joshua Arreak- HTO Manager

Enookie Inuarak – HTO Board Member

James Simonee - Secretary Treasure (Acting Chair for Mtg.)

Jimmy Pitseolak – HTO Board Member

Nancy Kublu – HTO Secretary

Baffin Island Caribou Research: Questions and Comments

Joshua and James Translating for Elijah

All: Introductions

Joshua: Chair is away and Vice-Chair has resigned so James will chair the meeting. Brian is also working on setting up repeaters in Pond. Maybe 3 or 4 for VHF radios.

Debbie: Starts 'Eyes in the Arctic' presentation. Updates members on consultation progress in 2011 and gives overview of discussion topics for meeting.

Enookie: Do you have an estimate? [referring to the results of the 2012 South Baffin Survey].

Debbie: We don't have an estimate yet. We are working on an estimate and are hoping to have it by January. So when that is all developed and the report is finalized, I'll be bringing it back to you. So you'll have that hopefully in January because we would like to get the results out really soon. We are just confirming some of the models we have been running right now. At the same time we are collecting information at all of our meetings, your comments, your knowledge about caribou, how you would like to participate, and we're putting that into a consultation report.

Joshua: Is the coal in Salmon River too small to mine?

Debbie: I don't know anyone doing work out there.

Joshua: You can see it out there [the coal].

Elijah: What is the red line [referring to study area line for the South Baffin survey area in 2012.]



Debbie:- It's the line that we used to divide the island into two study areas- this section represents the 2012 study area – South Baffin caribou- only S. Baffin range. We hope to survey the rest next year. North and Northeast Baffin and South Baffin caribou- this area represents half the island roughly – good division to survey over two years.

Joshua: - Are you going to tag them?

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Debbie: No there are no collared caribou in on Baffin Island currently. I think it is good idea for North Baffin however, but right now we are not collaring as we don't have any funding or approval for it this year (proposal not supported by GN last year). Right now I am proposing just to do the survey.

James: How would you do that [determine sex and age while surveying in helicopter]?

Debbie: Explains how rump staining, vulva patch, antlers, animal size, along community observers and scientists, help confirm sex and age. Notably, vulva patch, antlers and staining are very good indicators of the animals sex. There is a team of experts on the helicopter to determine these parameters.

Debbie: Last year we could not get into Nottingham, Salisbury or Mill Islands due to open water – Polar Bear researchers said that there was no caribou there when they surveyed. These other missed islands (points to Rowley Island, Koch Island) are to be included in this years' survey.

Brian: Do you have an estimate from last year?

Debbie: Not yet. We are confirming the models that have been run, and hopefully have the final estimate out in January.

Enookie: How would you isolate the areas? [of disease showing up in caribou through samples from the caribou health monitoring].

Debbie: Because we get the location data and we can put the locations on a map in GIS, and then look at the information and associated dates. This helps us to understand the distribution of such occurrences and look at trends over time. For example, based on the data that is collected with the samples, and the results of any subsequent sample analysis, we can see where there are healthy caribou, where there are skinny caribou, or where there are diseases. We can see if there are certain areas where caribou are showing disease. We can look at other data in the same way...like body condition, pregnancy rates, etc. The information and samples collected through this program can provide a lot of meaningful data, particularly if there are a number of different communities participating.

Joshua: It's the left back leg [referring to the CHMP sample collection]

Debbie: Yes, the left hind leg. This is consistent with other researchers on the mainland that are also collecting this sample. Therefore by being consistent in our approach, we can make comparisons with caribou in other areas. People are collecting this kind of data across the circumpolar arctic and this provides a very important opportunity to do cross-herd comparisons.

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Elijah: You asked for support for your survey and for collaring, and you were supported by the HTO in 2010. Have you done any monitoring with those caribou and where they are?

Debbie: Yes, I have a presentation on that and I can show you later on if we have time tonight. I came here and showed that information, in maybe 2010 and 2011. The collars came off in the fall of 2011, so there are no collars out in N. Baffin caribou. We used the data to help inform the environmental assessment for Baffinland Iron Mines. You may remember that the DoE indicated that the project could have a significant impact on caribou, and that statement was informed by the collaring data which showed that the majority of caribou in North Baffin use the area directly around Mary River from Milne Inlet down to Steensby Inlet.

Elijah: After the survey [in 2008 and 2009] have you noticed any decline in the caribou?



Debbie: Here Debbie describes the 2008 survey methods and area covered (40,000 km sq), which was the area where HTOs suggested that the majority of caribou would be located. Debbie explains that there were two helicopters, one flying the survey and the other one that went out later and collared caribou. The first year, only 47 caribou were found; 'Hardly any caribou'. They surveyed again the next year (2009) but expanded the study area to include the Borden Peninsula - at the suggestion on the HTO. That year they located a total of 119 caribou. "But 119 caribou is still very low". Debbie mentions that they got 28 collars out in 2009 but none on the Borden Peninsula because they only saw 3 caribou and the HTO thought that they would likely be harvested. As well, only one was a female. Debbie explains that they only collar female caribou because the neck expands in males during the rut which makes collar-fit an issue. Debbie explains that the collars fell off in 2011 and they were collected. The collars allowed the caribou to be followed for two and a half years. Data collected was instrumental in determining the potential impact of Baffinland on caribou and their habitat. The caribou stay in the area, that is they are non-migratory, and this core area is bisected by the road and railway which will split the range of these caribou. Currently the animals move freely and there is certainly concern about whether the caribou can/will move back and forth across the railway, roads, etc. once

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they are developed. Clearly the collaring data has been very important but a survey has not been completed since then to see if there is a difference in the number of caribou. Debbie explains that she is afraid that even less could be seen and that no one has ever surveyed the northeast population so lots of unknowns.

Jimmy: In 2011 did the population increase?

Debbie: We don't know if they are increasing or decreasing because we only did one survey. In the past and even currently, monitoring at regular and frequent intervals has not occurred. You have to have at least two abundance estimates fairly close together in time to determine whether there is an increasing or decreasing trend. These results will not be comparable to the 2009 data, as the survey areas are not the same. However, it is my hope to start a monitoring program that will permit between-survey comparisons.

Enookie: The numbers are declining all over the polar region? How are you able to confirm that?

Debbie: There are many populations over the arctic. On Southampton Island they've been doing surveys every year or two years for a number of years now. They can tell that the caribou have declined. The data first showed an increase in number but then the number of animals decreased. Other herds have been surveyed less frequently, maybe 3-5 years, but trends are also evident. Researchers do this type of work all over the circumpolar regions. Unfortunately Baffin Island has never had that kind of effort applied to the caribou populations.

Enookie: Will this affect the numbers of harvesting?

Debbie: It depends on a number of factors including the caribou numbers, recruitment, condition, harvesting pressure, and how many activities are occurring across their range. Debbie explains effects of Brucellosis on Southampton caribou population as well as selling caribou on Facebook and the Internet. Debbie explains how the HTO is worried that with all the impacts the population will not recover if something is not done. 'As a first step, we need to find out how many caribou there are currently and then start thinking about appropriate conversation and management tools.'

Brian: Since the survey of collared caribou, the HTO supported survey and collaring, and since then you have never gone back to show the data to the HTO. We have never seen the data and now you want more information from the HTO and you keep saying the data will come back to the community but we haven't seen it. How are we going to believe you that the data is going to come back when we haven't seen the data from previous years. Before we move on, we would like to see that information from you and that presentation, before we support you more and give you more information. That way we can cooperate more and support each other more.

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Joshua: The HTO is still concerned about protecting the caribou. The HTO can make decisions to protect the caribou too.

Debbie: Yes and this is great to hear. Notably, Brian, I have come to various meetings and put all of our research information into reports that were provided to the HTO. We gave the HTO reports and posters and proposals at various points, including field and interim reports, as well as the final summary report from 2011. When the final collars fell off in 2011 we put all of the information into a summary report, which showed all of the collar location data, both across years, and by individual animal. The report was sent by email and a hard copy dropped here at the office. We typically send things by email, but some HTOs have problems with their emails and receiving large documents – so I always send out the reports as a hard copy as well.

Joshua: Our email works and we didn't get the report.

Debbie: I think it was before you were here Joshua; we have sent every report to the HTO by email, this is standard. Our last report was sent out twice with a couple of follow up emails to confirm that the HTOs had received it.

Brian: Is it available on the internet?

Debbie: Yes, it should be. Debbie describes reporting process and when how reports eventually get posted on the GN website. Sometimes the report size is an issue with email or HTOs can't or don't print them out for all the members to see. To address this we are also sending out the paper copies so that they can be easily shared with people at the HTO office.

Enookie: The point he is getting at, e.g. DFO and narwhals, we get their data every week. The person chairing for marine has knowledge of what is going on and where they are going. This is the information the HTO expects. The chair for land animals would like to get the information but years whet by and he wasn't getting anything. Not that we want to get their locations to harvest them, but we want information sooner, not a year at a time.

Debbie: Some organizations are able to provide links where people can see the actual location of the tagged or collared animals e.g. beluga and narwhal. For caribou, we haven't been able to do that. Debbie describes the collar download schedules, noting that the collars on North Baffin caribou didn't function in a way that provided for real-time data sharing. There were battery and collar size and collar weight considerations that had to be balanced; HTO(s) were concerned about collar size. Thus, based on animal care concerns we used the smallest collars possible and timed data retrieve to minimize the drain on the collar battery. This meant that the location data was managed by ARGOS and came to the DOE office on a CD every month or so. There is a delay from when the collar location data is collected, to ARGOS acquiring it, to when ARGOS

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cleans the information, creates the CDs and sends it out. Debbie then describes the process of further cleaning the data when it reaches the office and putting the location data into a GIS so that it can be map.

Joshua: If it's so difficult is it worth it?

Debbie: Yes it is, the data is excellent. It is simply one measure to ensure that we limit collar size and weight. Notably, we have been looking at all kinds of collars and tags and chips. Debbie describes operations times and different collar types and some of the advantages and disadvantages of each.

Brian: My concern was that the collared caribou [data] in Keewatin area are more widely available to public, and for North Baffin there are only very basic maps and not much data on the internet. I have never seen the actual data, and haven't seen any data on the internet that I can research.

Debbie: In the Kivalliq, one of the ways they use that data is to identify movement to the calving grounds so that they can perform time-appropriate calving ground surveys. North Baffin caribou don't behave in this way. Instead, they establish a home range that meets their annual life requirements - using this area all year round. You can see the home range analysis of collared caribou in the report.

Enookie: Would the report come out if Bafifnland wasn't around?



Debbie: Yes. We do reports every year and each of these has been sent to the HTOs.

Joshua: The only report we got was right before Baffinland came. I have been here a year and a half.

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Debbie: The one before that would have come out as a field summary report in 2010. The collars were still collecting data that year but the results of our field program to investigate stationary collars and collect dropped collars were reported. Notably, I do reports every year but some reports may not have any collar data. In general, we wanted to wait until the collars fell off and we had a comprehensive data set to complete our analysis. The analysis required that we aggregate the data over a caribou year. Otherwise when doing home range analysis, for example, you get a false impression of the area that the caribou as behaviour and space use change across seasons.

Brian: Other reports are more widely available, posters e.g. narwhal, in public places. I have never seen anything widely distributed to everybody. No poster or report.

Debbie: We brought down posters on the collaring program and the Caribou Health Monitoring Program. The posters were printed off in English and Inuktitut, and brought down to the HTO office. We also sent them out to all the participating HTOs in the region. Maybe you put them up for a while and then took them down? I know people come and go so if they have been misplaced, we can print them again. The posters are definitely useful and we do them as a very visual way to synthesize data/information. The last batch of posters we did was for the high arctic.

Jimmy: Where was the last survey in 2011? How many collars were put in the area?

Debbie: 30 in total and they were deployed in 2008 and 2009.

Jimmy: Did they all come off at the same time?

Debbie: Yes, collars deployed in 2008 came off in 2010 and collars deployed in 2009 came off in 2011. Unfortunately, a lot of the collared caribou were harvested but we still had enough collars to collect meaningful data for the project.

Jimmy: In 2009 a buddy of mine caught a caribou with a collar, and it seemed it wouldn't come off. It was just one piece. It was a huge yellow collar with a thing hanging off it.

Debbie: - *Debbie draws a picture of the collar and it's components*

Jimmy: It was yellow on the outside and grey on the inside.

Debbie: Our collars were all white. Describes and draws collar and the drop off mechanism.

Jimmy: So the yellow collar, whose was it then?

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Debbie: I don't know. Do you have it? It sounds like a really old collar.

Jimmy: We sent it in to the conservation officer. It was 2 years ago. So where did you put your collars out?

Debbie: *Describes the area that they put collars out in 2008-09.*

Elijah: *Explained that they go caribou hunting every year to Mary River area. This year they went and noticed that once the caribou hear noise they take off and don't stop. He suspects too much disturbance has caused them to be that way. Too many helicopters and maybe bad experiences - so they are like that now.*

Debbie: These areas get more and more activity. For example, at Mary River, they operate 24hrs a day during the summer. These are the kinds of things that over time can have an impact because the activity is recurring. *Describes how caribou act when we fly over them.*

Enookie: Do South Baffin caribou go up there too [to Mary River].

Debbie: No not typically. *Describes the range of South Baffin vs. North Baffin caribou.*

Elijah: In the Mary River area there are always tracks but harder to spot them now and harder to harvest. Maybe when they get used to the activity then it will be easier?

Debbie: That's possible.

Elijah: We know the caribou have been affected by the Mary River project but people still eat country food. I think we should look at compensation from Baffinland now. Is there a way to support people with Baffinland already having an effect on caribou?

Debbie: We can show some work that we are doing to evaluate the potential impact of Baffinland on caribou. At this time, however, it is hard to determine definitively that any activity is causing a decline. We need programs that will measure different types of impact, but I can show you what we have so far. A lot of the analysis is still ongoing. In GIS, for example, we are trying to overlay vegetation and caribou locations, Mary River activity, elevation, etc., to look at what the best habitat is for caribou and how that habitat relates to the activity of Mary River.

Elijah: We are concerned that if the caribou are declining, maybe we should look at increasing quotas of other animals in order to compensate for loss of caribou country food.

Debbie: We want to do the survey to get some current and comprehensive data on caribou numbers ...this should help.

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Joshua: They are not as abundant as years in the past. Even with the hunters.

Debbie: In the 90's the HTO was concerned about caribou declining on Baffin Island and wanted research to be done. As you may know, I can't do any research without approval. Upper-management selects our priorities. We are always challenged to get enough money for our research. It takes support from HTOs and consultations, which is expensive. Consultations are a big part of our program but my research requires approvals, permits and funding.

Elijah: Aerial surveys, do you hire local people?

Debbie: Yes. We want to talk to you about how the HTO would like to participate [*describes who goes in helicopter*]. HTO can recommend someone as a wildlife observer. We will have someone from Arctic Bay, Pond Inlet, Igloolik, Qikiqtarjuaq, and Clyde. [*Describes who we had on the South Baffin survey. HTOs to put out fuel? And participation in the CHMP*]. There's three different ways that people can participate in caribou research this year.

Brian: Do you have the locations of where fuel caches are planned?

Debbie: Yes. [*shows map*].

Elijah: Couple years back when you were doing aerial survey, S. Tagak was one of the guys, and he would be dropped off. Would you be doing the same?

