



**GOVERNMENT OF NUNAVUT
DEPARTMENT OF ENVIRONMENT**

**SUPPLEMENTARY SUBMISSION
TO THE NUNAVUT WILDLIFE MANAGEMENT BOARD**

FOR: INFORMATION: DECISION: X

ISSUE: The establishment of the Total Allowable Harvest (TAH) for Southampton Island Caribou

INTRODUCTION AND OVERVIEW:

The Government of Nunavut Department of Environment (DoE) respectfully provides this supplement to its previous written submission titled: *Request a decision to lower the current Southampton Island Caribou TAH of 1,000 caribou to 800 caribou for the 2013/14 harvesting season.*

This supplementary submission is organized in two parts.

Part 1 will provide:

1. Summary of the Current Status of Southampton Island caribou population;
2. Management Considerations; and
3. A recommendation for a Total Allowable Harvest (TAH) for Southampton caribou.

Part 2 will provide:

1. An outline of the issues to be considered by the Board;
2. A chronology of events;
3. DoE's submission on the proposed approach regarding:
 - a) The relevant factors to be considered by the Board in setting the regional total allowable harvest (TAH) for the Southampton Island caribou population.
 - b) The relevant factors to be considered by the Board in striking basic needs levels (BNL) for the Southampton Island caribou population.
 - c) The appropriate harvest numbers to be used in the calculation of the regional BNL for the Southampton Island caribou population; and
4. Proposal for NWMB decisions.

EXECUTIVE SUMMARY

The Southampton Island caribou population has suffered a serious decline since 1997 and recent survey results indicate that the population is not yet recovering, despite interim management decisions which have significantly reduced harvesting. The Nunavut Wildlife Management Board (NWMB) is the main instrument for wildlife management in the Nunavut Settlement Area and has sole decision making responsibilities in relation to the establishment of a TAH and the imposition of Non-Quota Limitations (NQL) on Inuit harvesting.

Such restrictions can only be imposed on Inuit when there are conservation concerns in relation to a population of wildlife.

In this case, DoE submits that there is clear, uncontroverted evidence of a serious conservation problem with respect to the Southampton Island caribou population. DoE has worked closely with the Aiviit Hunters and Trappers Organization (HTO) to survey the caribou population and assist them to develop proposed solutions. This led to the April 2012 request to the NWMB to establish a TAH and impose NQLs on harvesting in relation to Southampton caribou. This submission is in support of that Aiviit HTO management proposal.

In DoE's submission, the most important of the decisions required of the NWMB is the establishment of the TAH. This decision is not related to questions of allocation and is driven entirely by considerations of conservation. We urge the Board to make an early decision approving the Aiviit HTO proposal to reduce the TAH to 800 caribou for the 2014-15 harvesting year and beyond, until the caribou population recovers.

The Nunavut Land Claims Agreement (NLCA) requires that where a TAH has been determined that a basic needs level (BNL) be struck in accordance with Article 5 of the NLCA. DoE has addressed Southampton BNL in part 2 of this submission and respectfully submits that the circumstances related to the history of commercial caribou harvesting on Southampton Island are unique and that the evidence summarized in this submission indicates that commercial harvesting should not be included in BNL calculations in this case. DoE suggests that each BNL calculation must be addressed in its specific factual context. We also respectfully suggest that the NWMB should avoid making broad rulings on the approach to BNL calculation which could fetter its discretion in the future. DoE and the Government of Nunavut are of the view that each such instance should be determined on its own facts and on its own merits.

PART 1: THE EVIDENCE AND MANAGEMENT CONSIDERATIONS

1. Summary of Current Status of Southampton Caribou

- Southampton Island caribou have declined approx. 80% between 1997 & 2013 largely due to an observed reduction in pregnancy rates from 80% in 2000, to 40% in 2011;
- The June 2013 survey estimated 7,287 +/- 1,045 (95% CI) adult caribou (preliminary estimate subject to change), 616 caribou less than the June 2011 estimate of 7,903 +/- 1,261 (95% CI). These results suggest that since the 2011 survey, the caribou harvest has been above sustainable limits (Figure 1);
- Extremely low pregnancy rates, (below 50% of adult cows) are equally concerning and likely related to the effects of the reproductive disease *Brucella suis* (Brucellosis);
- As well, there is indication of over-harvest of breeding females for inter-settlement trade as a result of the increased sale of Southampton Island caribou meat across Baffin Island communities. This may be attributable to increased access to the internet and to sales of caribou resulting from use of social media. There is also evidence of customers offering higher payment for fat caribou, which during the winter and spring seasons, are predominantly pregnant females.

