NIRB File No: 24YN026
NPC File No.: 150407

July 19, 2024

To whom it may concern;

We thank all participants for their comments and concerns raised regarding the Government of Nunavut's project Estimating the abundance of the Foxe Basin polar bear subpopulation. These comments are invaluable to ensuring that our project is conducted with utmost respect and validity. Our responses are below.

Concern: Noise from the helicopters causing hearing damage to polar bears.
This is a concern that was raised during our consultations with the affected communities (Baker Lake, Chesterfield Inlet, Coral Harbour, Igloolik, Kimmirut, Kinngait, Naujaat, Sanirajak). We discussed the mitigation strategies to limit the amount of stress and hearing damage to bears, as highlighted here. During the aerial survey, we will be flying at an altitude of 400 ft to survey bears and will spend less than a minute above them to age and sex the bear. When biopsy darting, we will approach bears up to within 10 m to get a quick biopsy sample (via a dart and dart gun), that immediately falls out of the bear. The average time the helicopter approaches the bear until a dart is shot is 30 seconds. After the bear is shot, the helicopter remains where it is, as the bear runs away, then the helicopter lands and a person will get out and pick up the dart. The time it takes to approach a bear, shoot the dart, and retrieve the dart takes an average of 2 minutes. Given these mitigation strategies, we received 7 support letters from the Hunters and Trappers Organizations (HTOs) for the aerial survey and biopsy darting project. We have included the support letters within this email.

Concern: Invasiveness
We acknowledge that aerial surveys and biopsy darting have an element of invasiveness to them. As mentioned previously, we are limiting the times flying around bears to mitigate invasiveness. The methods used in this project were proposed as an alternative to the previously common scientific method of drugging, collaring, and handling bears. As discussed with the HTOs, aerial surveys and biopsy darting does not involve any drugging, collaring, or tagging of bears. HTOs were in support of these methods as an alternative to previously used methods. Additionally, we will have HTO members accompanying us in the aircraft for the aerial survey and biopsy darting project.

Question: Would the department by now of the 13 subpopulation zones have a file of the polar bears movements between these zones or at least to the adjacent zone from previous collaring programs?
We have attached a map (Figure 1) that shows movement of bears using collar data that was collected from 1989-2010. The Government of Nunavut (GN) has not had collaring projects since 2010, due to concerns raised by Inuit and how these methods do not align with Inuit values.

Aerial surveys are a "snapshot in time", where they collect the locations of bears when they are seen on the survey, but it is unknown where they move after they are initially seen. While aerial surveys can give us a subpopulation abundance estimate, it cannot give us information of bear movement.

Biopsy darting is proposed as part of this project, because it can detect some level of movement of the bears from when they are initially sampled, to when they are sampled again via biopsy darting or by tissue submitted from a harvested bear (Figure 2). Biopsy samples also allow for individual identification of bears, as the tissue can be analysed and we can get a genetic "fingerprint" for that bear. The DNA can also give us an understanding of which bears are more related to each other. This information is not possible with an aerial survey.