Debbie: During the survey we were all in the helicopter. After the survey, the collaring team went out and no one could be in the helicopter when they collared. I couldn't even go, because of liability. It's very dangerous and the collaring company doesn't have sufficient insurance to cover having additional people (visitors) in their helicopter. But S. Tagak was always in the helicopter for the survey. Please understand that I put in a proposal to do this survey and it requires approval still and for us to getting funding. Last year's work was almost a million dollars [to survey south Baffin]. We need funding from the GN, NWMB, PCSP, and Baffinland this year and funding isn't decided yet. We have a little bit of an idea regarding the GN. In principle the Government supports the survey but I don't know how much funding we will get for it. We can however, reduce costs and do more if we are working with the HTOs – working together. It builds capacity throughout the region and reduces overall expenses to/from outside parties.

Joshua: If we are to support this, what do we expect from you? If we don't see you in the meetings then how are we going to work together?

Debbie: The last invitation I received from the HTO was in 2010 but I've scheduled my own meetings with the HTO whenever appropriate for our approved consultation efforts.

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Joshua: So we have to invite you?

Debbie: No, but you can. When I have a research project underway or proposed however, we do consultations to get your input and support. You guys can always call me though and invite me to come down to a meeting. We tried to come last year for Survey consultation but we got weathered out of the North Baffin communities; they were eventually cancelled. I have always tried to do the consultations at least annually but I can't always initiate it because we might not have approvals or funding. Just know that you can always invite me if you'd like.

Joshua: If we invite you do we have to pay you? If you come during the meeting then you don't have to pay us.

Debbie: You have to call me and invite me, and there is no need to pay me.

Joshua: Mike used to come down, even uninvited, to HTO meetings and I think that was the expectations from the HTO.

Debbie: We have been so busy with these big projects, it is just not possible.

Elijah: We have two regular meetings a month and the conservation officer is always present at the meetings. Maybe just a brief note to hear from you?

Debbie: If you email me and let me know then I will try to come down for sure. It would be great to see what you are working on too.

Joshua: We could continue on until midnight talking about this [the survey] but we cannot answer right way at this time.

Debbie: We can leave the letter of support with you. It is up to you however. If you don't want the survey then that's fine and it won't likely happen.

Brian: When is your deadline for the proposal?

Debbie: There is one next week and one in January, and I'm in conversation with PCSP right now, and with Baffinland Iron Mines.

Elijah: When do you expect us to answer by with a letter of support?

Debbie: As soon as possible, and if you provide it before January 15 I can submit it with my proposal to the NWMB.

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Debbie: Do caribou migrate to Melville and back all the time. We are trying to get genetic samples to see if the caribou on Baffin Island are related to Melville Peninsula caribou.

Elijah: Maybe occasionally (migrate across Fury and Hecla Strait).

Debbie: What about this area?

Joshua: We are tired can we get back to this in the new year?

Debbie: Absolutely. Could I ask just one more question? Are there caribou on the Brodeur Peninsula?

Enookie: It's Arctic Bay.

Elijah: Nobody really goes to hunt over there. We don't really know if there are.

Jimmy: Arctic Bay can answer that

Joshua: It's beyond our hunting area.

Brian: I don't think I have heard of people hunting there. They pass across to hunt muskox on Somerset but we never hear of them hunting caribou there.

Debbie: Thanks so much everyone. For anyone who wants to stay I can do the North Baffin Collaring presentation now.

North Baffin 2008-2009 Survey and Collaring Presentation:

DJ presents the 2008-2009 North Baffin survey and final collaring data to BK, EP, and JA.

Joshua: They used to go by boat along coast line to Milne area looking for caribou. Easy to spot by boat back in 60's to 90's. After 90's they were near Pond, even in town. We didn't have to go to Milne because there were lots of caribou in town and on Bylot. All over on Bylot. Even Button Point had caribou. In 90s, caribou were plenty in the area so didn't have to go to Milne. Up to 1999.

Elijah: Started seeing decline 2001-2002.

Brian: We have photos of caribou right in town.

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Joshua: HTO made a policy that you couldn't kill caribou in town.

Brian: Caribou that were migratory had no fat, but ones that stayed in area were healthy. You could tell the difference between resident and migratory caribou.

DJ: Our collaring data shows that at current low numbers they are not migrating from N. Baffin. But maybe when caribou cycle back up they will start migrating again? Do you think?

Elijah: They might. They should. But if there is a railroad? Seeing it for the first time, they would be hesitant to cross the first time.

Brian: But if the population is healthy enough then they will have no problem crossing. They can swim across water, and calves die off sometimes. We saw that when there was thousands crossing Oliver Sound. During freeze up sometimes there is freezing rain and they can't dig through to get food and you see die offs.

Elijah: 1958 in January there was a big die off from freezing rain. Ice was about an inch thick. February and March was very cold. Went below 50.

Debbie: *[Shows 2009 survey area and collaring locations data. Shows caribou movement from collar data. Some caribou did migrate to old calving grounds near Mary River...but not large scale migration. Debbie goes over the North Baffin collaring report and data. Explains that she would like to see collars again to monitor the impact of the railway and mining activities and infrastructure on caribou and range use.]*

Brian: There are other types of satellite transmitters that are put on birds and other animals. Is there anything other than collars that can be put on caribou to tag them?

Debbie: *[Explains that they are evaluating different options and what the strengths and weaknesses of them are. There are different sizes of collars and different tags for example; some are glued on and some are tagged in the ears, etc.]*

Elijah: Sometimes the collars are fine, but sometimes some of the caribou stop eating well. Maybe they get skinny from the collars because they are trying to eat but the collars are getting in the way. Maybe cause some of the mortality? Noticed from the harvested caribou that had collars, there was no more fur between the collar and the caribou. All the fur was gone. When it snows it causes that area to freeze, and form ice around the collar.

Debbie: The last meeting I was here that was brought up. It was also in the newspaper some time ago. We are concerned about that. We want to use the best practices and not do any

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harm. We have asked to have the battery on any new collars coated to prevent ice buildup. The way the collar fits on the neck, it shouldn't rub the hair off, but it can happen if the collar doesn't fit properly. That is, if it's too loose for example. In the summer of 2010 and 2011, we visually checked the body condition of collared females and whether there were calves present. We saw no animals with hair loss on their necks. Almost all of the ones that we saw were accompanied by calves. This was good news suggesting that the females had sufficient body condition to produce young. In general, we know that caribou need at least 6% body fat to successfully calve.

Elijah: Maybe if it is too loose then snow can get in and the heat from the animal melts the snow and then freezes to the fur and then they lose it? If it's too loose then it will create more movement. That is what it was when the head was attached and they harvested the caribou, there was no more skin.

Debbie: And it was just under the collar?

Elijah: More on the back, and one of them was bleeding on the back too.

Debbie: We definitely have to address that. I haven't done any collaring programs in the Baffin Region, except that North Baffin program. We used the smallest collars available and used a very reputable collaring team. Using best practices, the collar was supposed to fit with only two fingers able to fit between the collar and the neck. That way it is secure and doesn't move around. When it starts moving around I think that is when there starts to be problems. We know we can get a lot of good information from collar, and that we do not want to harm the caribou. For example, collars in North Baffin would allow us to better monitor the impacts of Baffinland and that data could inform/direct their operations/activities.

Elijah: He knows from previous years that if there are more caribou around and they're healthy, then they don't scare as easy, but as numbers get down they get scared easy and hard to chase down.

Debbie: Describes caribou-predator strategy.

Elijah: When they are startled they don't run off right away. They try to find out what it is. Then they start running off and won't stop.

Debbie: So initially they look for what the problem is and then they run?

Brian: Yes.

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Elijah: Even by ATV. Explains that they were hunting by Mary River, and even before they saw the caribou they saw the tracks and they were already running off just from the sound of the ATVs.

Caribou on Baffin Island: Sharing Local Knowledge

Brian: Describes how all along the coast [Eclipse Sound around Pond Inlet and Milne] they could see caribou everywhere in the late 80's and early 90's. There were thousands.

Debbie: On Bylot and on Baffin?

Brian: Yes, everywhere. There were thousands crossing Oliver Sound during September/early October. They were crossing all along the little valleys. They were crossing to the Pond side. That was the mid 90's.

Brian: In this region as well (marked on map). There was a lot of caribou at that time. And our elders (our fathers) they said once when they were young there were hardly any caribou, but their fathers or great grandfathers said that there used to be lots of caribou in their generation. So there was lots before, and then they all migrated somewhere, and then they all came back in our generation (the 80's late 90's).

In the past there used to be lots, and you can see when you hike around Pond there are really old antlers sticking out from the ground. So that's the early migration from probably South Baffin. **We could tell from the 80's and 90's, the caribou we caught they hardly had any hoofs, so they were walking long distances. Those ones were travelling long distances and they had no hoofs. The ones we hunt right now, they have really long hoofs and they don't walk long distances and their home range is smaller. So that is why I think there are different types of caribou on Baffin. There's migratory ones and just territorial ones. I think the South Baffin ones are a bit more migratory and right now they are just going into this area [North of Nettilling Lake to West of Barnes Ice cap], but once their population increases more they are probably going to migrate back to the North Baffin for a while.**

Debbie: So once it increases here [in S. Baffin], it acts as a source population and they start to disperse?

Brian: Yes, they disperse and start going to other places for maybe 10-15 years they stay in that area and then they move on again.

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Debbie: So it depends on this population being large [S. Baffin pop.]. When this population increases they disperse, and it repopulates [North Baffin]? And then the group [on Borden Peninsula] comes across [to Bylot Island] or into Pond area?

Brian: Yes. So those elders said before that the population increases over maybe 53 years or something. Around every 50 years they move back to their old area, so there are really old antlers that you can see. That's the cycle.

Debbie: So maybe some of the decline or the low population here is maybe because the population isn't very large here [S. Baffin] right now. And once this increases, it will help to feed this area [N. Baffin].

Brian: Yes, and those caribou I think there are different types of subspecies. My father said that there are caribou that have eyelashes and there are other caribou that don't have eyelashes. I have seen it.

Joshua: There were no caribou in our area in the 50's and they started to move back in the 60's. That's with the 50 year cycle. So we are not overly concerned with the decline in caribou, they go in cycles. It was very low in the 50's and then started increasing in the late 60's.

Brian: There was an explosion in the 80's and 90's.

Debbie: So what do you guys think and from what you know from your elders, how many caribou do you think there were in the 80's and 90's when there was this explosion.

Jimmy: Thousands, you can't even count them.

Debbie: Mike Ferguson said that in 1991 he thought that there were between 60,000 and 150,000 caribou in North Baffin.

Joshua: Probably yes.

Debbie: So you confirm that, that is so interesting to me because I am out on the land too. I don't hunt but I go snowmobiling and skiing and I see all of these antlers and skeletons and lots of cast antlers from the wintering areas, but no caribou, I have never seen a caribou here.

Brian: My great grandfather said that there were lots in their time too.

Elijah: When those caribou in [South Baffin] when their population increases and they go up their population explodes in this area N. Baffin. And some of them go back here to die off [South Baffin].

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Elijah: You can drive all day and see antlers with heads on them, all day travelling.

Debbie: We surveyed this area [N. Baffin] and we didn't see very many caribou here, but it was winter, so it might have been that the caribou are there at a different time of year. And of course it was covered in snow. So this big migration that comes up here, does that only occur when there is a big population explosion in the S. Baffin. Do you think now when the populations are lower, do you think that caribou still move up here because none of the caribou that had collars had moved down here [South Baffin range]. Do you think some caribou are still moving up here, or not so much?

Elijah: Yes.

Brian: That's what he thinks [EP], that probably when the population starts increasing more then they will start coming up into this area

Joshua: I think the Mary River area there is always a few caribou. Always.

Elijah: There's always caribou in this area, even though the numbers may be low there is always caribou in N. Baffin, in Mary River area.

Joshua: In Mary River before the Mary River Project started.

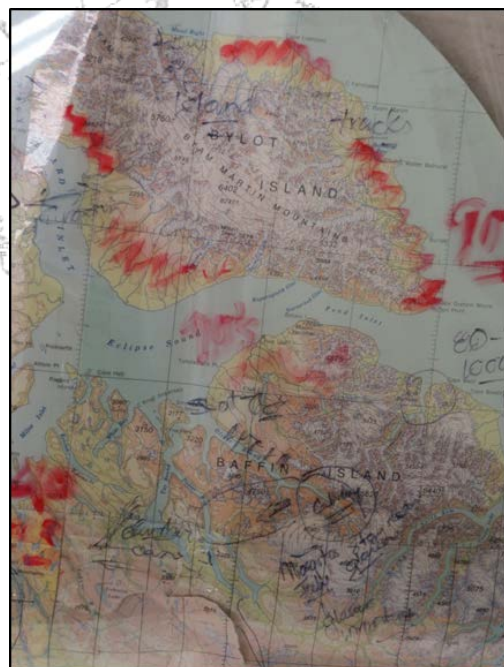
Debbie: Do you think there were more caribou before the projects started, or do you think it's just the same.

Elijah: For sure there was more caribou before Mary River started. They would go to Milne Inlet to the coastal area, and they would always catch caribou in that area. Along the coast line. [Debbie marks on map].

Joshua: For forty years it was like that.

Elijah: Always in the summer we used to get caribou, every year. Along the beach. Didn't have to go inland, just go by boat and get what we want. Along the beach. Anyone looking for caribou could spot one by boat. It was easy.

Debbie: What year was that?



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Elijah: From the 60's to the 1990's by boat.

Joshua: After 90's they were along Pond Inlet.

Jimmy: Even in town

Joshua: They didn't have to go up to Milne Inlet in the 1990's because there was plenty caribou right here [near town]. And on Bylot too.

Elijah: All over on Bylot.

Joshua: Even Button Point

Elijah: Caribou was plenty in our area so we didn't have to go to Milne Inlet.

Joshua: That would be up to 1999.

Debbie: And that is when you started seeing a bit of a decline, in the late 90's.

Joshua: Around 2001-2002.

Brian: We have photos of caribou right in town.

Joshua: The HTO made a policy that you couldn't kill caribou within the radius of the Hamlet, it has to be outside.

Brian: And those caribou that were migratory, they had no fat. But the other caribou that stayed in this area, they were healthy and fat.

Debbie: So when you saw the caribou, you could tell visually migratory caribou vs. resident caribou? Just from the fat?

Brian: Yes

Debbie: This is what I am thinking, because the population has cycled down what we are seeing here [In North Baffin] and what the collars show us is that these caribou aren't migrating, these are resident caribou. And that the caribou down here [S. Baffin], I think have also cycled down, so they're not dispersing the same way as in the past. But maybe like you said, if this population [S. Baffin] comes back up again, then you'll start seeing these caribou dispersing in. Do you think that makes sense?

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Elijah: They might, they should, they would. But, if there is a railroad? I think seeing it for the first time they would be hesitant to cross over probably, until they get used to it.

Brian: If the population is healthy enough then they will have no problem crossing the railway. If there is lots of them then nothing is going to stop them from migrating. Because they can travel right through the water, swim across, even calves die off from hypothermia. We saw that when they were crossing Oliver Sound. There were thousands of them crossing.