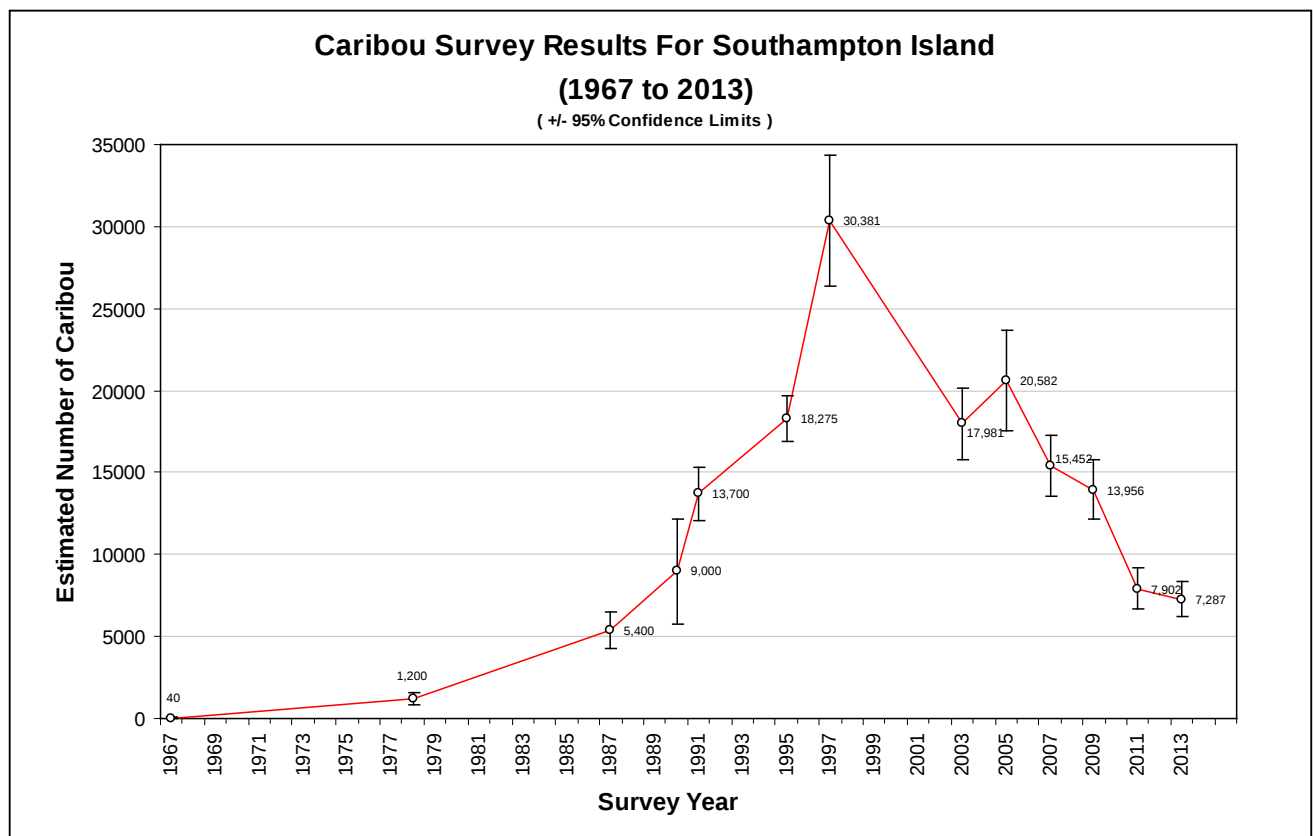


Figure 1 Survey history of the Southampton Island Caribou Herd from introduction in 1968 to the most recent survey in May 2013.

2. Management Considerations

- The Aiviit Hunter and Trapper Organization (Aiviit HTO) and Department of Environment, Government of Nunavut (DoE) conducted joint aerial population surveys to estimate the caribou numbers on Southampton Island in June 2011, 2012 & May 2013. Of the three recent surveys, the June 2011 and May 2013 were completed;
- The results indicate that the herd has continued to decline despite the current TAH of 1000 caribou;
- Given an estimated sustainable harvesting rate of 11% (considered high for barren-ground caribou), a harvest of 800 caribou / year should maintain current population levels.
- Exceeding 800 caribou / year will put the herd at high risk of continued decline;
- The Aiviit HTO and DoE are in complete agreement with the recommended reduction of the TAH from 1000 to 800 caribou for the 2014/15 harvesting season;
- As a result, DoE requests that the NWMB approve the recommendation to reduce the Southampton Island Caribou TAH from 1000 caribou to 800. We also request the continuation of the current non-quota limitations on caribou harvests across the Island, namely: prohibit harvesting of any and all mature bulls on the island and prohibit harvesting of any and all cow/calf pairs (the “two NQLs”);
- We further request that any TAH established as part of this process remain in place until such time as new information becomes available.

