Written Submission No. 08

2016 Draft Nunavut Land Use Plan

Proposed Land Use Designation:

Community Areas of Interest – Caribou Calving and Post-Calving

To: The Nunavut Planning Commission

From: The Qikiqtaaluk Wildlife Board (QWB), and
the Hunters and Trappers Organizations (HTOs) of Grise Fiord, Resolute Bay, Arctic Bay, Pond Inlet, Pangnirtung, Iqaluit, Kimmirut, Cape Dorset, Hall Beach and Igloolik

Background Information:

Caribou is a keystone species for the maintenance of Inuit culture and well-being, as well as for the northern ecosystem. Arctic tundra Caribou are known to go through long-term cycles, with each cycle lasting up to the entire lifetime of an elder (Ferguson et al. 1998). During these cycles, there are decades when caribou are in low abundance and very sensitive to disturbance by humans. Unlike large populations of caribou, small ones are not as resilient to disturbance, loss of habitat, and human development that may separate them from their seasonal habitats. The protection of important areas for caribou during these decades is critically important, or the populations may never return to their former abundance in future, and their natural cycles could be lost.

The 2016 draft Nunavut Land Use Plan (NLUP) claimed that there is insufficient information for caribou-specific land use designations, except on the mainland of Nunavut. The QWB believes that this is not true, given the extensive Inuit Qaujimajatuqangit (IQ) that was shared with NPC and governments by Inuit of Qikiqtaaluk communities in the past, and scientific peer-reviewed papers already published about caribou in Qikiqtaaluk Region.

As the 2016 draft NLUP states, calving areas are of critical importance for maintaining healthy caribou populations, and are also places where caribou are vulnerable to disturbance. Post-calving areas are used by caribou for nursing of their calves. Disturbance from these areas could lead to higher calf mortality due to reduced nursing times, cow-calf abandonment, and their displacement from habitats with high quality vegetation during periods when females and

calves have high nutritional demands. Disturbance of nursing calves and their mothers could impact over-winter survival.

Impacts of exploration and development cannot be effectively mitigated in any of these critical areas during decades when their abundance or density is low. These realities are well known through IQ (although science may lag behind), and the impacts of development may be most severe for caribou populations that depend on Arctic tundra year-round.

Throughout Qikiqtaaluk Region, many places have Inuktitut names because of their value to caribou and caribou hunters. For example, in the Arctic Bay area, there are special places that caribou use for calving and post-calving. Some of there areas are known as 'qillituuq'. The land 'shines' in the sun during calving as the females' water breaks and placentas lay on the ground. Females and their calves use these areas for weeks after calving.

During Aujaq, Inuit traditionally went to post-calving areas to harvest a small number of calves and other caribou for hides, fat and meat. This harvest is governed by traditional customs well known to local Inuit in order to minimize disturbance to the caribou.

Calving and post-calving differences between Qikiqtaaluk Region and mainland caribou:
Arctic tundra caribou in Qikiqtaaluk usually calve later than on the mainland and over a longer period of time, making it difficult to distinguish between the calving and the early post-calving periods. A few calves are born on Baffin Island in early June and newborn calves of Peary caribou have been seen in late May, but calving of Baffin and Peary caribou mainly starts in mid-June and continues gradually over 3 weeks into early July. Female caribou that are giving birth are found near the edges of melting snow patches. Near melting snow patches, emerging flowers and other plants are abundant, moist and nutritious, meeting the needs of newborn calves and their mothers. Because of the great elevational changes in Qikiqtaaluk, the snow melt period continues over large areas into early July, and the caribou have adapted to utilize that variation. Days after calving, females descend with their calves to lower elevations. For 2-3 weeks, females are actively calving at higher elevations, in close vicinity of post-calving females and their calves that have moved to nearby valleys or coastal lowlands. Dense post-calving aggregations do not occur on Baffin Island and in the High Arctic, even during periods of high abundance. Because of their adaptions to their variable environment, the concept of "calving herds" is not applicable to Qikiqtaaluk, Peary and northern Melville Peninsula caribou. The calving and post-calving periods for these caribou begin about June 7 and continue until cows wean their calves usually about August 31. Therefore, this period, nursing females and calves require ready access to areas that provide high biomasses of easily digestible forage.

Special Note – No Direct Access to Telemetry Data: In August and October 2018, the QWB completed applications to the Government of Nunavut (GN) to directly use caribou telemetry data from 1987-1995 on Baffin Island and from 2003-2006 for Peary caribou, to combine that information with IQ to delineate calving and post-calving areas. The GN has not approved

QWB's applications. In 2016, the GN gave the QWB some maps of calving and post-calving/summering areas on Baffin Island based on telemetry data. However, the GN apparently have added about 10 km around telemetry locations. Although the GN's 2016 maps generally agree with Inuit Qaujimajatuqangit (IQ), the mapped areas are too large. As a result, the QWB has relied mainly on IQ to map calving and post-calving areas, as described below.