Debbie: So it really seems like this work on body condition and understanding the health of the caribou, not only the survey, but also collecting that other information is going to be really important. Because it sounds like, based on your knowledge, that the caribou moving in from other areas or dispersing from other areas all depends on their body condition; having enough fat, being able to reproduce so that the population increases.

Brian: And also the climate too, like during the freeze up, sometimes there is freezing rain, and when there is freezing rain they can't really dig into the ground because there is ice there. Sometimes that can cause a decline in the population too.

Debbie: Have you noticed that recently, because we've heard of that in other communities like Qikiqtarjuaq.

Joshua: It's a fact.

Debbie: Are there any years that you remember a big freezing rain, or anything in particular.

Elijah: 1958, in the middle of January. It was about an inch thick, maybe a little more.

Debbie: And that was just around the Pond area?

Elijah: Even down to Button Point. Everything melted. Even the runners; they used to put soil and ice over it. That melted. And they had caribou parkas, but they had to take them off because it was too warm. Then in February and March it was *very* cold. It went below -50's degC.

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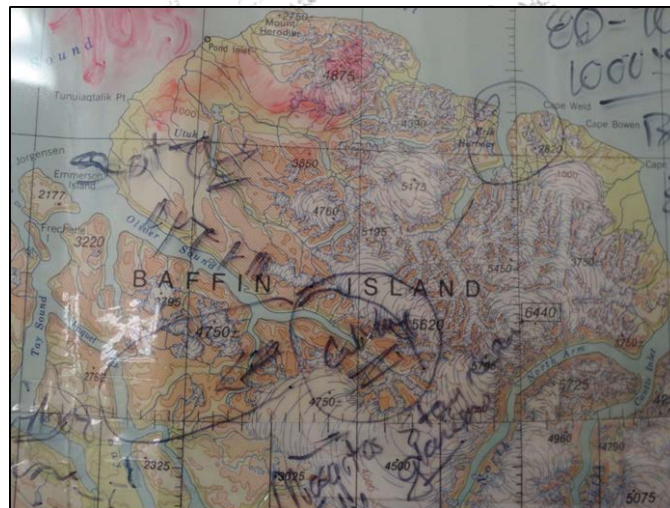
Map Summary

The consultation participants agreed that there were thousands of caribou around the Pond Inlet area (Bylot Island, Milne Inlet, Tay Sound, Borden Peninsula, etc.) in the 1990s. Common places where caribou could be found were outlined (but not limited to) areas described as 'Area of High Abundance in 90s'. Also there have always been caribou in the Mary River area.

Water/Ice Crossings – Brian described there being thousands of caribou crossing Oliver Sound during September and early October in the mid-90s. Caribou also crossed Navy Board Inlet to and from Bylot Island. It was also described that caribou occasionally crossed the Fury and Hecla Strait (Melville Peninsula – Baffin Island).

Brian noted that caribou stay near glaciers in July to escape mosquitos, and that the vegetation to the west of the Barnes Ice Cap is different than the surrounding vegetation.

1. The line east-west from the Barnes Ice Cap to Foxe Basin was described as the general boundary area dividing north and south Baffin caribou populations. During times of high abundance, south Baffin caribou disperse into north Baffin ('Caribou Movement' on map).



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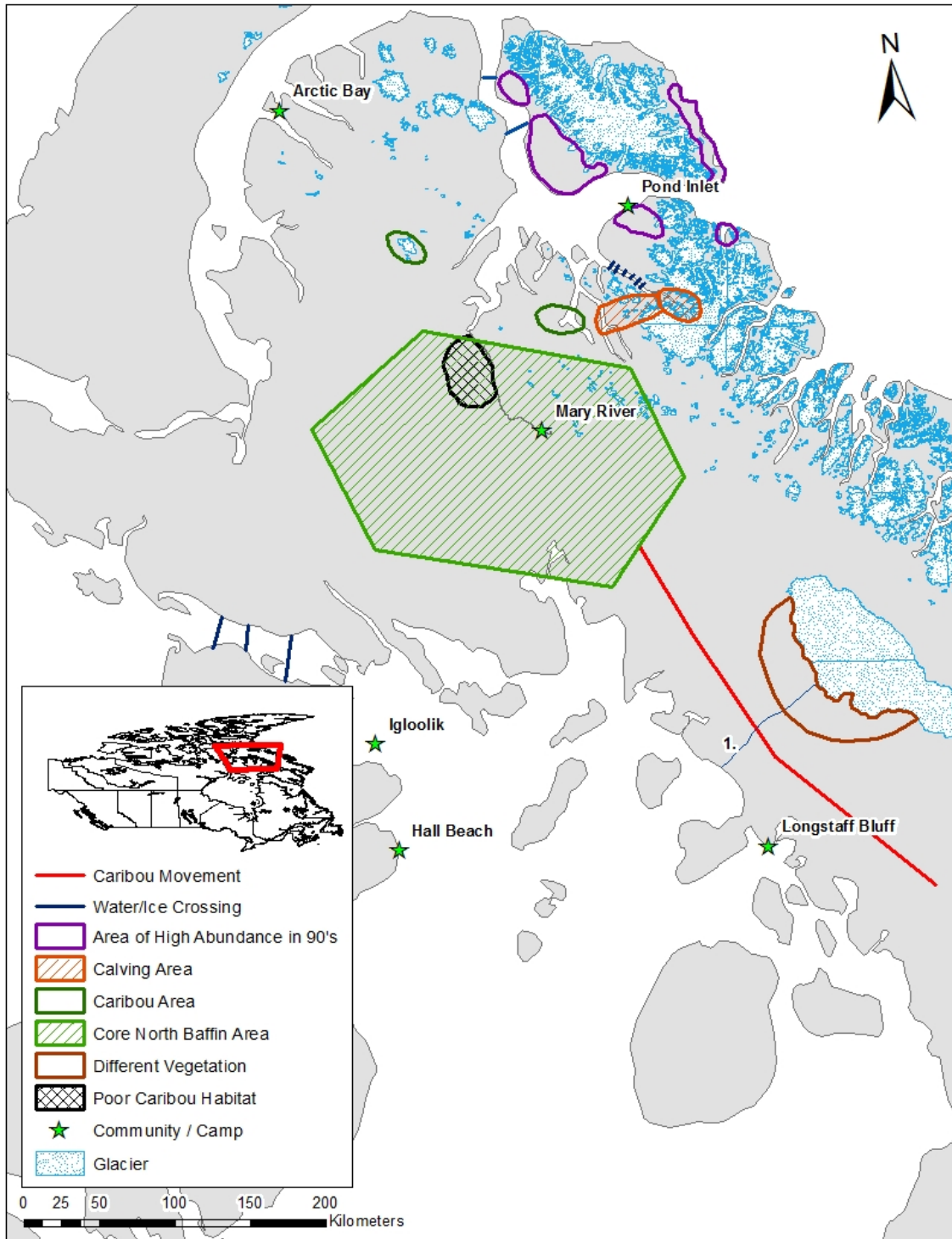


Figure 7. Digitized summary of information provided by the Pond Inlet HTO and meeting participants, December 2012

**Qikiqtarjuaq
December 10, 2012**

Participants:

Debbie Jenkins – Baffin Regional Biologist, DoE, GN

Jaylene Goorts – Wildlife Technician (Baffin Region), DoE, GN

Brenda Panipakoocho – North Baffin Operations Manager, DoE, GN

Tim Cater – Qikiqtarjuaq Conservation Officer, DoE, GN

Jaypootie Moesesie – HTO Board Member

Jacopie Newkingnak – HTO Board Member

Levi Nutaralaq – HTO Board Member

Imona Kokseak – HTO Board Member

Toomasie Newkingnak – HTO Board Member

Philip Sanguya – HTO Vice-Chairman

Jaypootie Aliqatuqtuq – HTO Board Member

Lucyanna Nookiguak – HTO Acting Manager

Martha Newkingnak – Translator

Baffin Island Caribou Research: Questions and Comments

Philip: Opens meeting and everyone introduces themselves.

Debbie: Introduces herself. Thanks HTO for rescheduling consultation meeting. Outlines presentation (Eyes in the Arctic) and overview for the meeting.

Jacopie: Asks whether he can ask questions during the presentation or just at the end.

Debbie: Lets everyone know that they can ask questions anytime during the meeting.

Jacopie: States that there has been research done in this area, has there been studies done?

Debbie: Yes. Explains that there were smaller surveys done in South Baffin, but that there has never been one across whole island. Explains that the smaller surveys cannot be used to generate an abundance estimate across the caribou range, that the results are specific to the areas that were surveyed. Smaller surveys can tell you what the population is in the study area covered but not across the entire island. There has been work done previously and that work suggested that back in the early 90's that there were between 60k and 180k in South Baffin and 50k-150k in North Baffin. Asks if that is the HTO's experience? Do they feel that there were many thousands of caribou in the past?

Jacopie: **Agrees and points to the area around the south end of Cumberland Peninsula (as being an area with lots of caribou historically).**



Qikiqtarjuaq, December 2012

Debbie: It's important to get an estimate across the whole island because of increases in land use activity including industrial development. Debbie explains some of the development and exploration occurring on Baffin Island. Examples, Peregrine Diamonds, Baffinland Iron Mine, Baffin Gold.

Jacopie: Asks if there is any information for the South Cumberland Peninsula area? [results from the 2012 survey]

Debbie: We didn't see any caribou in that area during the survey. We hope to have the report out to you in January.

Jacopie: Was expecting Debbie to tell him some information in their area. Asks if there is any useful information for them.

Debbie: There were no caribou observed in your area during our survey [points to map]. There was very few caribou observations overall. Joanasie said last year that hunters had to travel very far to get caribou. What you told us is what we found. Qikiqtarjuaq is in the study area for next year (2013). So this year we will position a helicopter in Qikiqtarjuaq and cover part of your hunting area to the north and have observers from Qikiqtarjuaq because we will be positioned here.

Philip: Informs Debbie that he heard during last years' survey they saw one caribou in the Cape Dyer area, but she says none?

Debbie: Answers, there were no caribou in this area [South Cumberland Peninsula]. There were lots of glaciers that they didn't fly, but they flew all other areas and saw no caribou. [Explains spacing of transect lines and that observations relate to flying the lines].

Debbie: We are hoping that in the northerly fiords we'll find caribou. Maybe you know already?

Philip: How can you say there is no caribou in our area if you didn't do the survey in our area?

Debbie: Clarifies that she was talking about the South Cumberland Peninsula Area. Not the area right around Qikiqtarjuaq. Describes the area surveyed last year (2012).

Philip: We go caribou hunting not south but north. [not in Southern Cumberland Peninsula].

Debbie: In the upcoming year (2013) we will be covering that area. The 2013 study area might be of more interest to Qikiqtarjuaq.

Qikiqtarjuaq, December 2012

Jacopie: Maybe in the 60's there were caribou in there [South Cumberland Peninsula].

Jaypootie: Asks why they have heard people that go to work in Cape Dyer see caribou but biologists don't see them? Why is that?

Debbie: Explains that she doesn't know who is working at Cape Dyer and when. She explains the survey design: survey transects 10km apart. They don't see all the caribou but they generate an estimate for the caribou missed based on the observations that are collected during the survey. Agrees that that it is true, they don't see all of the caribou in an area, but they can estimate based on the observations seen while on-transect. She explains how the time of year is also important.

Jaypootie: From what we heard, caribou have been sighted in Cape Dyer. So there is no way of finding out? So you probably missed them? What time of year do you do the survey?

Debbie: We know we don't see all of the caribou so it's possible that there were some there. What time of year did they see them? We do the survey in April. So might be a different time of year when the people were at Cape Dyer and saw them. Sometimes caribou use different areas in the summer and different areas in the winter. So that may explain it as well.

Jacopie: Are you going to ask us whether we want the studies done?

Debbie: Yes, there are a few things that I want to cover. We will be bring this information and consultation reports back to you so that you can check the information and make sure that we captured what you shared correctly. You [the Qik HTO] are a very interesting HTO because you participated last year, but again year. So there will be a chapter from last year in the report and also a charter for this year.

Jaypootie: [Regarding fuel caching] Where is the fuel now?

Debbie: I believe we have 12 drums here. It's possible we can get more from the polar bear researchers.



Qikiqtarjuaq, December 2012



Jaypootie: We saw for the first survey [North Baffin 2009 Survey] your estimate, but for the last year you didn't mention if you saw any caribou.

Debbie: We are just putting the data on maps right now. We will send it to you in January. We want to make sure it's right before we send it over. At the same time, I will send the consultation report. You can

add your comments and we'll incorporate them. If you decide to do the fuel caching we will come back. When we send reports out we send them electronically but some HTOs don't get the emails or can't print them so now we are mailing hard copies as well. [Gives HTO paper copy report for North Baffin Space Use]

Philip: Do you have a website?

Debbie: Yes. The GN has a website and DoE has a Wildlife Section there. I can send you the link. I will send you the reports before they go on the website though. The communication group wants to make sure that they are all translated before posting, and that takes time. So we will send them to you before they go on the web site.

Jaypootie: Last years' sample bags came in late, so hopefully this one will come before the winter hunting season. [Caribou Health Monitoring Sampling Kits].

Debbie: Last year we didn't get funding. So I had to wait to make sure I had enough money in the Core Budget to pay the hunters. So that is why they showed up late last year. Do you have sample bags left? If you are still interested again this year we can send more bags over.

Jaypootie: If you really think this is important, the sampling, will you send the kits early before the early winter hunt?

Debbie: How early?

Jaypootie: In the next couple weeks. That is when we get the most caribou.

Debbie: We will be travelling this week but can get sample kits to you early next week.

Philip: Have you done the tests for the samples? We haven't seen the tests yet?

Debbie: We just got the samples. When we get enough specimens, we prepare the samples in our lab, they get sent to various other labs for analysis, and then we get the results back. Overall, this program takes time to get generate results because we have to send samples off to various laboratories depending on what we are looking for – age, disease, etc. But we will put a report together even if we can't get the samples analyzed, with just the background information. Then when we get the analysis done we can make subsequent reports.

Philip: Will you be putting out collars next year.

Debbie: No. We are not putting collars out next year unless it becomes an absolute priority. I think it's a good idea around a big development like Mary River. It will help us to inform that effort but also other development and exploration programs. I really think that it is good information but we have no approvals or funding right now to put out collars. Is that something that you are interested in? Putting collars on caribou to see how they are interacting with the environment and with these changes.

Philip: Not me.

Jaypootie: I wants to see more collars put on caribou. I'm sure you don't collar every one of them. The results would be good to find out their habitat, because as far as we know, the caribou we get around here are from the other side of Baffin, Foxe Basin. We don't know if there are caribou that stay around so it would be nice to find out. As far as we know they are migrating.

Debbie: When we put collars out, we don't collar all of the caribou. We put out maybe 20-30. We put them on one per group, and only healthy adult females. Explains neck expansion of males during rut. In North Baffin the hunters said that that it was important.

Phillip: How do you catch them?

Debbie: Explains the helicopter capture team and protocols; a trained team that has significant experience - they do this type of work all the time. We spot the caribou during surveys and notify the collaring team who moves in to net them. They shoot the net over the caribou and then land so that the handler can work on the caribou to attach the collar.

Martha: Wrestle the caribou?