PART 2

1. Issues to be considered by the Board

DoE respectfully submits that the following considerations should be addressed by the Board in making its decision regarding whether or not to lower the current Southampton Island Caribou TAH of 1,000 caribou to 800 caribou.

1. The relevant factors to be considered by the Board in setting the regional total allowable harvest (TAH) for the Southampton Island caribou population.
2. The relevant factors to be considered by the Board in striking basic needs levels (BNL) for the Southampton Island caribou population
3. The appropriate harvest numbers to be used in the calculation of the regional BNL for the Southampton Island caribou population.

2. Chronology of events

In June 2011, DoE and the Aiviit HTO completed the joint aerial population survey of Southampton Island.

In the fall of 2011, DoE and Aiviit HTO conducted community meetings and consultations to discuss concerns over the caribou population decline from 30,381 to 7,762 between 1997 and 2011. DoE also presented information regarding factors that have contributed to the decline in health and productivity of the population.

On March 12, 2012, the Aiviit HTO requested that the Minister of Environment, Government of Nunavut (Minister) take immediate actions to manage the harvest of the population of Southampton Island Caribou.

Specifically, the Aiviit HTO requested that the Minister take the following management actions:

- Establish a Total Allowable Harvest (TAH) of 600 until June 2012 and a TAH of 1000 until June 31, 2013.
- Ban all forms of commercial harvesting and remove all tag and tag allocations related to any and all commercial harvest of Caribou on Southampton Island including White Island.
- Establish two non-quota limitations: restricting the harvesting of any and all mature bulls on the island and restrict the harvesting of any and all cow/calf pairs (the “two NQLs”).

In April 2012, at the request of the Aiviit HTO, DoE recommended that the NWMB set the TAH for Southampton Island population at 1000 caribou for the 2012-2013 harvesting season and impose the two NQLs.

The following is a summary of the reasons provided by DoE in support of its recommendation:

- The Southampton Island Caribou population has declined from 30,381 to 7,762 caribou between 1997 and 2011, representing a drop of approximately 75%.

- Examination of the Southampton Island Caribou also indicated the herd's general health to be extremely poor, with pregnancy rates falling from 80% in 2000 to below 40% in 2011.
- The Brucella prevalence in excess of 50% has indicated a resurgence of the disease in the population.
- Harvesting level from July 2011 to January 2012 was more than 1,600 caribou. Up to 779 caribou were harvested for export to other Nunavut communities as of January 10th, 2012. This increase in caribou harvesting is likely a result of a developing export market using social networking site like "Facebook" and "sell & swap" to sell Southampton Island caribou to other Baffin Island communities.

In response, the NWMB indicated that it could not complete a full review to render a decision by the requested date of July 1, 2012. As a result, the Board recommended the Minister make an interim decision to set the TAH at 1000 and impose the two NQLs for harvesters of the Southampton Island Caribou Population, until such time as the Board has conducted a full review of the interim decision (Interim Order).

The Interim Order came into effect on July 1, 2012 until June 30, 2013. On May 15, 2013, the NWMB agreed with DoE's request to extend the Interim Order until June 30, 2014.

In late May 2013, DoE and the Aiviit HTO finalized the joint aerial population survey of caribou on Southampton Island. The results suggest that since the 2011 survey, the population has continued to decline based on the current harvest level of 1000 caribou or approx. 11% of the total population. As a result, the Aiviit HTO and DoE jointly recommended a harvest reduction from 1000 to 800 caribou over the 2013-2014 harvesting season.

In August 2013, DoE requested NWMB to support the decision to reduce the Southampton Island caribou TAH from 1000 to 800 as well as to maintain the current two NQLs across the Island.

The NWMB scheduled a public hearing for December 10th and 11th, 2013 to address the proposed decrease of the TAH for Southampton Island caribou from 1000 to 800.

In October 23, 2013, the NWMB convened its pre-hearing consultation with the community members of Aiviit.

During the course of the public hearing in December of 2013, the NWMB adjourned the hearing in order to allow DoE to provide its position on the calculation of the BNL for this island caribou population.

3. DoE submits the following suggested approach:

1. Factors to consider in setting the TAH for the Southampton Island caribou herd

a) Conservation

The NLCA established that the wildlife management system and the exercise of Inuit harvesting rights are governed by and subject to the principles of conservations which are set out in section 5.1.5 of the NLCA.

The principles and objectives framing the Inuit rights to wildlife and wildlife management set out in Article 5 underscore the need for conservation of the resource, not only to sustain wildlife and the ecosystem, but to ensure that Inuit have the opportunities to harvest, now and in the future.¹ The NWMB's decision regarding a harvest level for the Southampton Island caribou should be based on the best scientific and Inuit Qaujimajatuqangit (IQ) information available at the relevant time.

