NUNAVUT PLANNING COMMISSION
PUBLIC HEARING ON THE 2016 DRAFT NUNAVUT LAND USE PLAN

QIKIQTAALUK WILDLIFE BOARD

PRE-HEARING WRITTEN SUBMISSIONS

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QIKIQTAALUK WILDLIFE BOARD

Submission for the Public Hearing on the 2016 Draft Nunavut Land Use Plan

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1 Background and Objectives

The Qikiqtaaluk Wildlife Board (QWB) is a participant with standing in the Nunavut Land Use Plan process, and has emphasized the inclusion of Inuit Qaujimajatuqangit (IQ) to the maximum extent possible, comparable to the inclusion of scientific information. Unfortunately, that has remained a challenge as collection and integration of IQ requires a focussed effort engaging Inuit in their communities, because most IQ is held by Inuit individually and collectively and is transmitted mainly according to oral traditions, not on maps and paper (NWMB 2016). Such processes are different from that undertaken to develop the Draft Nunavut Land Use Plan (DNLUP).

The QWB suggests that steps are needed across Nunavut, based on our experiences in the collection and publication of IQ about caribou during the 1980s and 1990s, and subsequent integration IQ for wildlife management and land use purposes in 2005 and 2016. Such steps would enable the Nunavut Planning Commission (NPC) to effectively use IQ in making land-use policy recommendations. The QWB hopes that its recommendations will be directly incorporated into the content of the DNLUP, as well as inform a future NPC IQ framework.

The QWB, its member HTOs and individual Inuit are concerned about the recent decline of caribou in Qikiqtaaluk region; the extent and scale of which seems to have taken government and others by surprise. However, Inuit elders started predicting the decline in advance during the 1990s and early 2000s, based on signs that they learned from their elders through IQ.

In a resolution passed on November 9, 2015, the Annual General Meeting of the QWB called for all important caribou habitats to receive full protection under the Nunavut Land Use Plan. At the time, the QWB listed calving areas, post-calving areas and migration routes, as these seemed to be the main types of areas that the DNLUP would consider protecting. For reasons unknown to the QWB, winter ranges appear to be specifically excluded from inclusion in Schedule B of the DNLUP (section 2.2.1.6., DNLUP).

On March 24, 2016, the Qikiqtani Inuit Association (QIA) submitted a letter to the NPC strongly supporting full protection of caribou in Nunavut, making specific reference to recent declines of caribou populations in Qikiqtaaluk region. The QIA questioned government concerns over funding the monitoring and enforcement of caribou protection measures, which the QWB believes should not be used as justification for not protecting Valued Ecosystem Components (VECs) that would otherwise warrant protection. Like the QIA, we too are concerned about government's reliance on costly collaring and aerial surveys, because these methods may impact caribou already in poor condition among sensitive populations.

Considerable IQ about Baffin Island and High Arctic caribou has already been collected and peer-reviewed by both Inuit elders and scientists, published and made public. Additional information based on IQ from these studies should be available in government archives if needed. Despite this, section 2.2.1 of the DNLUP claims that there is insufficient information for caribou-specific land designations for populations (or 'herds') not on the mainland. Therefore, we must ask "Does the DNLUP adequately reflect and

integrate Inuit Qaujimajatuqangit in land use designations including seasonal restrictions?" Unfortunately, available IQ has not been incorporated into the DNLUP.

In addition, Inuit HTO representatives and elders participated in a caribou management process for South Baffin caribou in 2005, based on elders' predictions of the subsequent decline and current status of Baffin populations. The draft plan called in part for land-use protection of caribou for the period 2006-2020. Such measures remain pertinent today, especially since the decline predicted by Inuit elders has happened. The QWB hopes that NPC will take steps to adequately incorporate IQ from Qikiqtaaluk into the DNLUP.

In June 2016, the QWB, with support from the Nunavut Wildlife Management Board (NWMB), held a regional workshop to collect more up-to-date information about caribou from community representatives. We will provide that current knowledge of Inuit about caribou in this submission.