Debbie: The handler makes the caribou lie down and they blindfold the caribou and tether the legs together. The caribou tend to really calm down when blindfolded. Once that is

Qikiqtarjuaq, December 2012

done they measure the neck and then cut the collar so it fits well. They attach it with the automatic release mechanism that is programmed to fall off after a certain amount of time. After the collar is secure the blindfold and tether are removed - the caribou goes free and the collar collects data until it falls off.

Jacopie: He knows that the polar bear, when the collars are put on them, they are afraid for their life, and caribou should be worse they are so afraid of humans. That is why he is against it. You don't put them to sleep.

Debbie: We don't use any drugs. We try not to do any invasive studies or collaring studies, but sometimes I have to recommend them because the information is necessary to help caribou in the future. That is the context for recommending something like that. Just to be clear, however, these proposals are about doing a caribou survey this year [2013] and the Caribou Health Monitoring Program.

Philip: I can picture the caribou scared. When they put then nets on I can see them tumbling. Do they get injured?

Debbie: It's possible that they can get injured, but this is why we only hire very qualified people. If you are an amateur you could injure caribou. In North Baffin, when they put the net on caribou they didn't tumble, they jumped up and down under the net. Then the handler got out and went over and tipped the caribou over. They have a very significant animal handling protocol. They have to handle the animal in a very specific way that is respectful. The animal care protocol says identifies a handling time, chasing time, etc. They have to do all of the handling, for example, within ten minutes. If they can't attach the collar in that time they have to set the animal free. The team we hired in 2009 was very good and they could do everything necessary to attach the collar within 5-6 minutes.

Debbie: So are you interested in the survey going ahead and participating in the survey, being a wildlife observer in the helicopter?

Jaypootie: That is what we recommend.

Philip: Yes we do.

Debbie: And you would like to continue with the Caribou Health Monitoring Program.

Jaypootie: Yes, and another suggestion, sometimes we come across a sick caribou and we just leave it. It might be good to take samples from that caribou.

Qikiqtarjuaq, December 2012

Debbie: The only thing I would caution is that we don't ever want to waste caribou. So if it was a caribou that you thought you wouldn't use it might not be a good idea. Certainly there are caribou that are shot and they aren't in as good of health as the other ones and we would like samples from these animals as well as the really healthy animals.

Jaypootie: It doesn't happen often.

Debbie: In Pond, someone brought in the front hoof of a caribou that was deformed. They shot the caribou and brought it in, and we haven't been able to identify what that is yet.

Jaypootie: Would be good to indicate on the sample bags if we think the caribou is sick.

Debbie: On the data sheet there is a spot to add comments. And if you ever want to take pictures, we would appreciate that information as well.

Debbie: We have the two letters of support that we can leave with you. They would be helpful for us to get permits and funding. Even the sample collection we have to get a permit for.

Philip: You can leave the letter of support with us and we can take care of it during the regular meeting.

Debbie: I would also like you to consider if you would like to help with fuel caching, and then get back to me

Philip: I can tell you right now they would be interested.

Jaypootie Al: We represent the town and we don't know what they will say when the helicopter starts coming around. I would recommend us talk about this in public also, whether the town likes it or not.

Debbie: I know in Pangnirtung there was a worry that the community wouldn't want the helicopters. I think you are the local experts. If you want to ask I will leave that up to you. You can also consider whether you don't want the helicopter positioned here. It would make it hard to complete the survey but we can try.

Jaypootie: They are elected officials so they have the power to represent the community. But they can inform the people, because they are elected. They are here for the people to inform them what is going to happen. Not everyone will be for it, but not everyone is for everything.

Qikiqtarjuaq, December 2012

Jacopie: I'm not concerned about people being against helicopters. We will inform them. They have the power.

Philip: The people here are informed that there is a caribou survey and they can inform the others to.

Jaypootie: Thank you for coming to the meeting. And if there are a lot of caribou, they will go anywhere even into community. But if less then they will shy away. Like if they are crossing the railway.

Debbie: I wonder about caribou behaviour when there is an abundance of caribou vs. when there is less caribou. I suspect they are very different. Is that your experience too?

Jaypootie: Yes.

Philip: It will be a good idea after the research is done that you conduct public meetings to inform people to let them know the results, because we can do the public meeting but we won't have any answers for them, but you will have the answers.

Debbie: That is a very good idea, because it's so expensive to do the whole island. We can send you the reports for the first half and then do the second half, and then come and report on everything. Would that be a good way?

Philip: After people know there is a survey going on about caribou, each will have a different question. Putting them all in one community people, will miss out. You should go to each community. That would be better.

Debbie: That is what I meant, but only at the end of the whole survey. We won't have the time or money to go out in January.

Jaypootie: Be aware, maybe in April and May there is water under the snow so harder to travel on. That is for putting your barrels of fuel out there.

Debbie: This is very good information. If we get all the approvals in place to do this survey and you are interested in fuel caching, maybe Jaylene can come back with all the maps and locations and choose routes. If the locations are good then use them and if not then we can move them. We need your knowledge on how to do it safely. Maybe Jaylene can come back in February. To get the fuel out in time we would have to put it out in March.

Jaypootie: March would be a good time.

Debbie: Thanks everyone for having us in your community and organizing everything, and thanks the assistant manager for doing special call outs and to Tim Cater, the CO for all of his assistance. Thanks HTO for sharing your knowledge because it makes our research stronger. Thanks Brenda for coming, just started in her position as North Baffin Manager, and to Jaylene.

Philip: Thanks you for coming.

Caribou on Baffin Island: Sharing Local Knowledge

Debbie: Suggests marking on the map where they usually find caribou, to help inform the survey design.

Jaypootie: It depends on what time of year you will be there where the caribou will be.

Debbie: We can mark all of that on the map.

All: In the past there were caribou in the Cape Dyer area.

Jaypootie: Explains that they go to the other side of Baffin Island, right to the ice [Foxe Basin] to hunt caribou. [marked on map].

Debbie: Was this year a good hunting year for you or a bad hunting year?

Jaypootie: It was good hunting in the closer area for the first month of winter, and then we start going further out and it wasn't that great hunting at all. But we were still catching them. Not as much as we used to though

Debbie: How many caribou are in a group normally?

Jaypootie: It's very different.

Debbie: What's the biggest group you see?

Jaypootie: **Fifty (50). That was probably ten years ago now; in the winter. This year the groups were 10-12. That's usually the average of what you would normally see, around ten. But you can see 3 or 5 of them.**

Debbie: In the mountainous areas [around the park] are the caribou in higher elevations or lower elevations?

Qikiqtarjuaq, December 2012

Jaypootie: Both

Philip: In the summer they go to high mountains to get away from mosquitos.

Jaypootie: That's in the early summer. As it gets later they come down.

Debbie: Do they go to glaciers to get relief from mosquitos or heat?

Jaypootie: We don't go to that area in the summer [park].

Debbie: There's lots of coastline. Do you find caribou follow the coastline.

Philip: Not any more. They might go to Nadlung Fiord, but they can't go around.

Debbie: Would you ever see a caribou go over a glacier?

Philip: Not normally.

Jaypootie: You see tracks when they attempt to go, but they turn back. Normally they'll go around the glacier.

Debbie: Do your caribou migrate, or are they more like North Baffin caribou and stay in the same general area?

Jaypootie: That would be nice to find out.

Philip: Thinks his caribou come from Foxe Basin area. They come in [closer to Qikiqtarjuaq] and then go back again.

Jaypootie: Would be nice to know if there are caribou that do stick around in the closer areas. Could collar a couple.

Debbie: Caribou that were collared at the Koukdjuak River, those caribou never came over to the northeast coast. That doesn't mean that your caribou might go across and come back though.

Jaypootie: Would be nice to know if our caribou do stay around someplace close.

Debbie: That's why it's important to do our survey at the same time of year this year as last year. How far up do you go to hunt?

Qikiqtarjuaq, December 2012

Philip: Explains that they we go past Henry Kater Fiord and across to Foxe Basin to hunt. In summer we check if there are any tracks on the sand, and if there is then we go look for them.



Map Summary

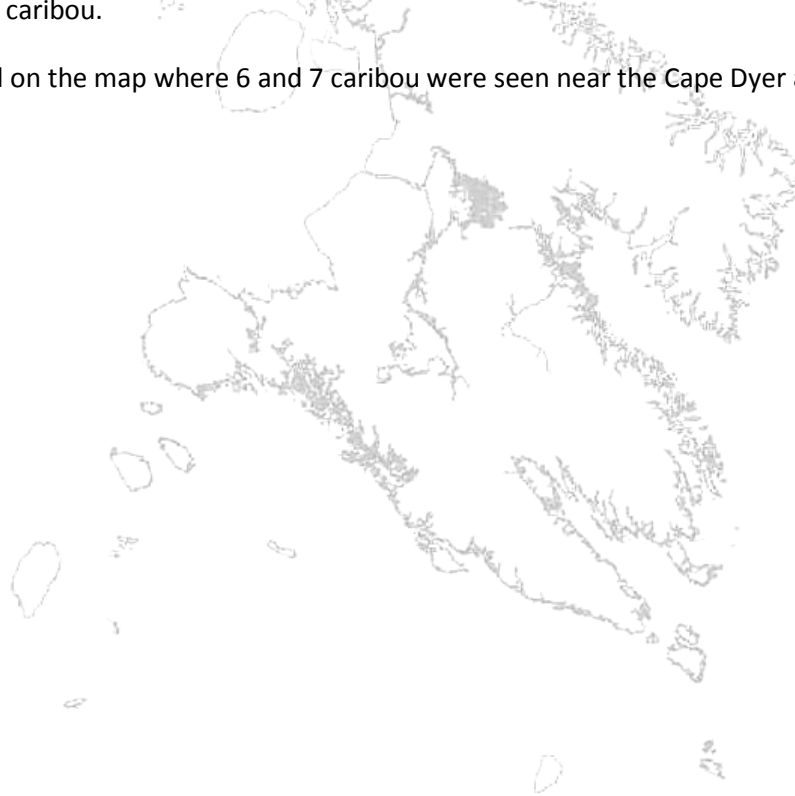
The general caribou hunting area used by Qikiqtarjuaq hunters was outlined by the group (in red). However, Jaypootie M. acknowledged that hunters can go as far as Foxe Basin (Longstaff Bluff) to hunt caribou (blue). Few people from Qikiqtarjuaq go to the northern camp (near Longstaff Bluff), but it is still recognized as an important area, particularly in Late Winter.

The most important areas for caribou around Qikiqtarjuaq were outlined by the group (in Black). These important areas are always hunted, especially in the winter, although small numbers are taken in the summer. In March/April, it is thought that caribou may move from these areas towards the west coast of the Island (Foxe Basin) but not certain.

People still look for caribou in the 'Historical Caribou Area' west of the Penny Ice Cap. In the 'Historical Area' immediately east of Pangnirtung, the group reported that there used to be thousands of caribou that occupied that area.

In the 'Early Winter Area' north of the Penny Ice Cap, the topography is steep and hard to get to the top to look for caribou.

It was also marked on the map where 6 and 7 caribou were seen near the Cape Dyer area in the summer last year.



Qikiqtarjuaq, December 2012

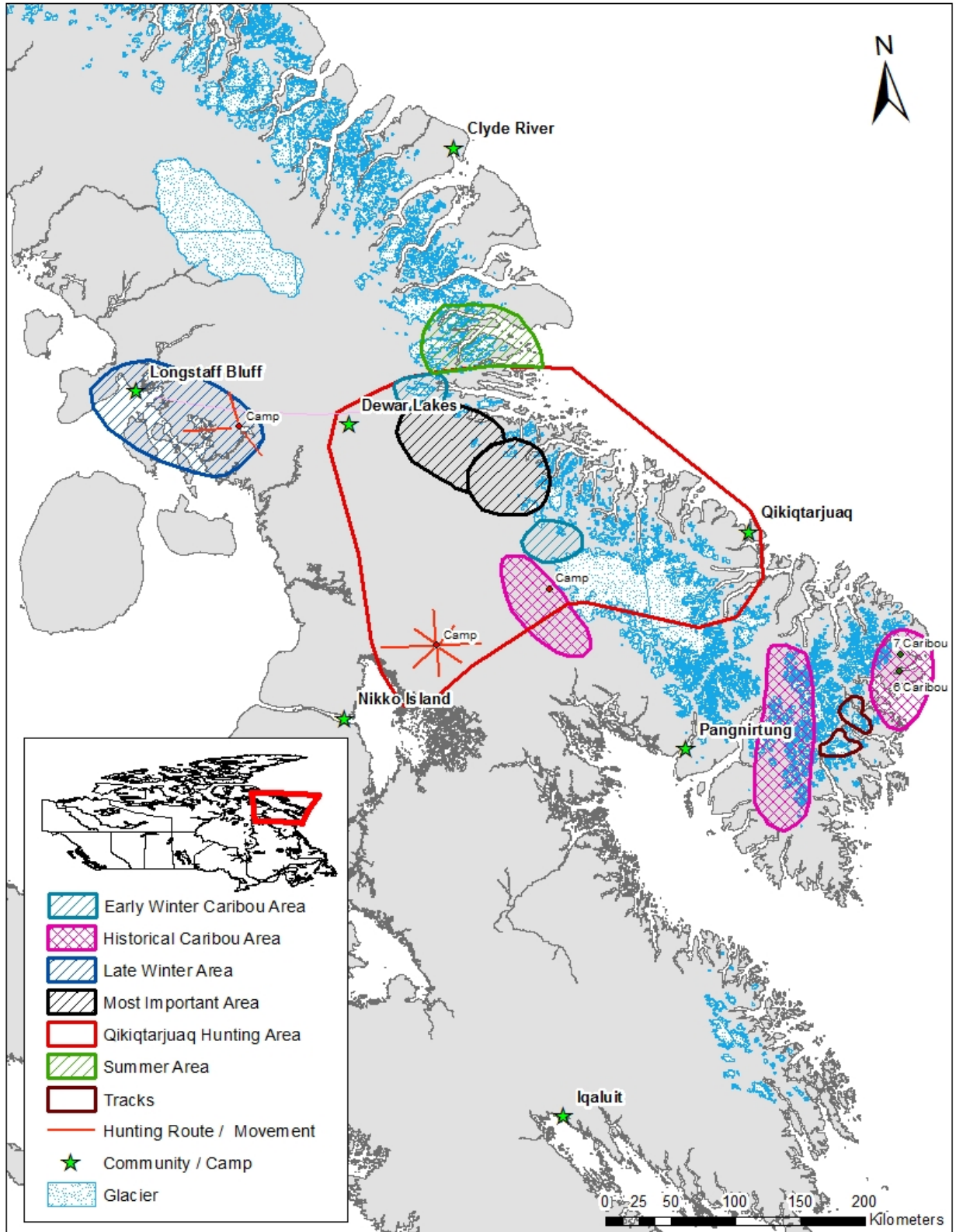


Figure 8. Digitized summary of information provided by the Qikiqtarjuaq HTO and meeting participants, December 2012.

**Clyde River
December 12th, 2012**

Participants:

Debbie Jenkins – Baffin Regional Biologist, DoE, GN

Jaylene Goorts – Wildlife Technician (Baffin Region), DoE, GN

Brenda Panipakoocho – North Baffin Operations Manager, DoE, GN

Bruce-Jerry Hainnu – Clyde River Conservation Officer, DoE, GN

Jayko Ashevak – HTO Chairman

Leah Arreak – HTO Board Member

Jaysie Tigullaraq – HTO Board Member

Apiusie Apak – HTO Board Member

Jayko Apak – HTO Board Member

James Qillaq – HTO Board Member

Patricia Joanas – HTO Manager

Loseosie Paneak - Translator

Baffin Island Caribou Research: Questions and Comments

Opening prayer -- Lead by Jayko Ashievak

Debbie: Thanks HTO for making last minute arrangements to meet.