The matter before the NWMB for a decision is specific to the circumstances set out above. Specifically, the results of the 2011- 2013 Southampton Island caribou population surveys have shown a steep and alarming decline in caribou numbers.

At the same time, factors such as the resurgence of the Brucellosis disease have contributed to the decline in health and productivity of the population. This is in combination with the recent increase of caribou being harvested for sell to other Baffin Island communities as a result of a developing inter-settlement trade market using communication technology such as social networking site like "Facebook" and "sell & swap".

Together these factors have resulted in serious and ongoing concerns about the sustainability of the herd. These concerns are shared by the Aiviit HTO, which organization has requested that the Minister take immediate management initiatives to conserve the population. The Minister is in full agreement with the HTO and supports their request.

We submit that in the circumstances there is clear and uncontroverted evidence of a serious conservation problem and that the NWMB can and must act to address it. The NLCA sets out the principles of conservation and DoE submits that in order to sustain the Southampton caribou population that the Board must act. In our view, the need for such action is urgent.

b) Allocations of harvest quota are not required in setting the TAH

Setting the TAH for the Southampton Island caribou does not require the Board to make a determination on questions relating to allocation of harvest quota, including the allocation of the basic needs level. Only after the TAH is set does the question of allocation arise. At that point, the BNL constitutes a first demand on the allowable harvest.

Section 5.6.1 of the NLCA provide that "where a total allowable harvest for a stock or population of wildlife has not been established by the NWMB ... an Inuk shall have the right to harvest that stock or population in the NSA up to the full level of his or her economic, social and cultural needs, subject to the terms of this Article."

¹ Articles 5.1.2 and 5.1.3.

For further clarity, section 5.6.2 provides that the “full level needs means full level of harvest.”

The current TAH of 1000 caribou and the two NQLs for the Southampton Island caribou population were set for the first time by the Minister on July 1, 2012. No BNLs were set at that time nor was one necessary, as the Aiviit Inuit were allocated with the total allowable harvest of 1000 caribou or the full level of their economic, social and cultural needs.

As indicated, the Board is not required to consider questions of harvest quota allocation – including allocation of basic needs level – when setting the harvest level for Southampton Island caribou. We urge the NWMB to make its TAH decision as soon as possible. Concerns related to the appropriate BNL can be addressed subsequently.

2. Factors to consider in setting the BNL for the Southampton Island caribou herd

Based on the formula set out in the NLCA, the actual calculation of a BNL is an arithmetic exercise. It must be based on the data available either from the Nunavut Wildlife Harvest Study (the Study) or more recent harvest information. Calculation of BNL must be, in our submission, entirely evidence driven.

In the case of Aiviit, there has been no previous TAH for caribou and the Aiviit HTO did not nominate a year² to apply to the calculation of TAH at the conclusion of the Study.

Consequently, the Aiviit BNL should be calculated based on section 5.6.23 of the NLCA:

5.6.23 Where a total allowable harvest is established with respect to a stock or population not previously subject to a total allowable harvest, the NWMB shall calculate the basic needs level as the higher of:

- (d) an amount based on data from the original five year harvest Study, calculated according to the method described in Sub-section 5.6.21(a), or, where an HTO has previously elected the method described in Sub-section 5.6.21(b), the harvest level of the stock or population in the identified year; or
- (b) the aggregate of the greatest amount harvested in any one year during the five years prior to imposition of a total allowable harvest and the average annual amount taken over the five years of the Study, which aggregate is then divided by two.

The question is: which animals harvested by Inuit should be included in the “amounts” and “aggregates” referred to in section 5.6.23? In other words, what is the scope of harvesting which should be included in the Aiviit BNL?

a) *Traditional and Current Uses of Wildlife*

The principles and objectives set out in Article 5 of the NLCA stipulate that Inuit harvesting rights flow from their traditional and current uses of wildlife. In addition, Inuit harvesting rights under sections 5.6.1 and 5.6.2 are subject to the terms of Article 5, among the most important of which are the principles of conservation, set out in section 5.1.5.

² 5.6.22 of the NLCA

More specifically, section 5.1.2 of the NLCA recognizes that “the legal rights of Inuit to harvest wildlife flow from their traditional and current use”.³ In the DoE’s view these uses should, as a starting point, be considered in the context of the regulatory regime and evidentiary basis of commercial harvesting at the time that the NLCA became law.