Our objectives in this submission are to:

- Suggest a way to transparently show the level of substantive use of IQ in the DNLUP.
- Recommend that a clear IQ framework be put in place for the DNLUP;
- Question the apparent exclusion of: i. non-mainland caribou populations from land use designations, and ii. Protection measures for "Winter Ranges".
- Explain fundamental differences in critical habitats required by Arctic tundra caribou vs. forest-tundra migratory caribou, and why protection of key (or core) wintering areas is critical to the long-term survival of Qikiqtaaluk, Peary and probably other Arctic tundra caribou.
- Present a summary of information about Qikiqtaaluk caribou during their 60-80-year population cycles based on published IQ, which was fully reviewed by both Inuit elders and scientists.
- Provide maps of recent caribou calving, post-calving and migratory routes on Baffin Island, collected in June 2016.
- Propose the development of protection measures for Peary, Qikiqtaaluk and other tundra caribou faced with potentially more severe and frequent winters under climate change.

Reference:

Nunavut Wildlife Management Board (NWMB). 2016. Draft NWMB Workshop Report: Protecting Caribou and their Habitat. Iqaluit, NU.

2 General Comments and Recommendations

The QWB agrees that the broad goals, criteria and issues of the DNLUP are clear and worthy of addressing. We recognize that, to date, development of the DNLUP for 20% of the land area of Canada has been and probably remains a massive effort. We fully support the Board and all participants in their efforts.

Nevertheless, we do wish to emphasize that more work should be done to incorporate IQ in the DNLUP and to integrate IQ transparently and equitably with scientific, economic and other information. In this submission, we are raising attention to available IQ about caribou in Qikiqtaaluk Region. However, a broader message for the NPC and participants in the DNLUP process is that these efforts in Qikiqtaaluk illustrate the type of research, coordination and engagement that is required to effectively work with and integrate IQ. These examples can provide direction for a strong IQ framework for future generations in on-going land-use planning processes.

In this submission, the QWB will not make specific comments on the following topics, listed 2.1 to 2.7:

2.1 Overall structure and clarity of the DNLUP;
2.2 Consistency with the applicable legal requirements and policy context;
2.3 Fit with the integrated regulatory system;
2.4 Quality of the planning process;
2.5 Incorporation of input from participants in the planning process;
2.6 Overall balance among competing interests on important issues;
2.7 Governance and implementation;

2.8 Other

Generally, our submission addresses several broad issues included in the Agenda for the Pre-Hearing Conference in Iqaluit on September 27-29, 2016, under Formulation of Issues. These include:

A. Strengthening Partnerships & Institutions

7. Does the DNLUP adequately reflect and integrate Inuit Qaujimajatuqangit in land use designations including seasonal restrictions?

The DNLUP does not transparently identify how and in what sections IQ was incorporated or integrated. However, we are aware of relevant IQ that has been available, but has not been incorporated as yet.

To paraphrase, the first goal of the DNLUP includes: to provide "... direction on the land use planning process … through the integration and application of the principles of IQ". Such a goal suggests the view that IQ is being valid from the outset. The QWB recommends that the DNLUP should err on the side of protection as per IQ principles, fully integrate all available and relevant IQ, and forge significant strides and partnerships so that IQ becomes substantively and transparently integrated into the DNLUP and in future revisions.

B. Protecting & Sustaining the Environment

8. Has the rationale and effect of proposed wildlife area land use designations and protection measures on uses of land, fresh water, marine and ice been adequately and clearly addressed in the DNLUP?

The QWB neither understands nor supports the absence of designations for non-mainland caribou, and the apparent exclusion of important winter ranges, especially for Arctic tundra caribou.

11. Has planning for anticipated effects of climate change been adequately addressed in the DNLUP (i.e. management of resources susceptible to climate change effects, recommendations)?

Peary caribou already have suffered major declines during severe winters. The QWB recommends that the DNLUP should specify additional protection measures for these and other tundra populations when potentially subjected to severe weather events, which may increase in both severity and frequency with climate change.