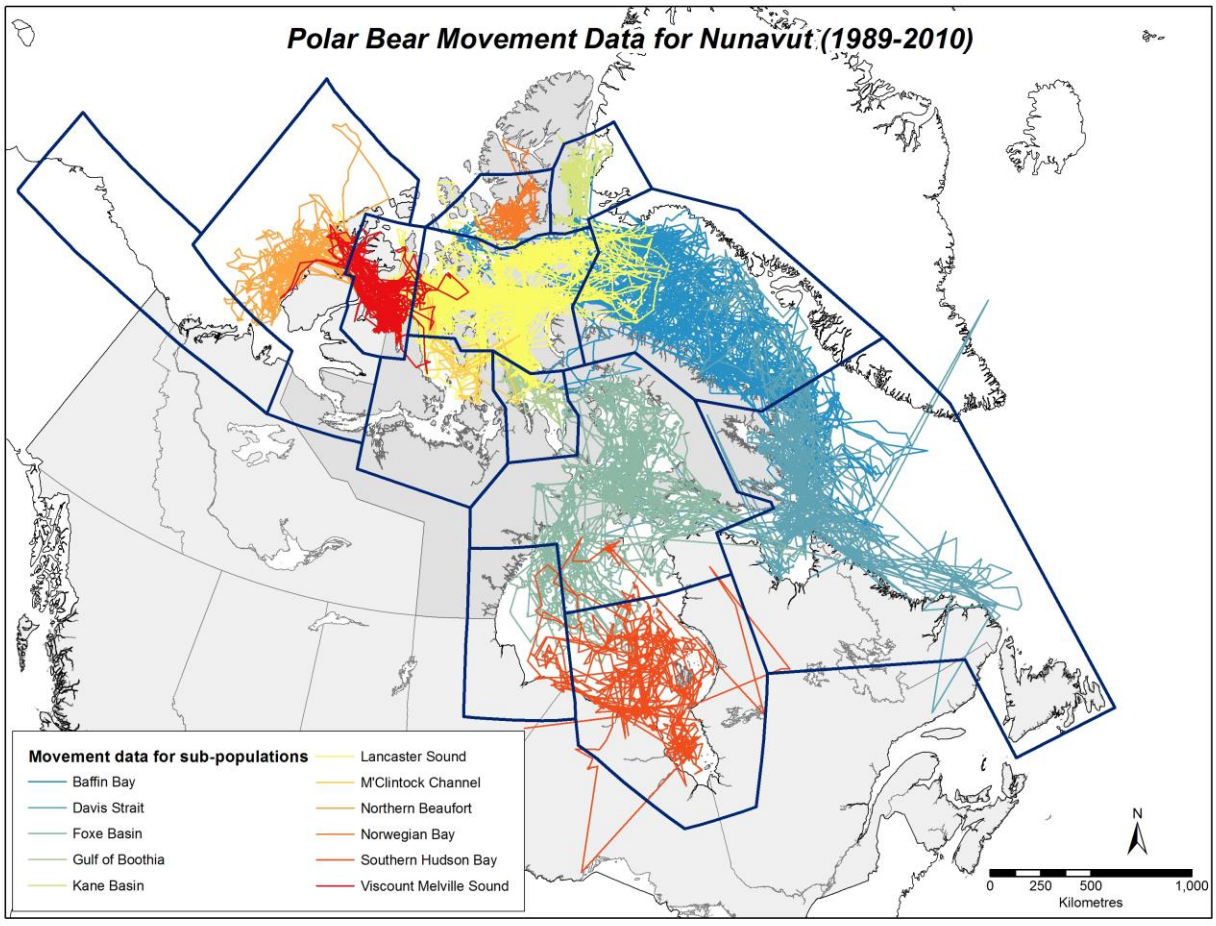

Figure 1. Map of polar bear movements using collar data from Nunavut subpopulations. Data was collected from 1989-2010.