The objectives of Article 5, set out in section 5.1.3 of the NLCA call for the establishment of a system of rights, priorities and privileges for Inuit that will operate in a wildlife management system that “reflects the traditional and current levels, patterns and character of Inuit harvesting,”⁴ and “is subject to availability, as determined by the application of the principles of conservation, and taking into account the likely and actual increase in the population of Inuit, confers on Inuit rights to harvest wildlife sufficient to meet their basic needs, as adjusted as circumstances warrant”.⁵

Section 5.6.17 of the NLCA and the provisions addressing BNL clearly indicate that both TAH and BNL are to be established at the community or, if necessary, regional level. The harvest information available to the Board and the role granted to HTOs under Article 5 Part 7 of the NLCA also mitigate in favour of a local or community based approach to wildlife management.

In DoE’s submission, any NWMB decision about a Southampton Island caribou TAH and BNL is unique and must be based on the facts, evidence and needs of the Inuit and HTOs involved in this particular harvest.

b) Nunavut Wildlife Harvest Study

A review of the Study is of limited assistance in determining the scope of Southampton Island BNL in relation to other commercial harvesting because it includes only brief mention of Inuit commercial harvesting on Southampton Island during the study years.

Commercial caribou harvest estimates from 1993 until 2001 (the end of the Study) were made by DoE and are not reported and included in the Study.

At the time the NLCA became law, in 1993, commercial harvesting of caribou on Southampton Island was very limited. A history of the Southampton Island caribou harvest number from 1978-2007 is provided in the attached **Appendix B**. The harvest numbers indicate that between 1978 and 1992 there was no commercial caribou harvesting on Southampton Island.

Thus, it is difficult to support an argument that harvests of Southampton Island caribou for commercial sale outside of the Nunavut Settlement Area should be included in the Aiviit BNL because there is no evidence that such harvesting formed part of either the traditional or current use of caribou by Aiviit Inuit in 1993.

c) Commercial harvest of caribou on Southampton Island

From its inception, the commercial harvest of caribou on Southampton Island always operated as a fully regulated commercial operation and was closely managed by government. All of the commercial activities included in these operations were the responsibility of a company operating under a licence issued by government. More specifically, all sales of caribou were

³ 5.1.2(b) of the NLCA

⁴ 5.1.3(a)(i) of the NLCA

⁵ 5.1.3(a)(ii) of the NLCA

conducted by companies licensed by the government. Inuit involved in these operations were employed as hunters. Aside from the hunting they had no involvement in this commercial operation.

This activity was not a traditional or current use of caribou by Inuit before 1993. The commercial caribou harvest on Southampton Island was sponsored by government and its costs were underwritten by government in years when no profit was made.

It is the DoE's submission, on these unique facts, that this is not the kind of harvesting which is intended to be included in a "basic needs" harvest under the NLCA. To be clear, this DoE submission is specific to these facts and driven by the evidence available in relation to the nature of the commercial caribou harvests on Southampton Island.

As a result, we suggest that there is little or no evidence from which the Board could draw the conclusion that traditional Inuit harvesting of Southampton caribou for food, social, cultural or local trade purposes included exporting caribou outside of Nunavut for commercial purposes.

We submit that the export market of caribou to Baffin Island communities is a recent development assisted by the availability of communication technology. This has resulted in increased usage of communication technology by hunters to sell caribou to Baffin Island communities. We see this as a component of the harvest which should be included in a BNL calculation because it is directed at inter-settlement trade.

d) Adjusted Basic Needs Level does not include commercial harvests

Although the NLCA does not specify what components of Inuit harvesting are included in BNL, the components of the ABNL are set out with precision in section 5.6.26.

5.6.26 The NWMB shall periodically review the basic needs level for each stock or population and determine whether an additional allocation is required to meet any or all of:

- (a) increased consumption or use by Inuit;
- (b) inter-settlement trade; and
- © marketing for consumption or use in the Nunavut Settlement Area.

We note that an ABNL is intended to allow for increases of harvesting in order to satisfy changing Inuit needs. However, an ABNL does not include commercial harvests.

e) Allocation of the surplus

Once Inuit BNL or ABNL is satisfied, if there is still quota to be allocated, this "surplus" can be made available to other harvesters in a sequence set out in section 5.6.31 and determined by sections 5.6.32 through 5.6.40 of the NLCA.

5.6.31 The NWMB shall determine the allocation of the surplus in the following order and priority:

- (a) to provide for personal consumption by other residents as described in Sections 5.6.32 to 5.6.37;
- (b) to provide for the continuation of existing sports and other commercial operations as described in Section 5.6.38;
- © to provide for economic ventures sponsored by HTOs and RWOs as described in Section 5.6.39; and
- (d) to provide for other uses as described in Section 5.6.40.

