SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: **Decision: X**

Issue: Recommendation to modify the geographic distribution of the Baffin Island Caribou Total Allowable Harvest (250 male), and introduce inter-annual flexibility in TAH harvest management

Background:

- The GN conducted an island-wide aerial population assessment of Baffin Island caribou in March 2014, augmented by ground surveys in select areas.
- The results of the scientific survey and population assessment were consistent with *Inuit Qaujimajatuqangit* and what Inuit hunters and HTOs had been saying for many years – that caribou on Baffin Island were very scarce. The decline followed caribou population highs of the early – mid 1990's, as part of a natural, cyclical long-term fluctuation
- The results of the survey and population assessment of Baffin Island caribou were presented and accepted at the November 2014 Baffin Island Caribou Workshop in which two HTO delegates from each of 10 Baffin Island communities comprised workshop participants, along with other co-management partners in attendance: the Qikiqtaaluk Wildlife Board, Nunavut Tunngavik Inc. and the Nunavut Wildlife Management Board (ref. *Baffin Island Caribou Workshop Report, 2015*).
- The survey and resulting population assessment indicated the population of caribou on Baffin Island was 4,652 (95% CI 3,462 – 6,250) (March, 2014, Table 1).
- This prompted a decision of the Nunavut Wildlife Management Board to recommend the Minister take interim action to conserve caribou, prevent their further decline and promote their revitalization on Baffin Island.
- In December 2014, by Interim Order of the Minister, a moratorium on caribou harvest came into effect January 1, 2015, until further notice.

- In June 2015, the NWMB decided to replace the moratorium with a total allowable harvest of 250 male caribou. On August 21, 2015, the Minister of Environment accepted the NWMB's decision, and signed a Baffin Island Caribou Total Allowable Harvest Order.
- Along with accepting the NWMB's decision, the Minister provided guidance to the Qikiqtaaluk Wildlife Board (QWB) for their allocation of the TAH among Baffin Island communities. The Minister recommended giving consideration to allocating harvest proportionally to the existing geographic densities of caribou on Baffin Island. The advice from the Minister was given in order to prevent the possible extirpation of caribou in particular areas of scarcity, with guidance as follows:

> "The densities of caribou in North Baffin are extremely low, and any harvest there may create conservation concerns. In order to mitigate the risk of conservation concerns from harvesting in North Baffin, we are strongly suggesting to the QWB that they allocate the harvest so that most, if not all, harvesting takes place in Central and South Baffin." (Press Release, August 26, 2015)

- An allocation based on geographic densities of caribou would have been similar to the following:
    - North Baffin 17
    - South Baffin 147
    - Prince Charles Island 86

    TOTAL TAH 250

- The QWB did not incorporate the Minister's advice concerning existing densities of caribou in its decision to allocate harvest evenly amongst the eight Baffin Island communities (30 caribou/community), with an additional 10 caribou allocated to Igloolik. No allocation was provided to Hall Beach. The QWB allocation distribution was as follows:
    - North Baffin 70 (Pont Inlet, Arctic Bay, Igloolik)
    - South Baffin 180 (Clyde River, Qikiqtarjuaq, Pangnirtung, Iqaluit, Kimmirut, Cape Dorset)

    TOTAL TAH 250

Table 1. Estimates of caribou abundance by geographic survey area from the March 2014 Baffin Island survey.

GEOGRAPHIC SURVEY AREA	CARIBOU ESTIMATE	95% CI (ESTIMATE RANGE)
North Baffin	315	159 – 622
South Baffin	2,734	1,777 – 4,207
Prince Charles Island	1,603	1,158 – 2,220
TOTAL BAFFIN ISLAND	4,652	3,462 – 6,250

- The Department of Environment completed a composition survey to assess calf recruitment and sex ratio for Baffin Island caribou in fall 2015 and spring 2016. The Government of Nunavut and NWMB planned to review the TAH and other harvest management measures upon receipt of the results of these composition and spring recruitment studies.

Current Status

- Current Baffin Island caribou management is for a Total Allowable Harvest of 250 male caribou.
- Baffin Island Caribou harvest to date (April 1, 2016) is estimated as follows, based on caribou tags as well as non-TAH harvest:
    - North Baffin 37 (31 male, 6 female)
    - Northeast Baffin 61 (53 male, 8 female)
    - South Baffin 70 (63 male, 7 female)
    - Prince Charles Is. 0

    TOTAL HARVEST **168** (67% of 250 TAH harvested to April 1, 2016)
- Investigations are ongoing into illegal harvest of females.
- The current TAH distribution of harvest across Baffin Island is not aligned with caribou abundance and sustainable harvest opportunity. Rather, the current management regime is likely leading to over-harvesting in North Baffin and under-harvesting South Baffin.
- This current distribution of harvest across Baffin could pose a conservation concern and risk localized depletion of caribou in some areas of Baffin Island, and in extreme cases, possible extirpation.
- In order to address the potential for overharvest in some areas as well as the illegal harvest of females, the GN is recommending two changes to the current harvest management regime for Baffin Island caribou.