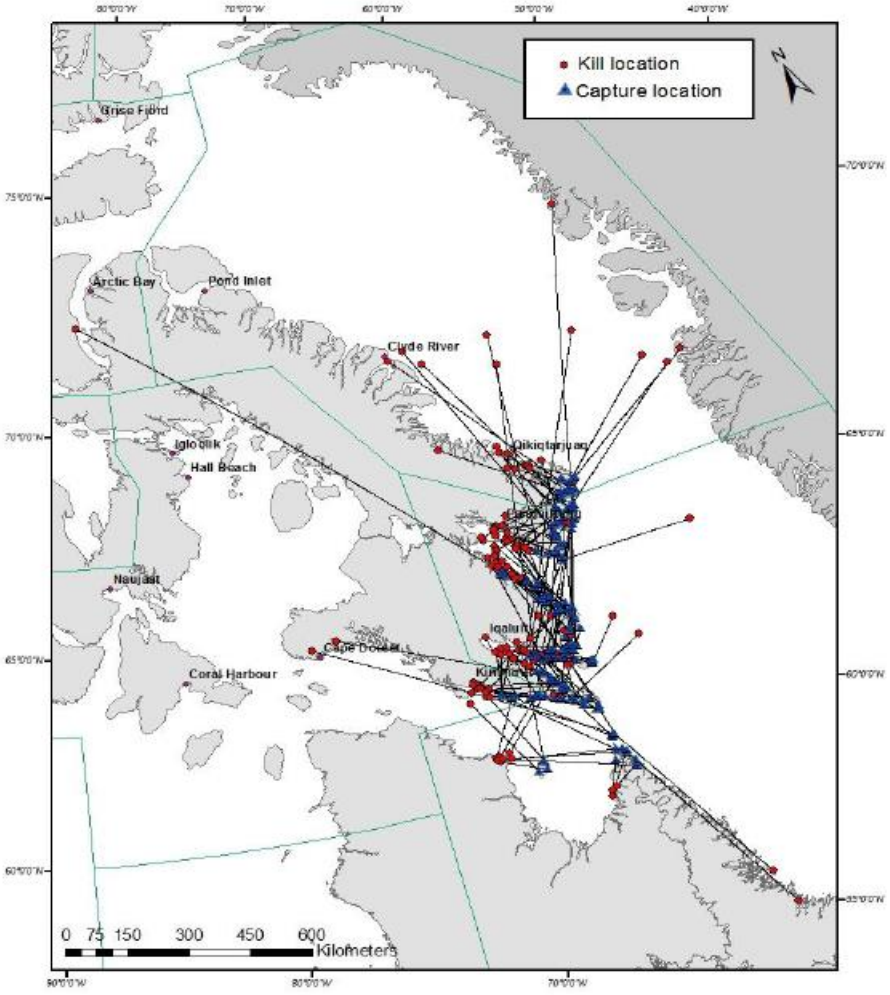

Figure 2. Biopsy sampling (blue triangles) and harvest (red circles) locations for Davis Strait polar bears where coordinates for both events for the same individual bear were available (n=163). Green lines indicate subpopulation boundaries. *Re-estimating the abundance of the Davis Strait polar bear subpopulation by genetic mark-recapture. Final Report.*

Question: Program starting date is in July to August of this year. How can you determine the population in just a short span when the subpopulation covers a huge landmass, 9 communities in total with only 2 helicopters?

With an aerial abundance survey, we survey as comprehensively as we can, while balancing time, weather, and financial restraints. Aerial surveys produce an estimate of the subpopulation. A map of the aerial survey transects, that we plan to cover are included in a map below (Figure

3). While an aerial abundance survey provides an estimated population number, it also gives an idea on a population trend, when compared to the previous estimates taken in 2010. The trend will help us understand whether the population number is stable, declining, or increasing, from a scientific perspective. Although, we may find a scientific trend, it does not always reflect Inuit Qaujimajatuqangit of the region. That is why the GN returns to the communities to report on the results, discuss results, and collect feedback on what the communities have been seeing with the polar bear subpopulation. This sharing of information provides a more holistic understanding on the subpopulation.

Additionally, aerial survey methods provide the best balance between Inuit values and concerns regarding previous scientific methods (collaring and handling), while also balancing logistical and financial constraints.