We note that 5.6.39 provides for economic ventures, sports and other commercial operations by HTOs and Regional Wildlife Organizations (RWOs). We further note that section 5.6.40 also provides for commercial ventures based on a limited entry system in which Inuit are eligible to participate.

In this case, we defer consideration of the allocation of any TAH surplus until the NWMB identifies the surplus and specifies how it will be allocated.

3. Calculation of the regional basic needs level for the Southampton Island caribou

a. Commercial harvest program was discontinued in 2007

NTI's submission to the NWMB dated November 18, 2013 (NTI's Submission) provides a proposed method of calculating the BNL that pools Inuit personal use harvest with the Government of Nunavut-supported commercial harvest program.

We note that the commercial harvest program supported and regulated by the GN existed as a mechanism to manage the number of caribou on the Island because there were no predators. To qualify for the program, the commercial operation or company must obtain a commercial wildlife licence from DoE and apply for tags directly from the Aiviit HTO. The company also made all arrangements to prepare for the sale of caribou outside the Nunavut Settlement Area. Inuit hunters were hired as employees or contractors by the company.

This program was discontinued in 2007. As provided in the attached **Appendix C**, commercial harvest of Southampton Island caribou population in 2009 and 2011 was marketed for sale only within the Nunavut Settlement Area.

We submit that this program showed the limited entry system for commercial ventures to harvest Southampton Island caribou for sale outside the Nunavut Settlement Area.

Therefore, we respectfully disagree with NTI's proposed method of BNL calculation which does not distinguish between the commercial harvest in 2007 that was marketed for sale outside the Nunavut Settlement Area pursuant to a limited entry system and the harvest that was marketed for sale as inter-settlement trade in the subsequent years.

b. DoE's proposed calculation of BNL for the Southampton Island caribou

The Government of Nunavut recognizes the Board's jurisdiction for striking a basic needs level in accordance with the NLCA and provides the following BNL calculation for illustrative purposes only.

According to the NLCA, the BNL must be based on the higher of the calculations set out in NLCA 5.6.23(a) or (b). Only animals harvested during the Nunavut Harvest Study period (1997 through 2001) are considered in the s.5.6.23 (a) BNL calculation. In the 5.6.23(b) calculation data from the five years before the imposition of the interim TAH, and data from the Harvest Study are used.

DoE's BNL calculation on the basis of section 5.6.23 is provided in the attached **Appendix A**.

BNL calculation under 5.6.23 (a):

- The calculation pursuant to subsection 5.6.23 (a) of the NLCA resulted in a BNL of 1705/ year.
- DoE's position is that the calculation should be based on the harvest number recorded in the Harvest Study. The commercial harvest statistics recorded in Table 1, Appendix A were not reported in the Harvest Study; these were provided by DoE.
- As indicated, commercial harvesting for sale of Southampton Island caribou outside of the Nunavut Settlement area was conducted by commercial operations licensed by government. Specifically, the commercial caribou harvest on Southampton Island was sponsored by a government program and its costs were underwritten by government in years when no profit was made. This program was discontinued in 2007.

BNL calculation under 5.6.23 (b):

- The calculation pursuant to subsection 5.6.23 a) using the five year period before the imposition of the interim TAH resulted in the BNL of 1,906 / year.
- According to Table 2, Appendix A, the combined subsistence and commercial harvest statistics for the Southampton Island caribou herd recorded during five year period of 2007-2011 is highest in 2009. In that year, 2,343 animals were harvested.
- While the government sponsored program for commercial harvesting of caribou for sale outside the Nunavut Settlement Area ended in 2007, evidence shows that Southampton Island caribou were harvested for sale within the Nunavut settlement in 2009 and 2011. As a result, DoE's position is that 2009 is the appropriate year to use for the calculation under this section.

DoE submits that the total of 1,906 caribou constitutes the higher of the BNL calculation for the Southampton Island caribou pursuant to section 5.6.23 of the NLCA.

4. Proposal for NWMB decisions

Given the above, we request that the Board make the following resolutions:

- That the TAH for the Southampton Island caribou be set at 800;
- That the TAH remain in place until such time as new information becomes available.
- That according to Section 5.6.23 of the NLCA, the BNL for the Southampton Island caribou is calculated as set out above;
- That according to Section 5.6.20 of the NLCA, where the TAH is equal to or less than the BNL, Aiviit Inuit shall have the right to the entire TAH of the Southampton Island caribou, being 800 for the 2014-2015 harvesting season and on-going;
- That according to section 5.6.48, non-quota limitations shall be established to conserve the Southampton Island caribou herd by prohibiting harvest of any and all mature bulls and any and all cow/calf pairs across the Baffin Island.