All: Introductions

Debbie: Outlines the consultation meeting. Explains the delays with last year's consultation schedule. Due to weather they were unable to come to Clyde River last year. This year they are continuing and doing consultations in all of the North Baffin communities.

Apiusie: Are the Peary caribou smaller caribou compared to Baffin?

Debbie: Yes. Explains that Peary caribou are much smaller, have wider hoofs, and the velvet on their antlers is a different colour - so that sets them apart. We [Baffin Region] have muskox but only on the high arctic island. Brenda was saying today her family observed remnants of muskox on Bylot Island. Tonight it would be interesting to hear if you have any similar observations such as carcasses etc..

Debbie: Asks if the HTO received the North Baffin report that included the collaring information?

Patricia: They saw it on the last meeting.

Jayko Ap: You were talking about collaring caribou and that the collars automatically drop off. When they drop off do you pick them up?

Debbie: Yes. Explains that the collars are picked up and the data stored on the collars are manually downloaded.

Jayko Ap: Asks DJ if she has done any research on collared caribou, where the collars drop off automatically, if the caribou still have any fur around their neck. Or does it rub off from the collar?

Debbie: Explains that when the collars dropped off we went to see if the females were in good condition and if they had calves. We found they were in very good condition, most of them had calves (if they were in bad condition they probably wouldn't have calves with them) and had fur around their necks....

Clyde River, December 2012

BJ: [During the presentation with the slide of all the caribou locations recorded for the North Baffin collaring program] Expresses that the picture makes it sound like there are a lot of caribou [map of all collar data for N. Baffin]

Debbie: Clarifies that it is all of the collar locations for 32 different caribou, and over a long time period, 2008-2011. So each dot is not a different caribou...each dot is a location from one of the 32 collared caribou. [*Debbie explains that 4 caribou were collared in 2008, and 2 of those collars were retrieved and redeployed for 2009, such that 28 caribou were collared in 2009.*]

Apiusie: Regarding the HTO fuel caching – When the 45 gallon fuel barrels are empty do you pick them up or leave them somewhere safe?

Debbie: Explains that the job includes putting the fuel drums out full, and then when surveying is complete in that area the HTO will be contacted to go pick up the empty drums and bring them back. Don't want to leave drums out on the tundra.



James: Asks DJ if the HTO will be given the copies of the reports and the results when/if the proposed studies [Baffin Island Caribou Survey and Caribou Health Monitoring Program (CHMP)] are completed.

Debbie: Explains that with the CHMP there are lots of questions that can be answered, including genetics, diet, body condition, disease, etc. Over time expects many reports will be generated from that information, but it will take time to get enough samples to start answering those questions. However, a basic report can be generated every year that includes information such as how many samples were collected, where they were harvested etc. Expresses that it could take a couple years to get results back to answer some of the bigger questions, but as soon as we get that information we will send that information back to the communities. That is the point of the project, that we share the information that we collect.

Clyde River, December 2012

James: Clarifies that reason asked the question was because he saw a report from the University of Alberta about a study of diseased animals that said we are probably already eating diseased animals without us even knowing it. So it's important to know if there is any disease among caribou.

Debbie: Thinks for the most part our caribou are healthy, but as land-use changes, and with climate change, there is the potential that the caribou could be impacted. Programs like the CHMP can help monitor the effect of these changes on caribou.

James: When you are doing the study are you going to do a study about what time of year certain herds get together? It's known that just before spring and in early November herds always get together, according to Inuit Knowledge.

Debbie: *[Answers that she is hoping to have two reports from this work on Baffin Island.]* One report will address the actual aerial survey, and one will capture your knowledge about caribou as shared with us at these meetings. Any information that you share with us tonight will be included in the report so that your knowledge and information isn't lost, it will be documented.

James: Ask if DJ wants elders involved and if you want their knowledge about caribou? States that when you are asking elders it would be best to make a report and do it in writing. Ask what can happen to caribou in certain environments. For example, from what the elders know, some will have bad elbows in certain situations. Those kinds of things he would like to see asked.

Debbie: Answers, in the future she would like to have more information on, and the collection of, Inuit Knowledge from elders and caribou experts in the community. But right now, just proposing to collect information from the HTO as a start. It won't be complete but will be helpful to show the importance of showing the Inuit Knowledge and scientific knowledge together. Informs HTO that DoE has an IQ Biologist, Moshi Kotierk, who has been to Clyde River in the past. He will be doing specific studies on IQ that will have a much broader range than we are doing here.

Jayko Ap: When are you going to start asking questions to the elders about caribou?

Debbie: Explains about studies completed by Moshi Kotierk, DoE's Inuit Knowledge Biologists, and that his efforts will be separate from the survey work.

Loseosie: Starting when?

Clyde River, December 2012

Debbie: I don't know for sure. We are both waiting for approvals and funding before we start our research. One of the good things about Moshi is he speaks Inuktitut, so it is better for him to do that very special unique work.

Debbie: Asks if the HTO could recommend some elders to interview, if that gets organized.

BJ: Suggests that the councillors themselves wouldn't be doing the interview. He would like to see if the students do the interviewing with the elders. That is what he did when he was in school. It's a good way for the students to interact with the elders.

DJ: If you think it's important I can try to get funding for that part of it.

Jayko As: Agrees with BJ, that the best way to go is to get a student. The student would learn a lot more about caribou straight from the elder.

Debbie: Asks the HTO if DoE would be able to have access to that information. If when the students collect it, can DoE also participate to help document it in a report or something similar?



Jayko As: That would be ok as long as you make a report on it and we get to see it.

Debbie: Suggests that DoE can work with the students to put the questions together and make the report together. Everyone can work together on it; students, biologists, and elders working together.

Debbie: Asks HTO if she can work with BJ to put a list together of people to interview? What is the best way to identify students and elders?

BJ: Suggests that DJ make the questions and he can read it and talk to HTO. If the HTO doesn't like the questions then he can fix it up. He can shorten questions into Inuktitut. That can be one of the things he works on in the springtime when he has some free time.

Debbie: Explains that she will be leaving two letters of support with the HTO. One is for survey and one is for Caribou Health Monitoring Program; do you have to vote on that if you support it?

Clyde River, December 2012

BJ: Lets the HTO know that he has copies of past reports DoE sent over and no one from the HTO has picked up any.

Jayko As: Explains that they are having another meeting in the next few days and they will have a vote on support for the survey.

Caribou on Baffin Island: Sharing Local Knowledge

Loseosie: You should look on glaciers because you might find tracks of caribou heading to other places. It's like a shortcut.

Loseosie: South Baffin caribou are from Quebec, which makes them different from N. Baffin. They go from Quebec to the Meta Incognita Peninsula. NWT caribou at the treeline are darker. Peary caribou are the whitest.

Jayko As: You should be looking around the end of glaciers because that's where they hang out too, around the edge of glaciers.

Debbie: Asks if that behaviour is specific to a particular time of year?

Jayko As: Only in the summer because it's too warm away from ice. They go to glaciers to get cool and to get away from mosquitos. Also, they eat moss on top of rocks, and that is where all the moss is too, at the retreating glaciers.

Debbie: Are the river valleys and important feature for caribou? Can we expect to find them in river valleys?

Jayko As: **In the river valleys there is too many humans hunting caribou so they stay in the mountains. Also, there are mosquitos and wolves in river valleys. So they go to higher elevations to get away from that.**

Debbie: What is the group size you usually see?

Jayko Ap: **4-5 average in the coastal areas. But if you go to the middle of the Baffin Island then there are bigger herds.**

Debbie: Where are the bigger groups that you see?

Clyde River, December 2012

BJ: Suggests the bigger groups are southwest and south and southeast of Barnes Ice Cap. Also suggest bigger groups are southwest of Barnes Ice Cap., and suspects they are also on the islands [in Foxe Basin]. When we go further north between Pond and Clyde there are more, 10-15 caribou in a herd. Caribou are bigger on the north coast than on the west side. There's even a difference of caribou north of Clyde compared to south of Clyde.

Jayko Ap: Some are from the porcupine herd. Caught some that were from the Porcupine Caribou Herd.

Debbie: How do you know? How are they different? How do you recognize them as Porcupine Caribou? What is the feature about those caribou that you know they are Porcupine Caribou?

Jayko Ap: Porcupine caribou have longer body, shorter legs, eyelashes, and whiskers. And they taste better. (Area marked on map as dashed circle).

Jayko Ap: Those caribou in north [Porcupine Caribou] are better at climbing higher in the mountains than ones in the southern areas.

Debbie: Are the areas marked on map important [for caribou] all year, summer winter etc.? And also over time or just currently?

Jayko Ap: Yes, all year.

Debbie: And also, are they important over time or just currently?

Jayko Ap: Responds that the answers drawn on the map represents caribou observations over time. Past and recent observations.

Loseosie: They think there is caribou in the last circle drawn – (Debbie marks recent on map, outlined in map text).

BJ: Asks about caribou walking towards Igloodik and if she saw caribou there during the survey [east-central Baffin Island]



Clyde River, December 2012

Debbie: Explains that they didn't see many caribou in that area. Saw small groups of caribou and saw old tracks of caribou and snowmobile tracks (probably from Clyde River?).

Loseosie: Explains that Igloodik hunts in the Foxe Basin plain area, and sometimes Hall Beach.

Debbie: Describes the areas where they saw snowmobile tracks during the survey and that they were surprised to see snowmobile tracks so far from the communities. People travelling a long way in search of caribou.

BJ: Explains that they were following the caribou, when they went further to the south [south of Clyde River] they didn't see any caribou but when they went more west that was where they saw the tracks, heading towards the islands [in Foxe Basin]. (Outlined on Map)

BJ: We saw more caribou out there [central plains (3.)]. They were there and we left them alone and came home.



Debbie: Roughly describes the areas where they saw small groups of caribou and caribou tracks during the survey. Emphasizes that they saw very few caribou on the survey and that they were in small groups.

BJ: We noticed that the snow was very hard, like ice, more towards the south [south mid-island]. So they moved more to the north and found them there, it was probably the ice that they went north.

Debbie: Describes that when they were in Qikiqtarjuaq, the HTO there also mentioned about how ice had an impact on caribou. Joanasie Kooneeliksie, last year, talked about how they had experienced icing in areas that they used to hunt (northwest of Penny Ice Cap) and they had to move more west [towards Nettilling Lake] to find them.

Debbie: Over time do people have to go further and further to get caribou? Foxe Basin plain and the areas southwest of the Barnes Ice Cap are very far. Did people always have to travel that far?

BJ: In the 1990's they were closer [to the community].

Jayko Ap: It's only in the 2000's that they started going far to get caribou. According to IQ, when caribou get to abundant they start getting diseases.

Clyde River, December 2012

Debbie: Is that what you think happened? That they got too abundant and got diseases and started to decline?

BJ: Not only that. In 2002, around that time, I saw lots of things in the liver. What do you call it?

Debbie: Caribou can get parasites in the liver. It doesn't kill them, but it can impact their body condition.

Brenda: Even in the meat. There were little white things in the meat.

BJ: In 1999 and early 2000 there was a lot more caribou in the middle of Baffin Island but we didn't even take the lungs and the intestines. There were more caribou then.



Debbie: So you left the lungs and the intestines because they had parasites?

BJ: Yes.

Debbie: During what years did you notice the presence of Lung worm?

BJ: In 1999-2002. But there was a lot more caribou then.

Debbie: Thanks everyone for coming, especially Patricia and translator. Thanks everyone for the information they provided. Thanks BJ for helping with some of the logistics for the meeting. Special thanks to Brenda Panipakoocho and Jaylene.

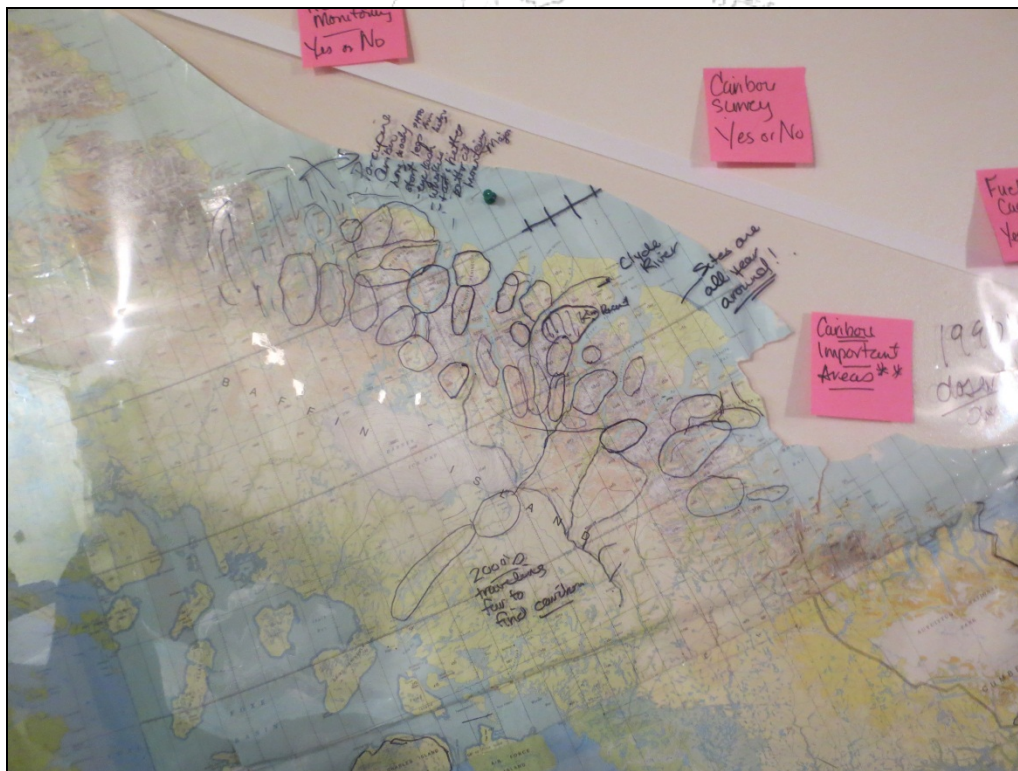
Map Summary

'Caribou Areas' outlined on the map were collectively identified by meeting participants as being areas that they have typically found caribou. These areas were identified as being important for caribou all year round and over time (in the past and present). (1.) identified as an area where they thought there are caribou currently.

'Hunting Routes' were collectively identified by meeting participants as general routes taken to access hunting areas.

'Porcupine Caribou Area' was identified by the HTO as an area where the caribou resemble Porcupine Caribou (Mainland caribou). The caribou there (in comparison with the other areas marked) have a longer body, shorter legs, eyelashes, and whiskers.

During the map discussion, BJ described a hunting trip where they went far south (2.) but didn't see any caribou, so they moved further northwest (4.) they saw caribou and tracks heading towards the islands (3.) on the west coast of Baffin Island. He noticed that the ground was very icy in the south and speculated that that might be why they found them further north.