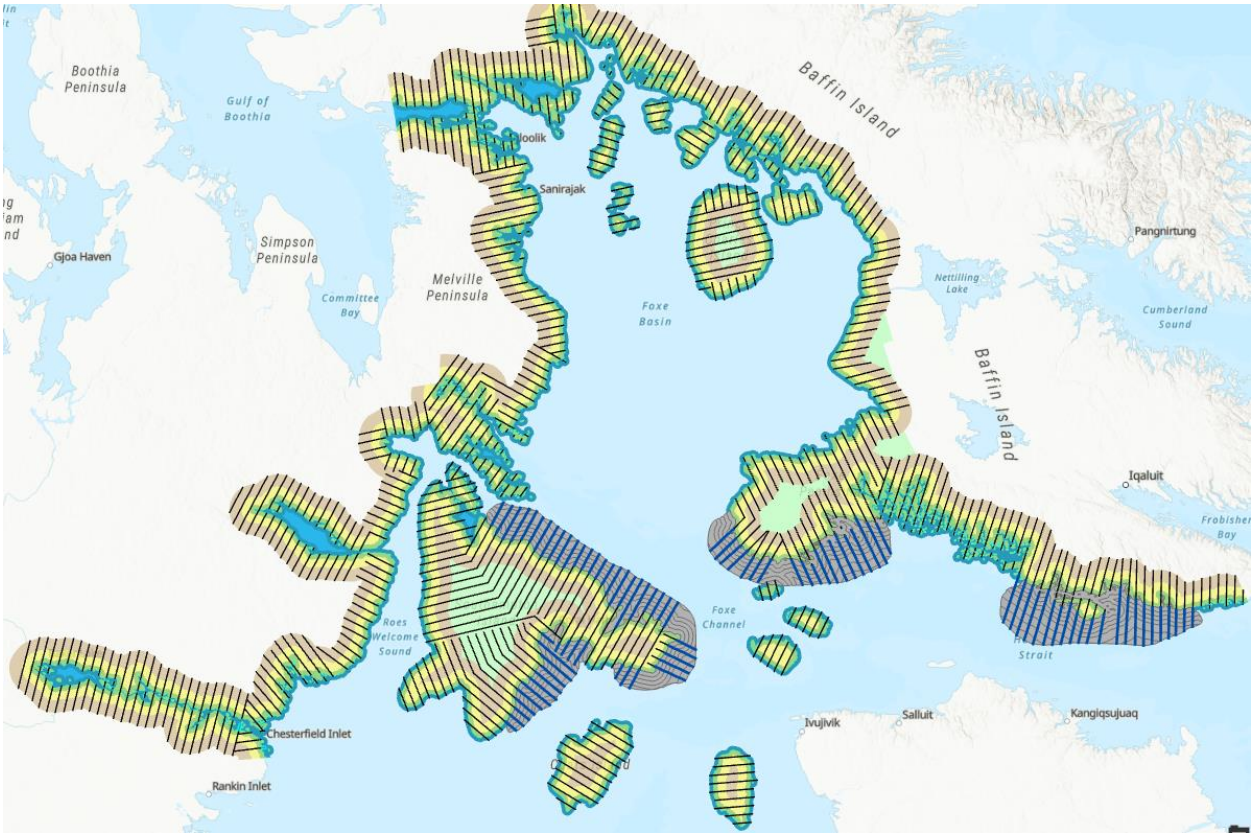

Figure 3. Map of proposed aerial survey transects to be flown. The different colours correspond to areas predicted to be of high bear density (green), medium bear density (yellow), low bear density (red), inland (green), over water (purple). Bear density predictions were based on Inuit Qaujimajatuqangit, harvested bear locations, collar data from 2010, and bear observations from 2010.

Question: Why is Baker Lake included in this survey?
The GN makes Total Allowable Harvest (TAH)/quota recommendations to the Nunavut Wildlife Management Board (NWMB). The NWMB makes a TAH decision and then this decision is accepted or rejected by the Minister of Environment. Once a TAH decision has been accepted, Regional Wildlife Boards (Kivalliq Wildlife Board, Qikiqtaaluk Wildlife Board, and Kitikmeot Regional Wildlife Board) are notified and they make a decision on community allocations. They will notify the GN of their decision and the GN will send polar bear tags to the communities. Kivalliq Wildlife Board has decided that Baker Lake receives a polar bear tag for the Foxe Basin subpopulation, and we respect their decision and have a duty to consult them as an affected community for this project.

We understand that polar bears do not commonly go inland to the community of Baker Lake, but would like to reiterate that tag allocations are a decision made by the Kivalliq Wildlife Board and we respect and honour their tag allocation decisions.

Comment: For many years now my community members have been, myself included have been witnessing the polar bear numbers in abundance but without scientific evidence, my people are excused from the equation.
The last scientific survey of Foxe Basin polar bears was in 2009 and 2010 and at that time, the population was determined to be stable. As part of the consultation process, once scientific data has been collected and analysed, and once a report is complete, the GN will return to all 8 communities to discuss the results of the survey and collect community feedback. This provides an opportunity for communities to identify the abundance of bears within their area and share their knowledge. Additionally, communities can write submissions to NWMB with their knowledge, questions, concerns with the results of the scientific study or public safety concerns.

We aim to involve community members within this study at several stages 1) the initial consultations held with all 8 communities, to gain feedback and address any comments or concerns, 2) during the polar bear survey, HTO members will be participating in this project by joining us in the aircraft and collecting data, 3) final consultations at the end of the project to share the results of the project, and discuss and record feedback about the results, and record Inuit Qaujimajatuqangit about the polar bear subpopulation.

In other polar bear subpopulation studies, Inuit Qaujimajatuqangit studies have been done to document local knowledge and include within submissions to the NWMB for TAH decision making. While the GN does not have the appropriate resources to conduct an Inuit Qaujimajatuqangit study, there may be other organizations who will reach out to conduct a study for the Foxe Basin subpopulation.

We thank all participants for taking the time to review this project and provide helpful feedback.

Sincerely,
Alyssa Bohart and Amélie Roberto-Charron