F. Implementation Strategy

26. Are there any additional research projects participants would propose to fill information gaps?

The QWB believes that, in close collaboration with Inuit and their organizations, participants should develop specific projects needed to document and integrate both historical and current IQ in ways that it can be used by the NPC in the DNLUP and future revisions. We recommend that NPC develop an IQ framework for the collection, publication and integration of applicable historical and current IQ. In addition to methods developed elsewhere in Nunavut and in future collaboration with Inuit organizations, this framework should be based in part on IQ collection methods developed in Qikiqtaaluk during the 1980s and 1990s, and more recent consultations in 2005 and 2016. Sections regarding IQ in NWMB (2016) will also be useful in development of this framework.

3 Specific Comments and Recommendations

3.1 Reflection and integration of Inuit Qaujimajatuqangit in land use designations

3.1.1 Table 6.

Page 87-88.

3.1.2 Comment

The DNLUP does not transparently identify how and in what sections IQ was incorporated or integrated.

3.1.3 Recommendation(s)

i. An independent group should evaluate all data sources listed in Table 6 for both the percentage of the information that was based substantively on IQ and other types of knowledge, and the substantive impact of each type of information has had on land-use designations.
ii. Columns could be added to Table 6, or another table could be added, presenting the results.

3.1.4 Rationale

Currently, it is difficult to assess how or if IQ have been incorporated into the DNLUP, except for topics and regions for which a reader may be aware of the IQ that is available. Because the QWB is aware of significant available IQ sources that have not been incorporated, then we are currently inclined to conclude that IQ has not been adequately reflected and integrated in land-use designations. With independent assessments presented in tables, this may become clearer.

3.1.5 Note(s)

None.

3.1.6 Supporting Material

None

3.2 Inclusion of Land Use Designations for Caribou in Qikiqtaaluk Region in the DNLUP

3.2.1 2.2 Caribou, Table 1, Schedule B2

27-28, 64-80, and Schedule B2.

3.2.2 Comment

The QWB does not support the current lack of land use designations for caribou in the Qikiqtaaluk Region. IQ about the distributions of caribou for up to 100 years ago have been available for southern Qikiqtaaluk

caribou from 1910 to 1993 (Ferguson et al. 1998), and for Peary caribou in the High Arctic from 1950 to 2003 (Taylor 2005).

The QWB neither understands nor supports the rationale for apparently excluding all caribou wintering areas from potential protection. Winter ranges are critical to the survival of Arctic tundra caribou. Peary caribou have suffered declines during severe winters. Qikiqtaaluk caribou are at low population levels due to forage limitations according to IQ. Future unmanaged human impacts on these caribou populations could be devastating without protection of tundra caribou in their winter habitats.

3.2.3 Recommendation(s)

Add land use designations for caribou as explained below, with special attention to winter ranges.

3.2.4 Rationale

Historical IQ about Qikiqtaaluk Caribou

The ecology of Arctic tundra caribou is fundamentally distinct from that of forest-tundra migratory caribou to the south. Both ecotypes calve on Arctic tundra in Nunavut, but Arctic tundra caribou do not need to migrate to do so. Some migrate 100s of km between wintering and summering areas, some migrate less than 10 km in other areas, while others migrate any distance in between, or change their migration routes, timing and distance (IQ; Ferguson and Government of Nunavut, unpubl. data). IQ suggests that tundra caribou will not migrate very far if they are in poor condition in late winter, and may subsequently search for new wintering areas at the end of summer.