Clyde River, December 2012

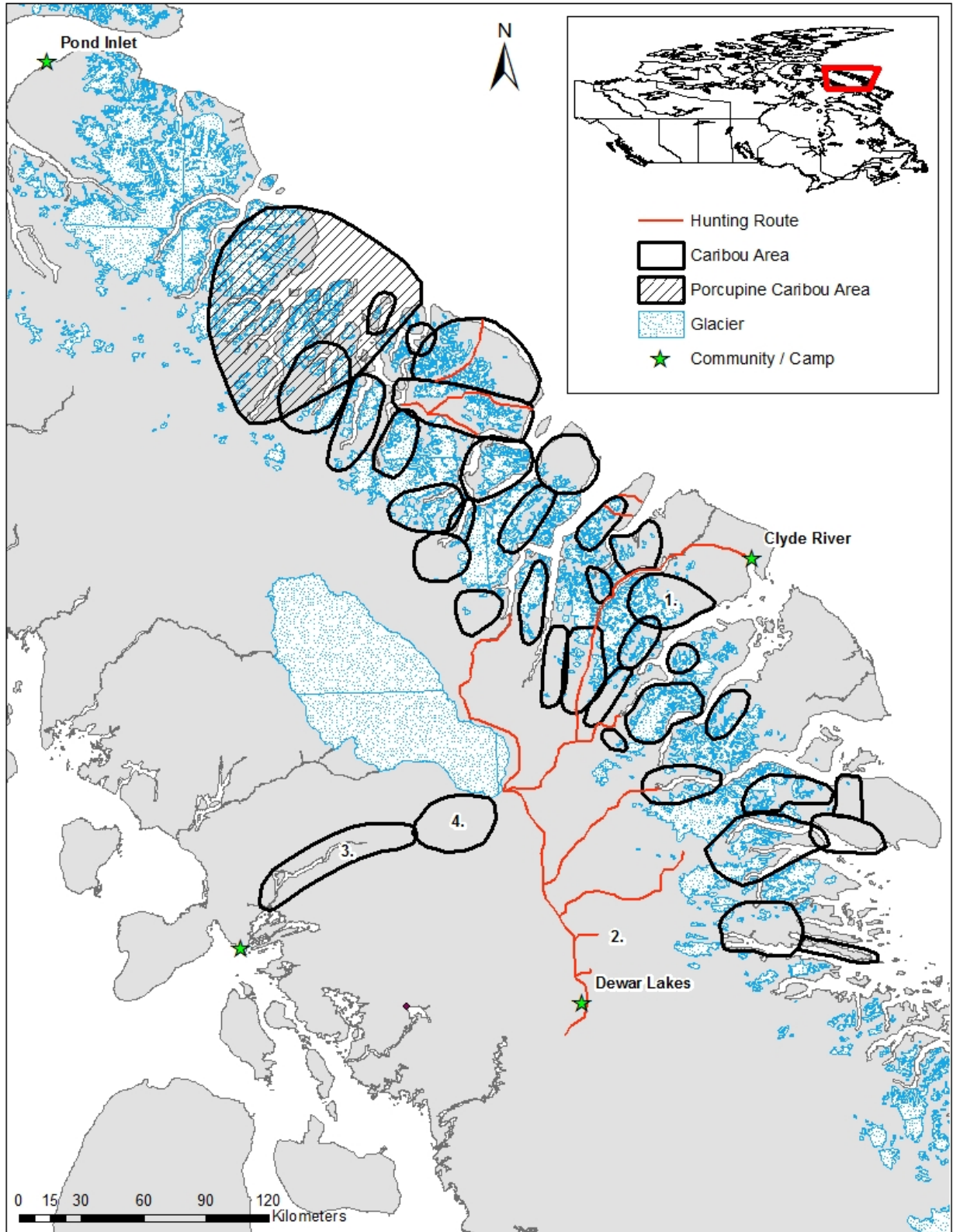


Figure 9. Digitized summary of information provided by the Clyde River HTO and meeting participants, December 2012.

Igloolik
December 12, 2012

Participants

Debbie Jenkins, Baffin Regional Biologist, DoE, GN
Jaylene Goorts, Wildlife Technician (Baffin Region), DoE, GN
Brenda Panipakoocho, North Baffin Operations Manager, DoE, GN
Moshi Kotierk, IQ Biologist, DoE, GN - Translator
Morgan Anderson, Baffin Biologist, DoE, GN

David Irngaut – HTO Chair
Daniel Qattalik – HTO Board Member
Jerry Iyyiraq – HTO Board Member
David Aqqiaruq – HTO Board Member
Natalino Piuggattuq – HTO Board Member
Solomon Mikki – HTO Board Member
Daniel Angilirq – HTO Board Member
Ruthie Angutiqjuaq – Acting HTO Manager

Baffin Island Caribou Research: Questions and Comments

Debbie: Introduces herself, starts presentation “Eyes in the Arctic”

Solomon: Don't say Mary River, say Baffinland [if referring to the Baffinland Mary River Project].

Solomon: [In reference to the Caribou Health Monitoring Program (CHMP) sampling kits] Are these directed to Baffin Island caribou or can they direct them to other caribou such as mainland [Melville Peninsula]?

Debbie: You can use them on the mainland or Baffin Island. That is important because it will help answer questions about whether caribou on Baffin Island are related to some of the caribou herds on the mainland. We received 2 samples from Igloolik and there are more bags here. We can also supply more bags if you need us to.

Daniel Q.: Asks whether it is the thickest part of the back fat that is measured for the CHMP sample kit. He also asks if the poop needs to be from in the caribou, or if it can be picked up from the ground.

Debbie: Debbie clarifies that it is the thickest part of the back fat that is measured and shows where that measurement is taken; also explains that the poop can be taken either from the ground or the caribou. She stresses, however, that the poop must have come from the caribou that was harvested, and that the hunter cannot just collect poop at random.

David A: In the winter some of the caribou don't have back fat so it can't be measured. How will that affect the price?

Debbie: Just mark 0 (zero) on the measurement tag. We still need to know if it was zero because that is an important result.

Solomon: Those of us that catch lousy caribou, we are not going to be measuring much. But, females actually gain fat in the winter so it will still be possible to measure their fat.

Debbie: Explains that it is important to know that the caribou had no fat. If the hunters don't want to measure it, then they at least need to write on the tag that there was no fat.



Solomon: Asked whether they have to write on the tag whether the caribou they harvested was male or female.

Debbie: Yes. Explains all of the information that the hunter needs to provide on the samples tags and harvest data sheet, which included identifying whether the harvested caribou was male or female.

Solomon: Adds that there are lots of caribou with hoof rot on the mainland, as was his experience from hunting there. Those caribou that have that [hoof rot?] disease won't have any fur [on its' lower legs]. All its' skin, the fur had fallen off.

Debbie: To be clear, we are not looking to go out and harvest caribou with disease. You will probably be harvesting healthy caribou. But we want to monitor change in disease when development comes in.

Solomon: Says an elder he talked to said that it has been happening for 2 years. That there were too many caribou up there and that is why they are getting disease.

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David A.: At one point these were only directed at Baffin Island and not mainland [referencing the sample kits] so that is why there were only two [samples collected]. Those two were the only ones from Baffin Island.

David I: So you research caribou and caribou harvest, wonder if you get paid so little as well?

Debbie: I can't complain, I love my work, so monetary amounts don't matter.

Natalino: Added that you can get samples from communities, but it doesn't matter how much you get you would still be doing it.

David I: Explains that he sees the caribou sampling in the same light as walrus sampling. At some point it became a burden and was too cheap. And in the winter its cold it's not worth it.

Solomon: Agrees that \$100 is not enough for the samples Its \$22.50 for a pack of smokes.

Debbie: When we started the program we actually hoped we could pay less, because we have a shared responsibility. The basic kit was designed to take only a few minutes in the field. The compensation is only to acknowledge your effort and shared concern about our caribou. It's not designed to pay people to go out and harvest caribou, it's to recognise that people are already harvesting caribou and we can provide some compensation for providing samples from caribou that are already being harvested.

David I.: Explains that Inuit are always in a rush, especially in the cold, and thinks that people might not bother with the sampling.

Debbie: The conditions can be less than ideal. I am hoping that the concern for the caribou will encourage people to participate. It's still \$60, and this information can help us both do our jobs better. These small samples can provide us with a lot of information.

David I.: Advises Debbie that he will inform that public and let them know about the sampling but just wants her to know he thinks there will be issues.

David A.: In 2011 I was at a meeting with Debbie in Iqaluit and at that time there was an expectation that there was to be research done on caribou in 2012. Are you going to be providing information on this? Earlier you had a map with the Mary River and the caribou locations, and you said you hoped to work together to determine whether caribou had been impacted by the mine. The collar information was from 2008. It seems dated. So what is the importance of it and how will it be useful to determine the impacts of the mine and whether the caribou are affected.

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Solomon: Answers the question for Debbie. Explains the information about calving grounds that the collars provided.

Debbie: Adds that all the collar locations were collected between 2008-2011. The collars fell off caribou in 2011. This information shows us what the caribou did before there was a railway, before 65 quarries, before road between Mary River and Steensby. Although the site and area are/were not entirely pristine, there was not a lot of industrial activity compared to what can be expected in the future. If we go out and put collars on caribou again while they are constructing ports, while quarries are active and camps are being built, and when there is a railway across the landscape and trains functioning, we can record what the caribou do then, in response to the infrastructure and activities. By comparing this new information to data that was collected before all of the activity and infrastructure was developed, we can get a handle on the overall effect/impact on caribou.

David I.: If you put collars on then they will not stay in the same place. It is Inuit knowledge that once you handle animals, or if you put collars on animals, then they will go somewhere else. So the collars are already interfering with the data and the caribou distributions.



Debbie: Explains that what they found in North Baffin was a little bit different than that. Found that the caribou stayed pretty much in the same area that they were collared.

Brenda: Clarifies that once the railway is there, they are going to move because it's going to disrupt their area. Traditional Knowledge says that caribou are always migrating or moving. She thinks that is what he was trying to say.

Solomon: Explains that if the caribou are walking on these railroads and one of them crosses the railroad, then a lot of other caribou are going to cross. And the other way around, if you put one caribou with a collar on that spot, it's going to move to another spot too. They always move to another spot.

Debbie: Clarifies the comment made. The railway will make the caribou move, but collaring a caribou will also make the caribou move, according to David I.? [David I. agrees that that was what he meant].

Solomon: Explains that on June 19th he was in Iqaluit and others were there for NIRB meetings as committee members for Mary River. Coincidentally they were in Iqaluit the same time Debbie was doing caribou research in the area. He wants to know if there were really no caribou observed. Whether there were really no caribou observed on Prince Charles Island. [points to Prince Charles Island]. The community observers [wildlife observers from the communities that participated in the Baffin Island Survey 2012] came to Solomon. He talked to observers in Iqaluit that were on the survey.

Debbie: Explains that they were already finished surveying by June. The map [that shows the survey tracks for the 2013 S. Baffin Survey] just shows where we were flying the helicopter and not the caribou observations. The observers that he spoke to in Iqaluit were honest in the fact that they saw very little caribou. Again, the map does not show the locations of the caribou just the tracks logs from the helicopter, so that people can see the massive area that was covered. We are working on a report that will convey caribou observations and an abundance estimate - we hope to have it to you in January.

Solomon and David I.: Expressed disbelief in the lack of caribou observed. Both think that there were a lot that were not observed. For example, those that are not observed in rough terrain, there are a lot of them. And people don't really want to communicate where the caribou are because they want to keep it to ourselves because they are harvesting and hunting and people go towards where the caribou are. People are shy about where the caribou are. There were 53 caribou harvested on Foxe 2 even before they were able to cross back onto Baffin Island.

Debbie: 53 harvested at the Longstaff Bluff?

Solomon: Yes, they got 53 caribous there last year. We are not going to tell you what community though. It was one of the communities.

David I.: What Inuit and qallunaat say are different. Inuit always say the truth and qallunaat, for example, say if you put your tooth under a pillow you will get money.

Debbie: As a scientist, I am very interested in the truth. You can expect to hear the truth from me. That is my obligation and commitment. And I know that your experts probably have a lot more knowledge of these areas than I do, and that is why we ask them to come with us on the survey. I want to be clear about the truth because it's important. Elders and HTOs are coming to me worried about their caribou. Joanasie in Qikiqtarjuaq, last year at the consultation, shared 60 years of his knowledge of caribou with us and said that he has a very hard time finding caribou now. In Iqaluit you heard from Inuit that they saw few caribou on the survey. These were people like Paul Idlout, a respected elder in the community. All of the data are being put together with a lot of care. I want

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you to know that you will get the truthful results from that survey in January, and I hope that whatever those results are we will continue to work together in the best interest of the caribou. These are your caribou and we want there to be caribou for your children and your grandchildren.

Solomon: Our grandchildren are eating from the northern store.

David I.: They are not our caribou.

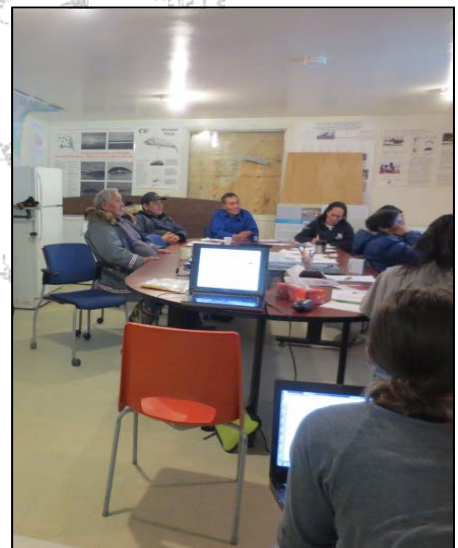
Debbie: We have already been to Qikiqtarjuaq and Clyde River and the kind of information we get there, like in Qikiqtarjuaq they think there have been icing events causing them to decline. In Clyde River they were talking about a parasite they have seen that might cause a decline. This is very good information that can help us start interpreting the results of the survey.

Daniel Q.: Informs Debbie that she hit it bang on with some of the IQ. When he was a child they would go caribou hunting just north of the 2012 study line, and they would go south of study line. He thinks that the study line is bang on and that caribou from the north generally do not cross down into the south and vice versa with caribou in the south.



Debbie: Asks to know more of his information.

Daniel Q.: Today it is different because there are so few caribou. As an Inuk he is shy about where the caribou are. They would walk to areas where there are caribou and right now there is no doubt that where those people gathered to go caribou hunting that there are caribou there. No doubt that there was caribou scattered along [the Foxe Basin Plains and Melville Peninsula Plateau]. So as a caribou person, you know which areas have caribou?



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Debbie: In the past the caribou were in different locations then today. But some of the most important areas that have always had caribou, those places still have caribou. But not all, some places used to have caribou but don't anymore, for example, the south Cumberland Peninsula.

Daniel Q.: Describes that as a youth he would go just north of study line and find caribou but he doesn't want to speak anymore.

David A.: Wants to ask about the south Baffin study area. Was there collaring going on during that time?

Debbie: No, not in South Baffin

Debbie: Explains that she wants the HTO to realize that what they share is important, and that she is listening to them. She is putting together a report. Shows report from last year. Entire chapter related to meeting that we had with HTO. This report is almost done, and before we publish it will be brought back so that you can look at it and confirm what was put in it. Wants to honour what they tell by publishing it with the survey that was done.