Special Note – Natsilik Caribou Calving and Post Calving Areas: Natsilik caribou are a type of caribou on southern Baffin Island that migrate long distances (i.e., 250 -450 km one-way) from their wintering areas (i.e., south or near Natsilik or Nettilling Lake) to their calving and post-calving areas, which are from north of Nettilling Lake to Dewar Lakes and on to Baird Peninsula, west to the coast of Foxe Basin, and the entire Great Plain of the Koukdjuak west of Natsilik and northeast of Amadjuak Lake. Natsilik caribou usually remain below 300 m or 1000 ft above sea level (asl) year-round. As a result, they migrate long distances in order to access the variety of seasonal habitats that they need. The QWB has chosen to include these calving and post-calving areas within the West Central Baffin Multiple Values Area (see WS 11).

Special Note – Hall Peninsula and McKeand River Plateau Caribou Calving and Post-calving Areas: Caribou on Hall Peninsula and on the plateau around the McKeand River give birth at high elevation, usually above 300 m asl, and then move into valley bottoms among the mountains or near large lakes on the plateau for the post-calving period. In the 1940s, Inuit used to hike inland to these areas in Aujaq to find caribou when they were scarce elsewhere. During calving and post-calving, cows and their calves are known to usually remain in certain valley systems or water basins; as a result, we have proposed designation of those water basins known through IQ. The GN's 2016 maps suggested larger areas that we have proposed. Aerial surveys by the GNWT in June 1979 and 1982 found calves within our proposed areas.

Special Note - Meta Incognita Peninsula (MIP) Caribou Calving and Post-calving Areas: Most caribou in the Kimmirut hunting area do not migration off the Peninsula to give birth. Cows migrate up onto the high plateaus to give birth, and then nurse their calves on the plateau during the summer (i.e., usually above 300 m asl). They also move onto lower areas usually within 1.6 km (1 mile) of the high land for feeding or to travel between high areas. The calving, post-calving and summering areas show on the GN's 2016 maps was too large. We included only areas that agreed with IQ and excluded land that is farther than 1.6 km from areas that are 300 m or higher.

Special Note - Foxe Peninsula (FP) Caribou Calving and Post-calving Areas: Foxe Peninsula is lower in elevation than the other peninsulas on southern Baffin Island; therefore, the migratory habits of caribou on the peninsula differ from those elsewhere. On Foxe Peninsula, caribou give birth mainly on the Kidlapait and Kimmik ranges, usually above 150 m asl (500 ft). After giving birth, many cows migrate north with their calves onto the lowlands along the northern shore of Foxe Peninsula, and some continue farther to the northeast onto the Great Plain of the Koukdjuak. Some cows and calves also remain on the higher land of Kidlapait and Kimmik

ranges or return there from the coast during the post-calving period. The lowlands of northern Foxe Peninsula and the Great Plain are extremely important to the health of the nursing cows and their growing calves because of the abundant summer food. Although caribou had not been plentiful on Foxe Peninsula since the early 1990s, there is evidence that they are now increasing on Foxe Peninsula, as expected according to Inuit Qaujimajatuqangit. However, because they are still not abundant, the cows and calves are very sensitive to disturbance during calving and post-calving, and they require strong land-use protection in coming years. To map this area on Foxe Peninsula, we depended largely on local historic and contemporary IQ. We consulted maps provided to the QWB by the Government of Nunavut (GN) in 2016. The areas on the GN maps appeared to large in some areas, so we depended mainly on IQ.

Special Note – Melville Peninsula Calving and Post-calving Areas: The known caribou harvesting, calving and post-calving, migration corridors and sea-ice crossing areas on Melville Peninsula are all interconnected (see also maps for WS-07, 09 and 10 for a complete picture).

Special Note – Impacts of Wind Turbines: Construction and operation of wind turbines for electrical power generation have been found to negatively impact reindeer, which are far more habituated to humans. Inuit expect such infrastructure near sea-ice crossings would have similar or greater negative impacts on tundra caribou in Qikiqtaaluk Region.

Note: Caribou calving and post-calving areas that are within National Parks are not included here.

Source of information: Mainly Inuit Qaujimajatuqangit, supplemented with limited use of information from the Government of the NWT, and maps provided by the GN in 2016.