Winter is the most stressful season for Arctic tundra caribou. In winter, tundra caribou have great difficulty finding and digesting accessible forage, compared to summer. Lichens are very slow growing, are sparse on most of the Arctic islands, and thus susceptible to long-term grazing impacts

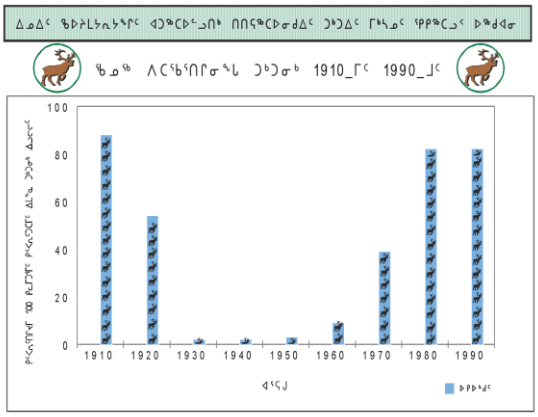
Inuit elders in Qikiqtaaluk become concerned about caribou whenever there have been “too many caribou for too long”. “Too many” caribou is an important concept in IQ, and it usually applies to winter ranges. In the 1970s, caribou wintering on Foxe Peninsula migrated 100s of km for calving. In the 1980s, they started wintering on small islands in Hudson Strait and feeding on cliffs, and migrated only a few of km inland in late May. Cape Dorset elders predicted that caribou would soon leave Foxe Peninsula, and the caribou did in the late 1980s. At the end of summer, they emigrated en masse 100s of km to subsequently winter on Meta Incognita Peninsula, again shifting their calving areas but maintaining their summering area on the Great Plain of the Koukdjuak. Ferguson and Messier (2000) and Ferguson et al. (2001) confirmed both Inuit predictions and observations scientifically. Then in the 1990s, more shifts and changes in caribou migrations across Qikiqtaaluk were observed by Inuit, and by the late 1990s, elders became concerned that caribou would soon become very rare and hard to find, just as they had in the 1940s.

In the 1940s, “Everybody was cold. Nobody knew where the caribou were.” - Elijah Keenainak, Pangnirtung

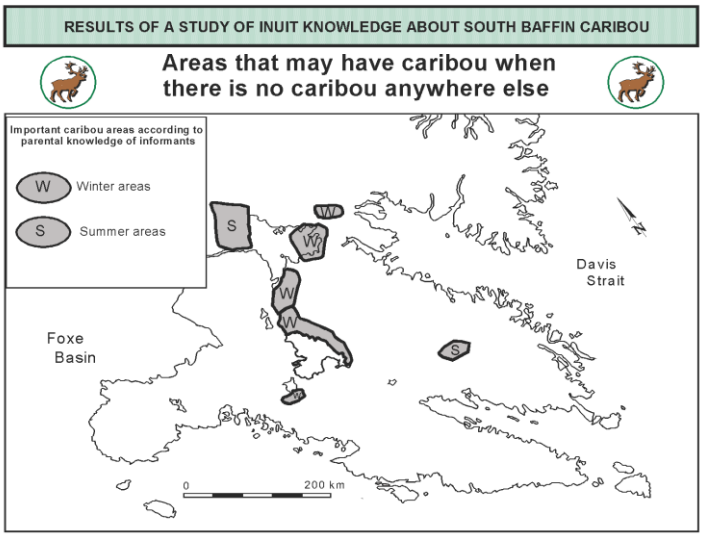
On Qikiqtaaluk, Inuit elders recognize that caribou populations cycle over the lifetime of an elder (i.e., 60-80 years), making population changes quite predictable, with many signs of impeding changes known in IQ. IQ describes 4 phases of this long-term cycle relative to caribou winter ranges, each phase occurring over decades (Ferguson et al. 1998):

- Special winter ranges when there are no caribou elsewhere (e.g., the 1930s-1950s, and currently)

- Expansion of winter ranges (e.g., the late 1950s – early 1970s)
- Slowly moving or drifting winter ranges (i.e., the mid-1970s – mid-1980s)
- Massive shifts of winter ranges (e.g., the 1910s – 1920s, and late 1980s - 2000s)



During years when caribou on Qikiqtaaluk are in low abundance, as they are now, special wintering and some special summering areas are critical to the survival of these caribou populations, and the many Inuit families that rely on them. Around 1910-1920 with caribou abundant near the coast, Inuit elders as children were told that when they became adults with families to support, there will be no caribou except in these special places. “When there are no caribou anywhere else, go to these places and you may find a few caribou.” Some elders admitted that, as children, they had difficulty believing their elders, but IQ proved to be true and highly valuable 10-30 years later.