Solomon and David I.: **Say the Brodeur Peninsula should definitely be researched; might even find Peary Caribou there.**

David A.: Points to area in North Baffin study area (2013) [South of Berlinguet Inlet and West of Mary River] When you are doing this are in 2013, it is going to have an impact for Igloolik and other communities as well. When you are working in this area he wants at least one person involved for that area. And also that we are not just reported back to but we are involved and working alongside.

Debbie: I will be looking for recommendations from HTOs for observers from each of these communities, Qikiqtarjuaq, Clyde River, Igloolik, Arctic Bay, and Pond Inlet.

David I.: There is going to be a change in the board in January. So in January we will be able to report back.

David I.: Suggests that the map [for HTO fuel caching] is left behind and they could address it at another time.

Debbie: To start the conversation about fuel caching we need to know whether you support the survey or not. Once we know whether there is support then we can move ahead with the fuel caching and the helicopters etc. But one thing follows the next. Same with the

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CHMP, need letter of support. These things only happen when we have support from the communities. We need support from communities before I can get funding and permits. This survey is just proposed right now. I need support to get everything else. I understand you are in the middle of your other meeting. If you are pressed for time tonight, we can leave the letters of support. And for the map, we can send the map for last year and you guys can add anything that you want to add.

Solomon: Looking at the maps would extend the meeting and there are other things to look at.

Solomon: If we support it or not, you will see the letters.

David I.: **You are doing your research in the spring. In the spring it is male caribou that are gathered together. So that you are seeing more male caribou is explainable. Even if it's not in a flat area, mountainous areas need to be part of your research because caribou are in mountainous areas too.**

Debbie: So we should do the Brodeur Peninsula too?

Solomon: Yes, absolutely. Explains that for him again it's the Peary Caribou. They have been seen in the Kivalliq. Asks if they have seen short legged caribou?

Debbie: Caribou on Baffin, in general, are smaller than caribou on the mainland. There have been studies that compared Baffin genetics to see if they are related, and so far shows that they are not related to Peary Caribou. Baffin caribou are as related to Peary caribou as they are to caribou in British Columbia. From what we are hearing, there are two types of caribou on Baffin Island; there is one type of caribou that has long eyelashes and whiskers, and ones that don't. Is that your experience too, that there are two types of caribou on Baffin Island?

David I.: Yes.

Debbie: From the samples that the hunters collect, we could tell those things, but it would be hard to tell from a helicopter.

Debbie: Thanks HTO for having us again and sharing your knowledge with us. Thanks Moshi for translating, and all the participants and special guests.

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December 13, 2012

Participants

Debbie Jenkins – Baffin Regional Biologist, DoE, GN

Jaylene Goorts – Wildlife Technician (Baffin Region), DoE, GN

Brenda Panipakoocho – North Baffin Operations Manager, DoE, GN

Mathew Akikulu – Arctic Bay Conservation Officer, DoE, GN

Jobie Attitaaq – HTO Chair

Norman Pauloosie – HTO Board Member

Simeonie Olayuk – HTO Board Member

Qaumayuk Oyukuluk – HTO Board Member

Josia Akpaliapik – HTO Board Member

Jack Willie – HTO Manager, Translator

Mathew Inuutiq – Translator

Baffin Island Caribou Research: Questions and Comments

Jobie: Thanks DoE for coming in to Arctic Bay. Reports that three HTO Board of Directors are not present at the meeting.

Opening prayer by Simeonie

All: Introductions around the table.

Debbie: Begins “Eyes in the Arctic Presentation” and gives an overview for the meeting.

Josia: While the caribou subspecies map was displayed during the presentation, asked where Woodland caribou were.

Debbie: Shows on map where Woodland caribou reside in Canada

Josia: Asks which leg is sampled for the CHMP sample kit.

Debbie: Explains that it’s the left hind leg that needs to be sampled. That is the same protocol used by people in other regions, so it’s necessary to be consistent if we want to compare our samples with caribou samples from other regions.

Josia: Asks if the hunters need to leave the skin on the leg.

Debbie: Recognizes that this is important for making kamiks, therefore, hunters can take the skin off.

Jobie: Would you have to analyze the joint to see if it is diseased or not? If it’s swollen or not?

Debbie: If you wanted to provide that, for sure. It would be a very good indicator of brucellosis, for example.

Debbie: Asks the board members if they go over to Devon Island or Somerset Island to harvest muskox.



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Jobie: States that Arctic Bay is allowed to harvest 5 muskoxen from Devon Island.

Debbie: Asks if the hunters mostly go to Dundas Harbour when travelling to Devon Island.

Jobie: Informs DoE that they haven't been over to harvest muskox on Devon Island in a while.

Josia: On Somerset, how come they are running out of caribou?

Debbie: Explains that they are not sure exactly. They know that that a number of factors could be involved. For example, as muskox were increasing on the island, caribou decreased. It is also known that some of the lower high arctic islands (eg. Bathurst Island Complex) experienced freezing rain, and that populations of both muskoxen and caribou had crashed. When this happened, there was more hunting on Somerset to compensate for voluntary harvest restrictions on Bathurst Island, but also on southern Ellesmere Island. So Resolute, Grise Fiord, and Taloyuak were all hunting there. Also, the increase in muskox brought an increase in wolves. That is based on Inuit knowledge, because we haven't done any wolf surveys or other wolf research there.

Simeonie: [points to lower Admiralty Inlet]. Suggests that helicopters not be used for the aerial survey because, in the past, mineral exploration used helicopters to stake lands and scared away the caribou where they were staking.

Qaumayuk: Explains that he was at a meeting recently about doing a survey for polar bears through satellite tracking or something like that and asks if they can do a similar survey with satellite? He agrees with Simeonie that helicopters not be used for the aerial survey because they scare off caribou. Suggests that HTO Board member and members on DoE team need to work more closely on how to do a proper survey, and suggests helicopters not be used.



Debbie: Asks if he has a suggestion of something else to use, or just the satellites?

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Qaumayuk: Doesn't have an answer because he is not a researcher.

Debbie: The comment about the satellites is very true. Our group is doing research on this method and its reliability in comparison to aerial surveys. We are looking into whether we can use satellites instead of doing aerial surveys. They are testing the method on polar bears in the summer because they are so white that they probably have a good chance of seeing them against the land surface. I think it would be good to test the method for caribou and see if the results compare with proven methods such as aerial surveys. Thus, in the future we would have confidence in using the method and know that the results are robust.

Qaumayuk: As an elder here he knows the helicopters are no good for an aerial survey. Believes that IQ should be used also as a survey for information.

Debbie: [Agrees with use of IQ as well]. Moshi, the DoE IQ biologist has proposed to come to Baffin communities to collect traditional knowledge about caribou. Not sure exactly when he is coming, but he has proposed to collect local knowledge. One of the things that we have learnt from visiting other communities on Baffin is that right now, a lot of hunters are unsure of where caribou are and how many there are, because things on the land have changed from the past. We have generally had support because people are concerned about the caribou, because, for example, caribou can no longer be located in the places where people have usually found caribou. So, this proposed survey, is one way to determine how things have changed. We will come back to the helicopter topic later because it's important to talk about it.

Simeonie: [points along Borden peninsula in north-south direction]. Says that the weather change will not cause caribou or any other animal to decline. It is helicopter staking [south Borden Peninsula]. Further north [north Borden Peninsula] wasn't staked by mineral exploration so there is more caribou up there as of now. But where they staked land using a helicopter there is hardly any more caribou. This past summer and fall there was still caribou in the northern part. [e.g. Sirmilik Park on N. Borden Peninsula].

Debbie: I understand about the impact, particularly when the activity is frequent and reoccurring in the same area over and over again. In South Baffin we did use helicopters. However, we flew the transects once so it's very fast, very short-term activity in a particular area - it's not continuous activity.

Qaumayuk: Scientists say with weather change there are less caribou, but their (Inuit) knowledge is not the weather change.

Debbie: [Agrees that activity and land-use development etc. impact caribou and their habitat. That is why she is so concerned about the road and the railway that is going to be in N. Baffin, because there is IQ and local knowledge that say that these things can impact caribou]. In your area, you know if the

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weather has influenced your caribou, and you say that it hasn't. In other areas of the Island however, the HTOs have reported that freezing rain is impacting caribou and causing declines [e.g. Joannasie in Qikiqtarjuaq].

Qaumayuk: Freezing rain, it has been like that in the past years and has been known to happen before.

Debbie: Has it happened in this area in the past.

All: all agree that it has.

Simeonie: From my knowledge, in flat lands, when they have freezing rain the ground gets solid and the caribou might starve. But in highlands, like Arctic Bay and Pond Inlet, even though there is freezing rain, it is not as harsh as the flatlands. The elders or IQ they know that calving areas when they are calving they go to higher lands. I am not concerned about the diminishing of the glaciers because caribou usually go to high grounds to get away from mosquitos.

Debbie: So there might be an advantage to caribou in this area because the terrain is so rugged?

Simeonie: Agrees.

Jobie: Asks how many communities Debbie has gone to present the survey?

Debbie: Lists the communities visited in Nov/Dec 2011, Jan/Feb 2012 (Qikiqtarjuaq, Pangnirtung, Iqaluit, Kimmirut, Cape Dorset, Hall Beach and Igloodik) and the communities visited this year (December 2012) (Qikiqtarjuaq, Clyde River, Pond Inlet, Igloodik, and Arctic Bay).



Jobie: Asks if the other communities were in favour of the helicopter survey, and questions if more communities do not want survey with helicopter whether she will go ahead with her proposal.

Debbie: You definitely have the power to stop this work, at least in your area. If you don't support the research then we will not likely go ahead. The GN ultimately has to support the research too and funds need to be generated to complete the work. The hunters have come to us and said that they are having a hard time finding caribou, and think they have declined or have gone somewhere else. The GN was hearing about this long before I came to Baffin in 2006. In 1995, for example, the HTOs, with NTI, wrote

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to the GN saying that the caribou numbers were getting lower and they wanted the GN to do research. This survey, and your support or not, is entirely up to you [the HTO]. One of the reasons we are here is to find out whether you want to see this done or not.

Qaumayuk: If you guys go on the survey and find out that there are hardly any caribou will they be put on the endangered list?

Debbie: No. It could happen sometime in the future, but the results from the survey have to first come back to the communities and our other co-management partners. The communities will have significant input in how to move forward. What you are talking about, Listing Baffin Caribou as Endangered, is something that would take many years. The hope is that if the caribou were at low numbers then the communities, themselves, would be able to do something to address the issue. It is my understanding, talking with other communities, that there are traditional Inuit laws that apply when caribou are not abundant. It is my hope that you, the HTOs, will figure out what to do, and I can help. But I don't want to tell you what to do if the caribou are in low numbers, just work with you and provide suggestions. I think this kind of initiative takes communities talking with each other. Southampton Island, for example. Because people on Baffin order caribou from there now, people on Southampton Island are concerned because their caribou are declining from disease and at the same time people are harvesting more and more to fill the demand from Baffin Island communities. So disease and harvesting are causing an impact on caribou numbers and the people there are very concerned.

Jobie: How do you collar a caribou? Do you tranquilize it and then take it down?

Debbie: We are not proposing to collar caribou at this time. Debbie explains animal care protocols for collaring, including that there is an experienced team hired to deploy collars and that the caribou have to be caught in 2 minutes or less so that chasing is minimized. The team uses a net-gun, and captures the caribou in a net, they land the helicopter, and stabilize the caribou. They blindfold it and tether the legs together so the animal will calm down and not hurt itself. In N. Baffin they put the collars on within five-six minutes. They measured the neck, cut the collar to fit, attached the collar and then took the blindfold off and un-tether the caribou. The caribou simply gets up and runs away after that. But at this time, we are not proposing to do any collaring.

Simeonie: Wonders why Melville Peninsula is not included in survey, because caribou in that area migrated to the North Baffin area. Back in 1992 there were quite a few caribou that went to the Arctic Bay area and then they migrated back to Melville.

Debbie: Explains that Melville Peninsula caribou are from the Wager Bay Herd. That herd is monitored by the Kivalliq biologist, but can get that information from him and send it to the HTO if they are interested.

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Debbie: We were in Igloolik yesterday, and they want to do the Caribou Health Monitoring Program and collect samples on Melville Peninsula. Then we can compare the genetics and see how related the two caribou are and how much movement there might be between Melville and Baffin Island.

Simeonie: The caribou on Melville Peninsula are bigger than the caribou that are on North Baffin.

Debbie: That is good to know. So, when they [caribou] come up to Baffin you can tell them apart?

Jack: Yes, and their hair is darker.

Debbie: Do they have eyelashes?

Simeonie: Yes.

Debbie: Where do you see them - up here [Arctic Bay area]?

Simeonie: Yes

Debbie: Can the Brodeur Peninsula be cut out of the survey? Is that area important for caribou?

Simeonie: There are some areas where there are no caribou [points from the middle of the Brodeur Peninsula, up]. There is no caribou because there is no vegetation.

Josia: That land is only for polar bear and foxes.

Jobie: There was someone that was out polar bear hunting [on Northeast Brodeur Peninsula coast] and witnessed caribou crossing to Somerset Island.

Debbie: People in Igloolik thought that maybe Peary caribou crossed from Somerset to the Brodeur.

Simeonie: Two Peary caribou were caught near arctic bay – 2 females small in size, mostly white. When caribou were more abundant.

KE: [Points Nettilling Lake and up towards Arctic Bay]. Before you were a researcher who put a collar on a caribou on the Koukdjuak River and it went up to S. Borden and was caught?

Debbie: Was that at a time when caribou [numbers] were high?

KE: Yes.

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Debbie: Right now caribou [numbers] are low and aren't travelling as far [from collar data] but maybe when they come back up [increase in number] they will start making bigger movements. Would you agree?

KE: That is common knowledge. They know that if their numbers are low they tend to stay in the same areas and when their numbers are high they go to other areas.

Josia: Predicts that once Mary River is in full force that they won't see any caribou around there.

Jobie: Do you have any of Mikes [Mike Ferguson] research from back in the 80's?



Debbie: Some, but maybe not everything. Apparently, Mike took some stuff with him. *Debbie explains the collar data from Mike Ferguson's S. Baffin collared caribou and movement as it relates to the study area boundary line. None of the caribou moved off Baffin Island to the mainland.*

Debbie: Describes the advantages of surveying with a helicopter, (4 observers, terrain, good view to observe, etc.) can also set down for fecal samples for genetic analysis to compare caribou across Baffin Island. Those reasons are why they use helicopters. But, as we discussed it would be great to use other methods like satellite images, one day.

Mathew: What altitude does the helicopter fly at?

Debbie: 400ft, and we only make one pass along transect line.

Debbie: The satellite image use is brand new technology. And my fear right now is that we don't know if we can see caribou in the satellite images the same way you can see a polar bear. We first need to test the method to make sure it provides meaningful results. That is what we do first with new technology – research and development. Right now, that is what the Polar Bear researchers are doing, because they believe polar bears may be a very good target species given their size, shape and colour. Also, the researchers are only testing the method in a small geographical area at this time, so that the work doesn't cost very much. But if it is something you are interested in, I would be very interested to look into testing the method with caribou.