Proposed Designation: Protected Area

Proposed Restrictions:

Prohibited Uses: The following uses are prohibited:

- Mineral Exploration and Production;
- Oil and Gas Exploration and Production;
- Obnoxious Land Use;
- Quarries;
- Hydro-electrical and related infrastructure;
- Wind turbines for electrical generation and related infrastructure;
- Linear Infrastructure; and
- Related research except Non-Exploitive Scientific Research

Conditions:

- Wind turbines for electrical generation must be at least 5 km from caribou calving and post-calving areas, and must be positioned so they are not visible from caribou calving and post-calving areas.
- Any project in Nunavut that would violate these conditions is prohibited.

Proposed Boundaries of the Community Areas of Interest - Caribou Calving and Post-Calving:

See the attached maps and the associated shp files.

References:

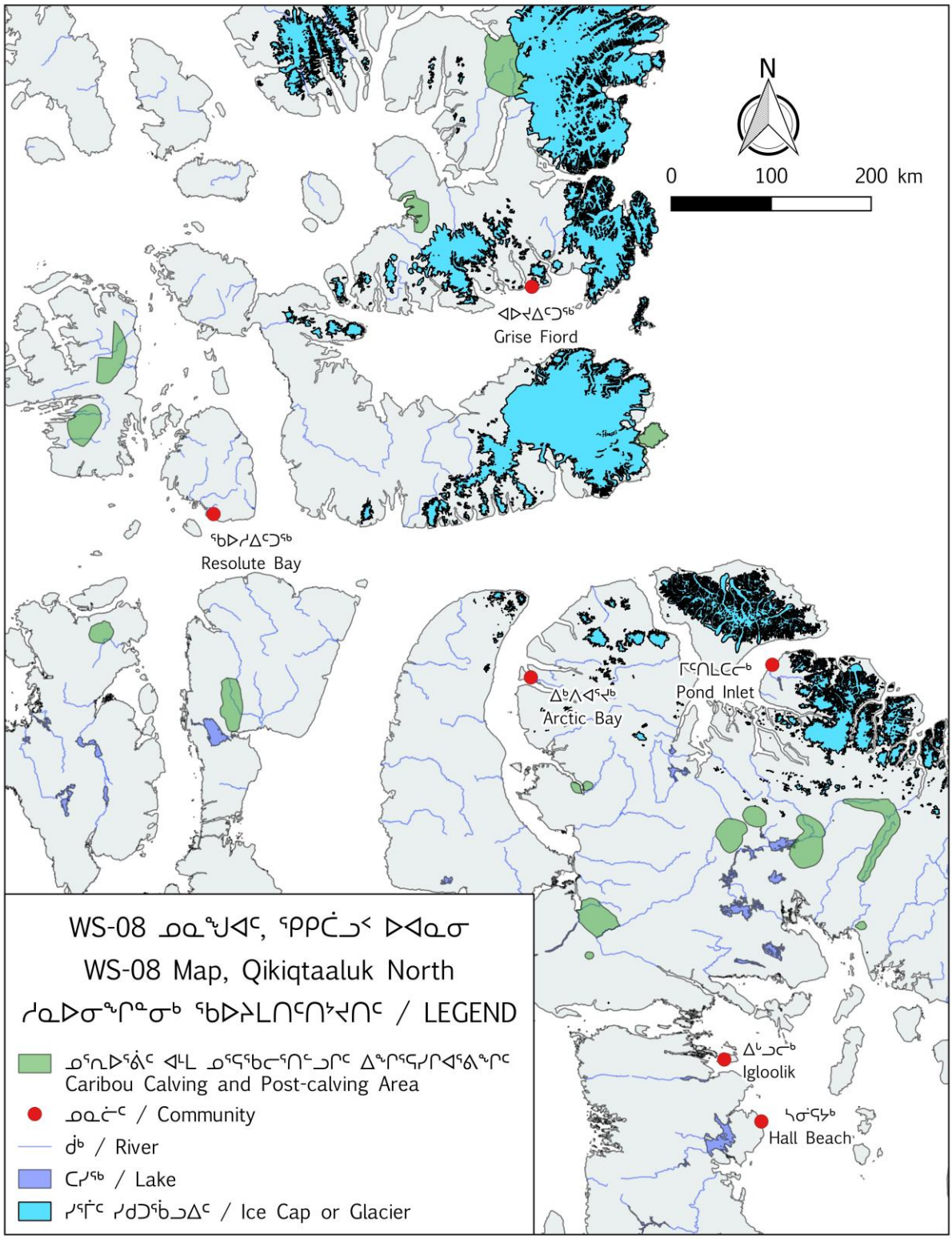
Ferguson, M.A.D., R.G. Williamson, and F. Messier. 1998. Inuit knowledge of long-term changes in a population of arctic tundra caribou. Arctic 51: 201-219.