The locations of these special areas, known through IQ, are supported by scientific research (Jacobs et al. 1997). They are largely within a special Low Arctic bioclimatic zone, surrounded by High Arctic tundra. This special zone has been climatically stable for the past 4,750 years, despite high regional variability. It has been used continuously by Inuit and their ancestors for 3,000 years.

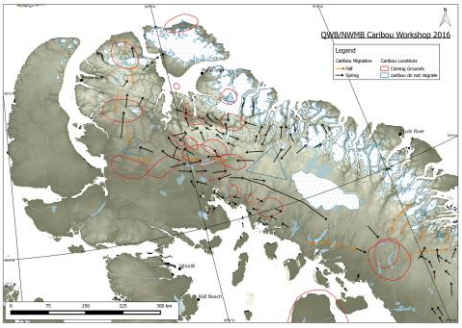
Full protection of these special areas, with buffer zones, could provide for the future cyclical recovery and long term maintenance of Qikiqtaaluk caribou on southern Baffin Island. When there are few caribou on Qikiqtaaluk and Inuit are limiting their own use of caribou, other people and industrial concerns should be required to limit their potential impacts as well.

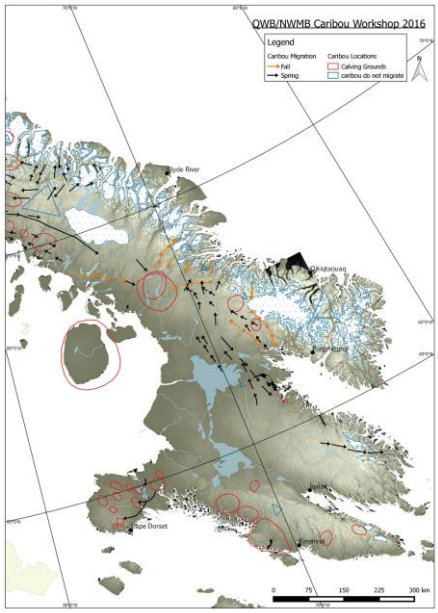
Note: Inuit elders may know of additional historically important caribou areas elsewhere in Qikiqtaaluk region and in other regions. Scientific studies are too recent to provide such information (NWMB 2016).

<u>IQ Workshop - June 2016</u>

In June 2016, the QWB held a workshop with representatives from the communities to develop maps of important caribou areas in Qikiqtaaluk. Representatives clearly reaffirmed the importance of caribou to their communities, emphasized during the many individual and small group conversations during the June mapping exercises. The workshop revealed the QWB's and the communities' frustration that no caribou designations have yet been identified for the Qikiqtaaluk region in the DNLUP! Workshop delegates stated that significant IQ about caribou has been collected by various sources, but that IQ has not been represented within the DLUP. This is a fact that we recommend be corrected.

An objective of this workshop was to organize information from various sources, including both IQ and scientific knowledge about Qikiqtaaluk caribou. Thus, representatives of the Government of Nunavut (GN), QIA, World Wildlife Fund Canada and NWMB were involved to varying degrees. The NWMB, GN and QIA played important and differing roles in preparation of the resulting IQ maps, attached below. The QWB requests that these areas be included as designated areas for Qikiqtaaluk caribou, in accordance with its November 2015 motion.





Historical IQ about Peary caribou

Applicable maps showing historical IQ about Peary caribou distributions are available in Taylor (2005).

3.2.5 Note(s)

None at this time.

3.2.6 Supporting Material

References:

Ferguson, M.A.D., L. Gauthier and F. Messier. 2001. Range shift and winter foraging ecology of a population of Arctic tundra caribou. Canadian Journal of Zoology 79: 746-758.

Ferguson, M.A.D., and F. Messier. 2000. Mass emigration of Arctic tundra caribou from a traditional winter range: Population dynamics and physical condition. Journal of Wildlife Management 64: 168-178.