Qaumayuk: He knows that the polar bear monitoring through satellites is in test phase, but because of monitoring in the past, helicopter use scares away caribou. The HTO is interested in knowing if there is

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caribou, where they are, because right now there is no caribou. So for them as a board, they are interested in what Debbie finds out.

Debbie: I feel the same concern, because every one of these communities has said the same thing. I really think that this is an important time for Baffin Island. It should be the priority in Nunavut. I really want to work with you.

Qaumayuk: Says once the research is done he wants DoE to come back and tell the full story, that is one of their requests.

Debbie: I can commit to that, and would also like to increase how we work together.

Qaumayuk: Any major plans like this we have to inform the public and get their opinion and we know the public would have questions that HTO will have to answer. When do you want to know if we support the survey?

Debbie: We need to hear back from all of the HTOs first – in order to support other initiatives – like funding requests. We need it in early January, for example to support our NWMB funding application. This project costs a lot of money and involves many organizations, so I need funding and permits, and your letters of support will assist in acquiring these. Or not. If the survey is going to go ahead, and the communities want to do the fuel caching, I would like to send Jaylene back with maps to plan out where the fuel caches will be and make a team of trained individuals so that the fuel caching can be done in an organized and safe way. The fuel caches will have to go out in March so we will be ready in April to start.

Simeonie: There are certain areas that you can't get too. If they can't be reached, is it ok if they put it close to that area and then give you the new coordinates? [in reference to HTO fuel caching].

Debbie: In February we will make very detailed maps and then Jaylene will go over them with you and figure out where we can and cannot put fuel caches. We also know that when they get into the field the weather can influence what happens.

Simeonie: Guys could bring a GPS and they can mark it.

Debbie: Yes we definitely need GPS coordinates even if it's on the locations that we planned because sometimes it can snow and bury the drums and then we need the GPS location to find them.

Josia: The red dots, are those fuel caches? How many barrels in each location?

Debbie: We are still planning but we will know all the details when we come back.

Qaumayuk: Informs Debbie that he supports the idea of fuel caching but as an HTO board they must notify the public and get their point of view. They can get the chair to go on the radio and notify the

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public. Once you need the support letters it won't take a long time to get back, because it won't take a long time to get feedback from the public. They as a board, the HTO wants to work with DoE, but I turn they have to work with the HTO. All the information you gathered has to be shared with them. As long as you shared with them they will share with you. It goes both ways.

Jobie: We are quite familiar with sampling, whether it be polar bear sampling, etc. If we had those samples available with the community then we can distribute to the community and get more data for caribou around Arctic Bay. But we always have to inform the community before it proceeds. For helicopters, we will have to inform the community before we make a decision. If we get good information then we will give out good information. We are not the decision makers, we have to get feedback from the public, because they are going to be asking the questions.

Caribou on Baffin Island: Sharing Local Knowledge

Simeonie: Marks spot on Melville where he caught caribou. He came from Hall Beach across Melville to the locations he caught caribou in 2010. He drove a snow machine. It was during the dog team race. He marks the trail that he used to get to Hall Beach from Arctic Bay.

Pond to Arctic Bay is 2 nights but Arctic Bay to Pond you can do in one day. In April went to Igloolik to get a snowmobile there and then in May we went to Hall Beach.

Marks Pond to Igloolik trail on Map.

Debbie: Where are your traditional hunting areas?

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Simeonie: Explains that what he drew on the map are the major highways. [Marks summer time route by ATV]. Caribou hunting up to the river was 15 gallons of gas on an ATV. [marks on map where they go hunting by ATV]. They know if there are caribou there in the summer. In the winter by snowmobile, they go along the ice north to the very northwest coast of Borden to go look for caribou. And from Pond Inlet, they go to the northeast coast of Borden, but can't cross the middle because there's a big cliff. At Lavoie Point, people from Pond boat in and then ATV. Arctic Bay people go across by ATV. Travel on the north coast is in winter.

Simeonie: Explains that they don't go to Bylot Island.

Debbie: Do you ever hunt south Admiralty Inlet?



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Simeonie: Explains that they go look for Polar bears and go fishing as well. Winter fishing area. [Marks on map where they go hunting for polar bear through Admiralty to [Bernier Bay]]. [Marks on map where there are caribou and lots of fish][marked as 3. on the map]. Caribou there any time winter or summer.

Simeonie: [marked on map where the study area should be cut off on the Brodeur Peninsula]. Lower west Brodeur has caribou [low lying coast]. Anywhere below the cut off line is possible.

Simeonie: Describes the time when they didn't have snowmobiles, they would go to Mary River by dog team. They even go by snowmobile now too. They don't go as much these days. There used to be a lot of bulls around Mary River area. [draws circle on map where they would go by dog team where there were only bulls in that area, marked as 'male caribou area' on map].

Debbie: Is there a preference for hunting bulls?

Simeonie: There were only bulls at the time. There were not a lot of caribou but there were bulls there. Between 1963-1969. That is where they would go caribou hunting.

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Debbie: Do you think that the females went somewhere else?

Simeonie: [shows on the map where the females were, according to the people of Igloodik, marked on map as 'Female Caribou Area']. Bulls would come down to mate and then the females would move up to Mary River to calve. They went to higher ground to have their calves. Arctic Bay area had no caribou in the 60's, so they had to go to Mary River.

Debbie: Asks if the size of caribou groups have changed over time. Right now they see 3-5 in group, but what was it like in the past?

KE: Remembers more caribou. More males than females. In 60s the groups were bigger.

Debbie: Groups of 100, 50, 10?

KE: Describes that when they were young there weren't that many and later on there were more. Around 1979 there was an abundance of caribou, lots, and mostly male. A large number of herd crossing from one side and then another herd from other side. He was in the area [S. of Mary River] and there were caribou coming from every area.

Simeonie: In 1989-93, after there was no caribou, he went out and caught a caribou, and then he looked with his scope and saw 100. He put his scope down when he counted 100. That was at Magna River. There were still lots of caribou but he couldn't keep counting and gave up. During that time they wouldn't kill lots; just enough to put on the ATV. Once they were done they would start to go home but still see lots of caribou. They only harvested what they needed. Only fit on an ATV one or two [caribou] and then you are done.

Debbie: Do you think there is more harvest pressure on caribou with Facebook etc., or do you think it's the same?

Simeonie: Explains that he doesn't know. He doesn't have Facebook. He only knows of this area. Here in Arctic Bay no. They only get what they need, because if they get more and cache them then a fox or wolf will take them.

Jobie: Some communities offer if they have caribou for sale, instead of communities asking which communities have caribou for sale. The communities offer caribou, we don't ask. For Example, we don't ask Coral Harbour for caribou meat, they offer it.

Debbie: Clarifies the Facebook comment.

Jobie: But traditionally, even today, you don't ask for meat.

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Debbie: The whole Facebook internet thing is brand new and maybe not that common.

Brenda: Traditionally you don't sell meat, you give it.

Debbie: We appreciate the information that you shared, and in the future we will send it back to you so that you can check it and make sure that we captured it correctly.

Jobie: Thank you. He is grateful for them to come here and get their knowledge but there is more knowledge in the community that they aren't getting. This is just the knowledge from this group.

Debbie: Thanks the HTO for being welcoming and sharing information. Thanks the three translators, the HTO manager, all the participants and special guests.

Simeonie: Wants to add, that out there, there are animals that don't have a limit as to killing, e.g. wolves. So if the population of wolves has grown, then the population of caribou will go down. He wants that to be kept in mind.



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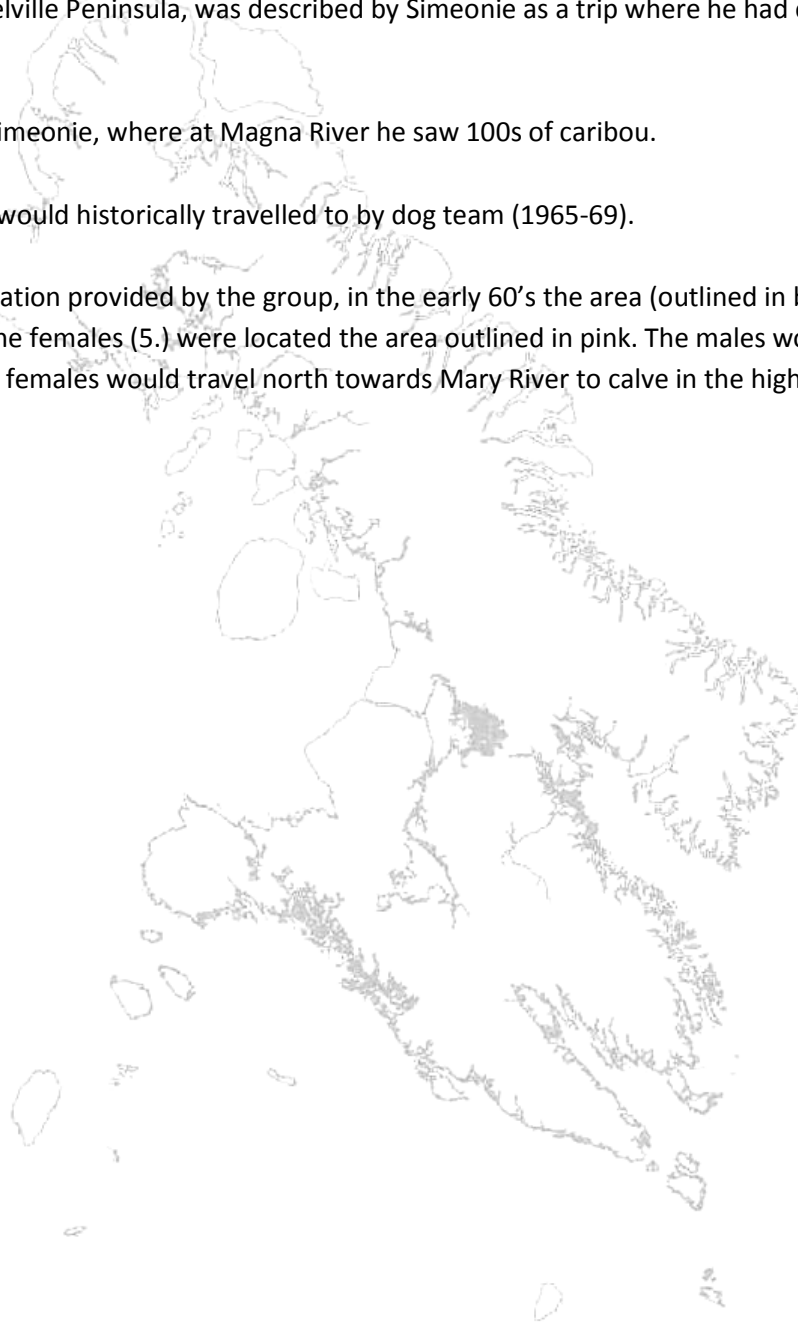
Map Summary

1. This area was outlined by Simeonie as being a place where there are caribou and lots of fish in the lakes. Caribou can be found there during the summer and winter. The lower hunting route from Hall Beach, west across Melville Peninsula, was described by Simeonie as a trip where he had caught caribou in 2010.

2. Area described by Simeonie, where at Magna River he saw 100s of caribou.

3. Area where people would historically travelled to by dog team (1965-69).

4. According to information provided by the group, in the early 60's the area (outlined in blue) usually had only bulls, while the females (5.) were located the area outlined in pink. The males would travel south to mate and the females would travel north towards Mary River to calve in the higher grounds.



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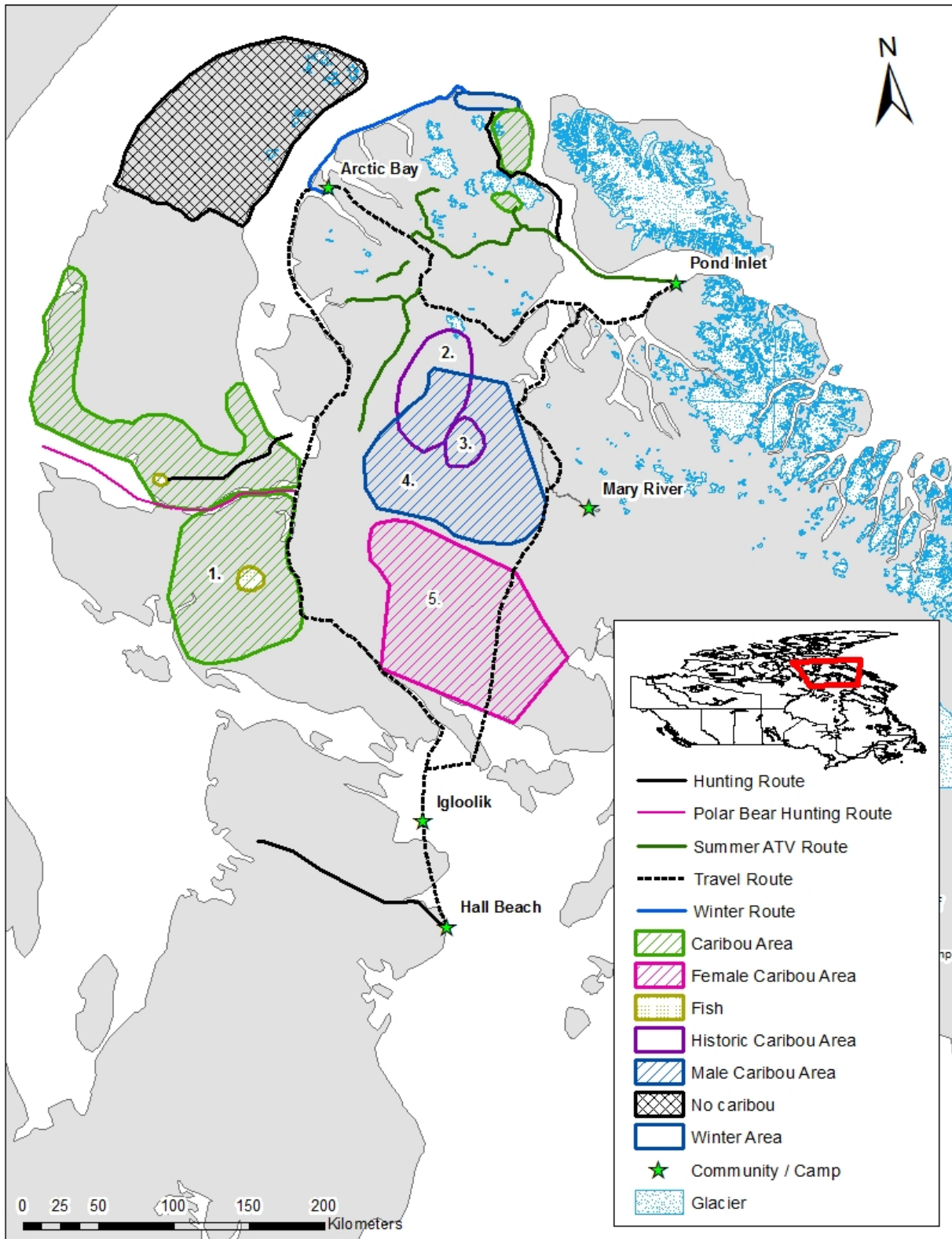


Figure 10. Digitized summary of information provided by the Arctic Bay HTO and meeting participants, December 2012.

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...special thanks to all participants and special guests!