APPENDIX A: BNL Calculations for Southampton Island caribou population as per Section 5.6.23 of the NLCA (For illustrative purposes only)

1) 5.6.23 (a)

- **BNL = 1705** as per NLCA 5.6.21 (a)
- “Greatest amount harvested in any one year during the Study” = 1940
- “Average annual amount harvested over the five years of the Study” = 1470
- $(1940 + 1470)/2 = 1705$
- As per NLCA 5.6.21 (b), Coral Harbour HTO did not nominate a specific year of the NWMB Harvest Study to be used in the calculation of the BNL (at least to our knowledge).

Table 1- Combined subsistence and commercial harvest statistics for the Southampton Island caribou herd for the community of Coral Harbour recorded during the five year (1997-2001) Nunavut Wildlife Harvest Study. Commercial harvest records for the same period were compiled by Department of Environment, Government of Nunavut and provided in Table 1 of the Southampton Island Barren- ground Caribou Population Management Plan 2011-2013.

NWMB Harvest Study Year	Community	Species	Subsistence harvest (NWMB)	Commercial harvest (DoE)	Total harvest
1996	Coral Harbour	Caribou	1376	1839	3215
1997	Coral Harbour	Caribou	1213	3365	4578
1998	Coral Harbour	Caribou	1940	2956	4896
1999	Coral Harbour	Caribou	1693	1094	2787
2000	Coral Harbour	Caribou	1128	2166	3294
		5 Yr Average	1470		3754
		Greatest 1	1940		4896

2) 5.6.23 (b)

- **BNL = 1906** as per NLCA 5.6.23 (b)
- “Greatest amount harvested in any one year during the five years prior to imposition of a total allowable harvest” is = 2343
- “Average annual amount taken over the five years of the Study” = 1470
- $(2343 + 1470)/2 = 1906$

¹ Table 1 of the Southampton Island Barren-ground Caribou Population Management Plan 2011-2013

² Table 1 Coral-Harbour-Harvest-Information-2007-2011-Caribou_Final_Eng.pdf provided as an NWMB relevant document on the NWMB website

Table 2- Combined subsistence and commercial harvest statistics for the Southampton Island caribou herd for the community of Coral Harbour recorded during five year period of 2007-2011 based on best available evidence available from Department of Environment, Government of Nunavut. The 2007 commercial harvest was marketed outside the Nunavut Settlement Area. The commercial harvest in 2009 and 2011 was marketed within Nunavut.

NWMB Harvest Study Year	Community	Species	Subsistence harvest (DoE)	Commercial harvest (DoE)	Total harvest
2007	Coral Harbour	Caribou	2000 ¹	2575 ¹	4575
2008	Coral Harbour	Caribou	1500 ²	0 ²	1500
2009	Coral Harbour	Caribou	1500 ²	843 ²	2343
2010	Coral Harbour	Caribou	1500 ²	0 ²	2000
2011	Coral Harbour	Caribou	1128 ³	1180 ³	2308
		Greatest 1 year			4575 2343

3) 5.6.23 ... take the higher value of 5.6.23 (a) and 5.6.23 (b) = 1906/year.

³ Table 2 of the Southampton Island Barren-ground Caribou Population Management Plan 2011-2013

Appendix B

YEAR	Actual Harvest								Total Harvest (Estimated)	
	Subsistence (Values Estimated)				Commercial					
	Female (#)	Male (#)	Unknown (estimated)	Total (estimated)	Female (#)	Male (#)	Unknown	Total (#)		
1978	0	25	0	25	0	0	0	0	25	
1979	0	50	0	50	0	0	0	0	50	
1980	0	50	0	50	0	0	0	0	50	
1981	0	50	0	50	0	0	0	0	50	
1982	0	50	0	50	0	0	0	0	50	
1983	20	50	0	50	0	0	0	0	50	
1984	20	50	0	50	0	0	0	0	50	
1985	20	50	0	50	0	0	0	0	50	
1986	20	50	0	50	0	0	0	0	50	
1987	50	250	0	250	0	0	0	0	250	
1988	0	300	0	300	0	0	0	0	300	
1989	100	300	0	300	0	0	0	0	300	
1990	0	400	0	400	0	0	0	0	400	
1991	0	400	0	400	0	0	0	0	400	
1992	0	400	0	400	0	0	0	0	400	
1993			500	500			5	5	505	
1994			500	500			1,000	1,000	1,500	
1995			1,000	1,000			2,356	2,356	3,356	
1996			1,000	1,000			1,839	1,839	2,839	
1997			1,500	1,500	2,356	1,009	0	3,365	4,865	
1998			1,500	1,500	2,069	887	0	2,956	4,456	
1999			1,500	1,500	514	580	0	1,094	2,594	
2000			1,500	1,500	1,170	996	0	2,166	3,666	
2001			2,000	2,000	2,070	1,626	0	3,696	5,696	
2002			2,000	2,000	959	2,875	0	3,834	5,834	
2003			2,000	2,000	3,403	1,602	0	5,005	7,005	
2004			2,000	2,000			3,200	3,200	5,200	
2005			2,000	2,000	2,766	1,272	0	4,038	6,038	
2006			2,000	2,000	2,892	1,136	0	4,028	6,028	
2007			2,000	2,000	1,446	1,129	0	2,575	4,575	
Grand Totals				25,475					41,157	66,632