Skarin A. and M. Alam. 2017. Reindeer habitat use in relation to two small wind farms, during preconstruction, construction, and operation. Ecol. Evol.7: 3870–3882.

Skarin, A., C. Nellemann, L. Rönnegård, P. Sandström and H. Lundqvist. 2015. Wind farm construction impacts reindeer migration and movement corridors. Landscape Ecol. 30: 1527–1540.

Skarin A, P. Sandström and M. Alam. 2018. Out of sight of wind turbines—Reindeer response to wind farms in operation. Ecol Evol. 8: 9906–9919.

Date of this draft: November 21, 2018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WS-08 Map, Qikiqtaaluk North
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Caribou Calving and Post-calving Area
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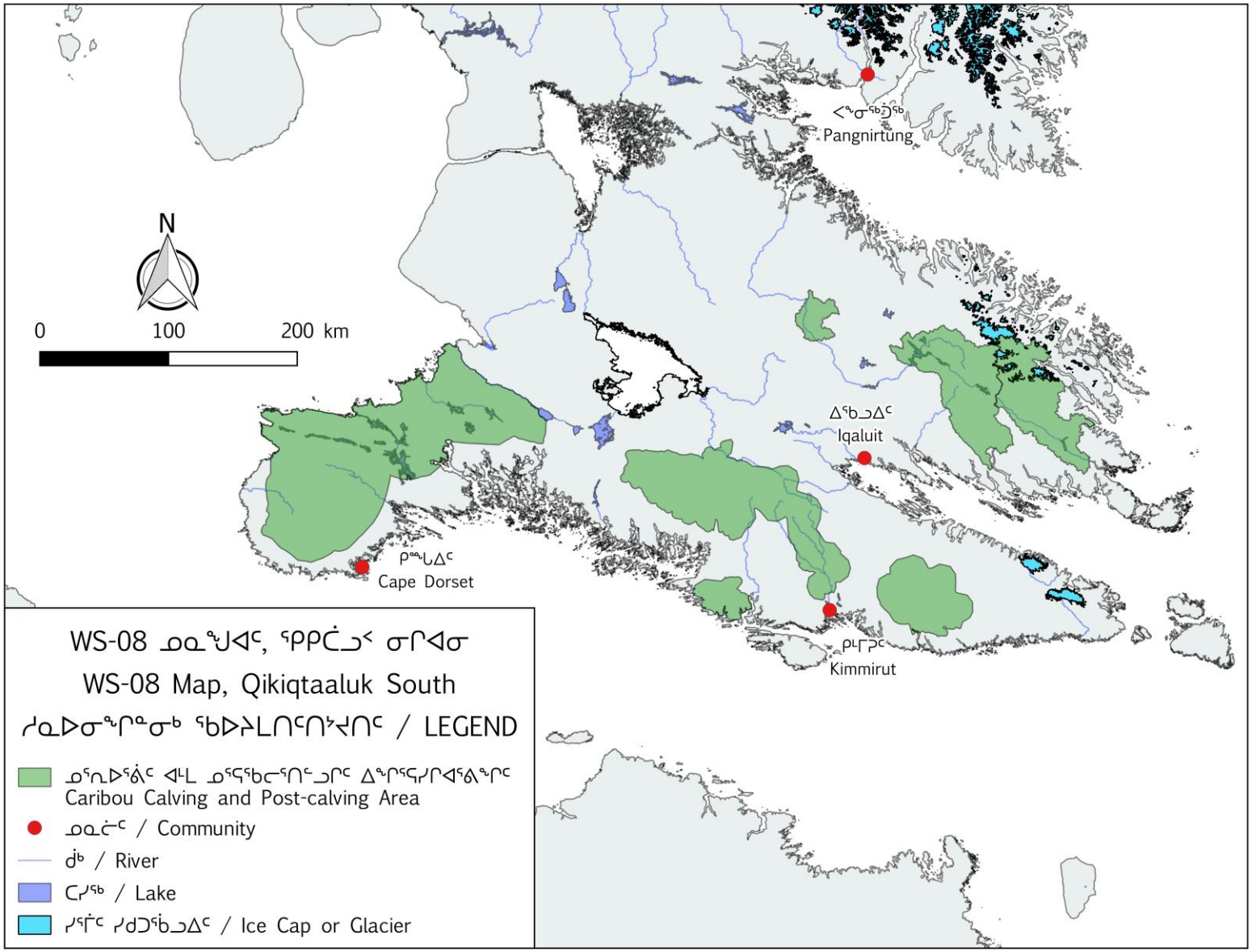
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WS-08 Map, Qikiqtaaluk South
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Caribou Calving and Post-calving Area
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