Addressing the likely regional overharvest of Baffin Island Caribou

- The GN recommends that the TAH of 250 male caribou be allocated regionally on Baffin Island according to densities of caribou, and that harvest be managed by geographic areas (Appendix 1).
- The following geographic distribution of male caribou TAH is recommended for 2016/17 - within which the QWB could further allocate harvest among communities:
    - North Baffin 17
    - Northeast Baffin 24
    - South Baffin 123
    - Prince Charles Island 86

    TOTAL TAH 250
- Under this proposed harvest management, Baffin communities would be organized as follows:

North Baffin	Arctic Bay, Pond Inlet, Igloolik, Hall Beach
Northeast Baffin	Clyde River, Qikiqtarjuaq
South Baffin	Kimmirut, Cape Dorset, Iqaluit, Pangnirtung

- The GN recommends that harvest be managed and reported by these geographic areas or harvest management regions in order to ensure the sustainable harvest and island wide distribution of caribou.

- Under this regime, the QWB could still decide to allocate tags equitably among communities or in any other way it deems appropriate. In that case however, some of that harvest allocation may need to come from harvest management areas away from the community. This could be accomplished through arrangements among communities. In these instances, HTOs could work together to organize community hunts and applicable distribution of caribou meat in accordance with their allocation to communities. The Department of Environment could be contacted for potential assistance in this regard.

Addressing the illegal harvest of female caribou on Baffin Island

In response to concerns regarding restrictions on the harvest of females from hunters and enforcement concerns from Conservation Officers, the GN proposes several harvest management options:

Option 1: Status Quo

- Under current management, the total allowable harvest is maximized for hunters with the male only non-quota limitation (250 male caribou).

Option 2: Sex-selective Harvest

- A sex selective harvest option (2 or 3 males:1 female (Table 2)) may be explored as an option with co-management partners. However, this will result in a significantly reduced overall total allowable harvest across Baffin Island.

Table 2. Baffin Island Caribou Sex Selective Harvest Option Equivalency to TAH 250 male caribou

Area	Male only	Female only	Sex Selective (3 M: 1 F)			Sex Selective (2 M: 1 F)		
	M	**F**	**M**	**F**	**Total**	**M**	**F**	**Total**
North	17	6	9	3	12	7	3	10
Northeast	24	8	12	4	16	10	5	15
South	123	41	62	21	83	49	25	74
PCI*	86	29	43	14	57	34	17	51
Total	**250**	**84**	126	42	**168**	100	50	**150**

*Prince Charles Island

Option 3: Inter-annual Flexibility

- A third option is to allow some inter-annual flexibility in the way female harvest is accounted for within the TAH, by reducing the following year TAH allocation to that community by an equivalent amount in males.
- For caribou conservation and management, the GN recommends a biological equivalency in overall population productivity of three males for every female.
- For example, if a community illegally harvests 5 females in Year 1 (accidental or otherwise), a demerit of 15 male equivalency would be applied to reduce that community's allocation in Year 2. The QWB would be advised of any applicable community demerit tags during its annual allocation of TAH.
- This option could result in a smaller decrease in TAH than a sex selective harvest strategy.

Consultations

- Major consultations on Baffin Island caribou conservation and management includes the following:
    1) Baffin Island Caribou Co-Management Workshop, July 2013
    2) Baffin Island Caribou Co-Management Workshop, November 2014
    3) NWMB Baffin Island Caribou Public Hearing, March 2015
    4) HTO Consultations on the Baffin Island Caribou Management Plan, March – April 2015

Recommendations

1. The GN proposes to affirm that Baffin Island caribou conservation and management goals as:
    i. Conserve caribou in the densities and distribution that currently exist (March 2014 survey and population assessment) in order to optimize future sustainable harvest for communities
    ii. Apply conservation and management strategies to ensure the recovery and revitalization of the caribou population on Baffin Island.

2. The following geographic allocation of the TAH is recommended for 2016/17 - within which the QWB would further allocate harvest among communities:

o North Baffin	17	
o Northeast Baffin	24	
o South Baffin	123	
o Prince Charles Island	86	
TOTAL TAH	**250**	**male caribou**

3. Introduce modified and flexible inter-annual TAH harvest management, with case-by-case illegal or accidental female harvest adjustments on a 3 males: 1 female basis. Demerits would be applied to a particular community's allocation the year following the female caribou harvest. Notification would be given to QWB of applicable TAH demerits to be incorporated during its allocation process.

4. Alternatively, a 3 male:1 female sex selective harvest management option could be selected (based on a 250 male caribou TAH). This would result in a reduced 2016/17 TAH of 168 caribou for Baffin Island (126 males and 42 females), with

TAH availability to be distributed geographically as follows and within which the QWB may allocate further to communities:

	Males	Females	Total
o North Baffin	9	3	12
o Northeast Baffin	12	4	16
o South Baffin	62	21	83
o Prince Charles Island	43	14	57
TOTAL TAH	**126**	**42**	**168**

Appendix 1. Proposed geographic areas for harvest management of Baffin Island caribou based on caribou distribution.