Figure 1 – Table 1 from the Southampton Island Barren-ground Caribou Management Plan 2011-2013. A brief history of the Southampton Island harvest including actual commercial harvest and estimated subsistence harvest (subsistence harvest estimated using government reports, HTO correspondence and personal communications with wildlife staff).

Appendix C

Year	Number of caribou harvested - COMMERCIAL ¹	<u>Estimated</u> ** number of caribou harvested – NON-COMMERCIAL HARVEST ¹	<u>Estimated</u> ** number of caribou harvested - TOTAL
2007	2,575	1,500 ***	4,075 ***
2008	0 *	1,500	1,500
2009	843	1,500	2,343
2010	0 *	1,500	1,500
2011	0 *	1,500	1,500

Figure 3 – Table 1 from the NWMB relevant document titled Coral-Harbour-Harvest-Info-2007-2011- (Caribou)_Final_Eng.pdf. Number of Southampton Island caribou harvested between 2007-2011.

* A moratorium on commercial harvest was imposed in these years. In 2008, the Government of Nunavut recommended stopping commercial harvest because of concern over the spread of brucellosis and its negative effects on Southampton Island caribou. The commercial harvest in 2009 is by local hunters marketed within Nunavut, not the meat plant commercial harvest marketed out of Nunavut in 2007. In 2010 and 2011, the commercial harvest moratoria were introduced because survey estimates suggested low population numbers. (Source: Mitch Campbell, Regional Wildlife Biologist, Government of Nunavut, personal communication)

** The Government of Nunavut Department of Environment does not have records of exact numbers of caribou harvested for non-commercial purposes. The numbers indicated in the table are the estimates used in by the Government of Nunavut Department of Environment, and are based on the data from the Nunavut Wildlife Harvest Study for harvest levels between 1996-2001 (average over this time span was 1,470 caribou harvested per year). (Source: Mitch Campbell, Regional Wildlife Biologist, Government of Nunavut, personal communication)

*** For 2007 the Government of Nunavut has used a non-commercial harvest estimate of 1,500 animals. In the Southampton Island Barren-ground Caribou Population Management Plan 2011-2013 (Management Plan) the non-commercial harvest is estimated to be 2,000 animals for the year 2007 (Table 1, page 12). This discrepancy may be due to the use of different sources. The Harvest Study was used to provide the Government of Nunavut's estimate while the sources used in the Management Plan include government reports, Hunters and Trappers Organization correspondence, and personal communications with wildlife staff. If the non-commercial harvest estimate for the Management Plan was used, the "Estimated number of caribou harvested – Total" for 2007 would be 4,575.

¹Source: Mitch Campbell, Regional Wildlife Biologist, Government of Nunavut, personal communication

Appendix D

Month (2011-2012)	<i>Estimated Number of Caribou Removed From The Population Through:</i>			Estimated Monthly Population Abundance
	Caribou Meat Exports	Subsistence Harvesting	Natural Mortality	
June	9	87	0	7,762
July	6	85	53	7,619
August	4	256	53	7,305
September	144	130	53	6,978
October	137	65	53	6,723
November	202	82	53	6,386
December	177	73	53	6,083
January	100	107	53	5,823
February	100	61	53	5,609
March	100	29	53	5,427
April	100	63	53	5,211
May	100	90	53	4,969
Annual Totals	1,180	1,128	582	4,969

Figure 2 – Table 2 from the Southampton Island Barren-ground Caribou Management Plan 2011-2013. Estimated mortality rates and their impacts on population abundance of the SHI barren-ground caribou population. All bold entries indicate statistically calculated estimates based on actual reports (Priest and Usher, 2004; Air Freight manifests, 2011; Haskell et al 2007). Non bold italics indicate estimates based on best available evidence and past trends, lacking statistical analysis to determine variability in the estimate. The column labeled “Caribou Meat Exports” refers to caribou marketed within the Nunavut Settlement Area, not the meat plan harvest that marketed caribou outside the Nunavut settlement area. The commercial harvest for caribou marketed outside the Nunavut Settlement Area was discontinued after 2007.