Ferguson, M.A.D., R. Williamson, and F. Messier. 1998. Inuit knowledge of long-term changes in a population of Arctic tundra caribou. Arctic 51: 201-219.

Jacobs, J.D., A.N. Headley, L.A. Maus, W.N. Mode and É.L. Simm. 1997. Climate and Vegetation of the Interior Lowlands of Southern Baffin Island: Long-term Stability at the Low Arctic Limit. Arctic 50: 167– 177.

Taylor, A.D.M. 2005. Inuit Qaujimajatuqangit about Population Changes and Ecology of Peary Caribou and Muskoxen on the High Arctic Islands of Nunavut. M.A. thesis, Department of Geography, Queen's University, Kingston. 123 pp.

3.3 Implications of Climate Change: Protection of Arctic Tundra Caribou during Severe Winters

3.3.1 2.2 Caribou, 2.8 Climate Change, Table 1, Schedule B

27-28, 30, 64-80

3.3.2 Comment

Additional protection measurements are needed during severe winters (e.g., high snowfall, icing of forage) for Arctic tundra caribou in the Qikiqtaaluk region and potentially elsewhere.

3.3.3 Recommendation(s)

The QWB recommends the development and implement of clear measures to provide tundra caribou with additional protection in the case of severe weather events, which may become more severe and more frequent with climate change.

3.3.4 Rationale

This is of great concern in Qikiqtaaluk because:

- the DNLUP appears to exclude winter ranges from Schedule B.
- Peary caribou have suffered several major declines during and following severe winters (i.e., with heavy snowfalls or icing, severely limiting access to their forage more than usual).
- Qikiqtaaluk caribou are at low abundance, stressed by depleted vegetation due to past heavy grazing based on IQ and Ferguson et al. (2001), and thus susceptible to major impacts, especially if severe climatic events and major human disturbances coincide.

Tews et al. (2007a, b) found that Peary caribou are at very high risk to serious future declines during severe winters, especially if winter events increase in severity, as has been predicted with future climate change. Qikiqtaaluk caribou will be similarly at risk until their forage recovers, which may take decades.

3.3.5 Note(s)

None.

3.3.6 Supporting Material

References:

Tews, J., M.A.D. Ferguson and L. Fahrig. 2007a. Potential net effects of climate change on High Arctic Peary caribou: Lessons from a spatially explicit simulation model. Ecological Modelling 207: 85-98.
Tews, J., M.A.D. Ferguson and L. Fahrig. 2007b. Modelling the role of density dependence and climatic disturbances in High Arctic Peary caribou. Journal of Zoology 272: 209-217.

4 Editorial Recommendations and Considerations

Page #	Description, Recommendation and Rationale
P. 27	**Section 2.2.1** – Designations on Caribou Habitat **Recommendation** – Reword to: "Caribou-specific land use designations have been established for all populations of caribou in Nunavut for which sufficient information exists based on either Inuit Qaujimajatuqangit, scientific research or both." **Rationale for change** – The DNLUP should not exclude any specific region, type of caribou or type of information.

P. 28	**<u>Section 2.2.1.6</u>** – Other Seasonal Ranges **Recommendation** – Delete ", except Winter Ranges". **Rationale for change** – The DNLUP should recognize that Winter Ranges are critically important to Arctic tundra caribou. Peary caribou have declined drastically during severe and following winters. Qikiqtaaluk caribou depend on special winter ranges for their long-term survival based on IQ.
P. 28	**<u>Section 2.2.1.New</u>** – Arctic Tundra Winter Ranges **Recommendation** – Add a new section, similar to section 2.2.1.5. for sea ice crossings, with wording taken in part from the General Comments and Recommendations above, and develop applicable protection measures. The QWB is willing to assist in this effort. **Rationale for change** – The DNLUP should recognize that Winter Ranges are critically important to Arctic tundra caribou. Peary caribou have declined drastically during and following severe winters. Qikiqtaaluk caribou depend on special winter ranges for their long-term survival according to IQ.

Commented [A1]:

Commented [A2]: