

***The Southampton Island Barren-ground Caribou
Population Management Plan
2011 – 2013***



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1.0- Summary

Wolves (*Canis lupus*) and barren-ground caribou (*Rangifer tarandus groenlandicus*) were historically abundant on Southampton Island until the early 1900's. Extremely low numbers of caribou were being reported following 1924 (Manning, 1942). The reality of the situation was made obvious by the local extinction of wolves by 1937 (Parker, 1975). The extirpation of caribou from Southampton was complete by 1955, a result of over hunting by whaling crews in the early to mid 1920's as well as by the need to maintain increasingly larger dog teams to meet demand for fox pelts (MacPherson, 1967). The absence of this resource was keenly felt by residents of Coral Harbor prompting both the local Hunters and Trappers Organization (HTO) and government to initiate the re-introduction of caribou onto the Island. In 1967, 15 years following their extirpation, 48 caribou from Coats Island were introduced onto Southampton Island. Caribou numbers have since increased rapidly which is in part due to exceptional range conditions resulting from the 15-year absence of caribou. The lack of predation and low initial harvest rates also played a role in the overwhelming success of the introduction.

Previously, the Government of the Northwest Territories and presently the Government of Nunavut (GN) have been managing the re-introduction of caribou onto Southampton Island in 1968 after their extirpation in approximately 1952. The current GN management strategy consists of a program that relies upon aerial surveys, Geographic Information Systems analysis, and an extensive health monitoring system. In 1968, 48 caribou from Coats Island were introduced into the Southampton Island ecosystem. The introduced caribou had steadily increased to an estimated population of 30,381 animals (+/- 3,982, 95% confidence limits) in 1997. The rate of increase was estimated at 23%. Susceptibility to disease and parasites due to low genetic heterogeneity has always been a concern with this population since it grew from 48 original animals in 1968. A survey flown in 2003 detected the first decline of caribou since their introduction with a population estimate of 17,981 +/- 2,127 (95% CI) animals. In 2005, the population was estimated at 20,582 +/- 3,056 (95% CI). This suggested that the herd had stabilized or increased slightly. In June 2007 a population of 15,452 +/- 1,858 (95% CI) animals was estimated indicating a 14% decline over a two-year period.

The Identification of the reproductive disease *Brucellosis suis* in February 2000 and its growing prevalence to over 50% by 2006 explains the most recent downward trends. From June 2007 the population continued to decline in June 2009 and most recently 7,762 +/- 1,259 CI) in June 2011. Over this same period, body condition did not change significantly, however the February/March 2011 condition study results showed the Southampton Island Herd in the poorest condition reported in the history of condition studies on this introduced population. During the 2010/2011 winter, hunters reported numerous freezing

rain events and extensive icing across the Island. These icing events made winter forage unavailable as evident by the numerous reports of starving and dead caribou during mid to late winter 2011. Icing events resulting in inaccessibility to food and decline in condition was the likely cause of the depressed pregnancy rates in 2011 (37 %) (*Brucella* results are pending). Pregnancy rates had declined from approximately 80% in 1997 to 60% in 2003 reaching a low of 36.3% in 2008, climbing to 55.6% in 2010 dropping again to 37.0% in 2011.

The 2006 through 2011 findings raised concerns regarding human health as well as the ability of the Southampton Island caribou herd to sustain and to recover from substantial commercial harvests. These findings also show that consistent and regular monitoring information is necessary to assess risks to human health and to sustain the subsistence harvest on the Island.

The goals of this Management Plan are to conserve and to manage the Southampton Island Caribou Herd in order to:

- a)** Maintain a vital, healthy caribou population capable of sustaining harvesting needs, and
- b)** To restore a depleted caribou population

The priorities may at times include the temporary establishment of a TAH and associated NQL's (Non quota limitations) as required to sustainably manage the population.

Herd management recommendations and actions have been developed to identify the immediate needs of both the caribou population and the Community relying on this population for subsistence as well as other herd uses including commercial utilization. It is the intention of Coral Harbour HTO and the Nunavut Department of Environment to revisit this Plan and its recommendations on an annual basis or as necessary when new information becomes available.

2.0 - The SHI Caribou Population and Its Range

2.1- SHI Caribou Range

The Southampton Island barren-ground caribou population range extends to all of Southampton and White Island and includes small coastal Islands along the eastern shores of Southampton Island. At 43,000 Km² Southampton Island is the largest Island in Hudson Bay. Southampton Island is divided into the Northern and Southern Arctic Ecozones. The Northern Arctic Ecozone covers White Island, and the northeastern third of Southampton Island including northern Bell Peninsula and can be further divided into the Boothia-Foxe Shield Ecoprovince and Wager Bay Plateau Ecoregion (Figure 1). The Wager Bay Plateau Ecoregion covers the northeastern District of Keewatin extending westward from the northern portion of Southampton Island on Hudson Strait to Chesterfield Inlet in the south, and as far west as Back River (Natural Resources Canada, 2007). The mean annual temperature is approximately -11°C with a summer mean of 4.5°C and a winter mean of -26.5°C. The mean annual precipitation ranges from 200 to 300 mm. This ecoregion is classified as having a low arctic ecoclimate. It is characterized by a discontinuous cover of tundra vegetation, consisting of dwarf birch, willow, northern Labrador tea, *Dryas spp.*, and *Vaccinium spp.* Taller dwarf birch, willow, and alder occur on warm sites; wet sites are dominated by willow and sedge. Lichen-covered rock outcroppings are prominent throughout the ecoregion and towards the southern limits extending onto mainland Canada, the vegetation becomes a mix of tundra vegetation and open, dwarf coniferous forest. This ecoregion is composed of massive Archean rocks of the Canadian Shield that form broad, sloping uplands, plains, and valleys. It rises gradually westward from Chesterfield Inlet to 600 m asl (above sea level) elevation, where it is deeply dissected. Turbic and Static Cryosols developed on discontinuous, thin, sandy moraine and alluvial deposits are the dominant soils in the ecoregion, while large areas of Regosolic Static Cryosols are associated with marine deposits along the coast. Permafrost is continuous with low ice content. Repulse Bay and Baker Lake are the main settlements. The human population of the ecoregion is approximately 2,000 (Natural Resources Canada, 2007).

The Southampton Island Plain Ecoregion includes the remainder of Southampton and all of Coats Island and Mansel Islands (Figure 1). The mean annual temperature is approximately -11°C with a summer mean of 3°C and a winter mean of -24.5°C. The mean annual precipitation ranges from 200 to 300 mm (Natural Resources Canada, 2007). This ecoregion is classified as having a low arctic ecoclimate. It is characterized by a nearly continuous cover of low arctic shrub tundra vegetation, consisting of dwarf birch, willow, northern Labrador tea, *Dryas spp.*, and *Vaccinium spp.*; wet sites are dominated by willow, sedge, and moss. The region is composed of the partly submerged blanket of flat-lying Palaeozoic carbonate rocks and is generally less than 90 m above sea level (ASL) in elevation. Bedrock outcrops are common. Static and Turbic Cryosols developed on level to undulating morainal and marine deposits are the dominant soils. The maritime influence is limited to the late summer and early fall. Coastal

ice and fog persist for long periods in the summer when the sea ice is absent. The ecoregion is underlain by continuous permafrost with medium ice content composed of ice wedges. Coral Harbour with a human population of 800 is the largest settlement within this ecoregion (Natural resources Canada, 2007).

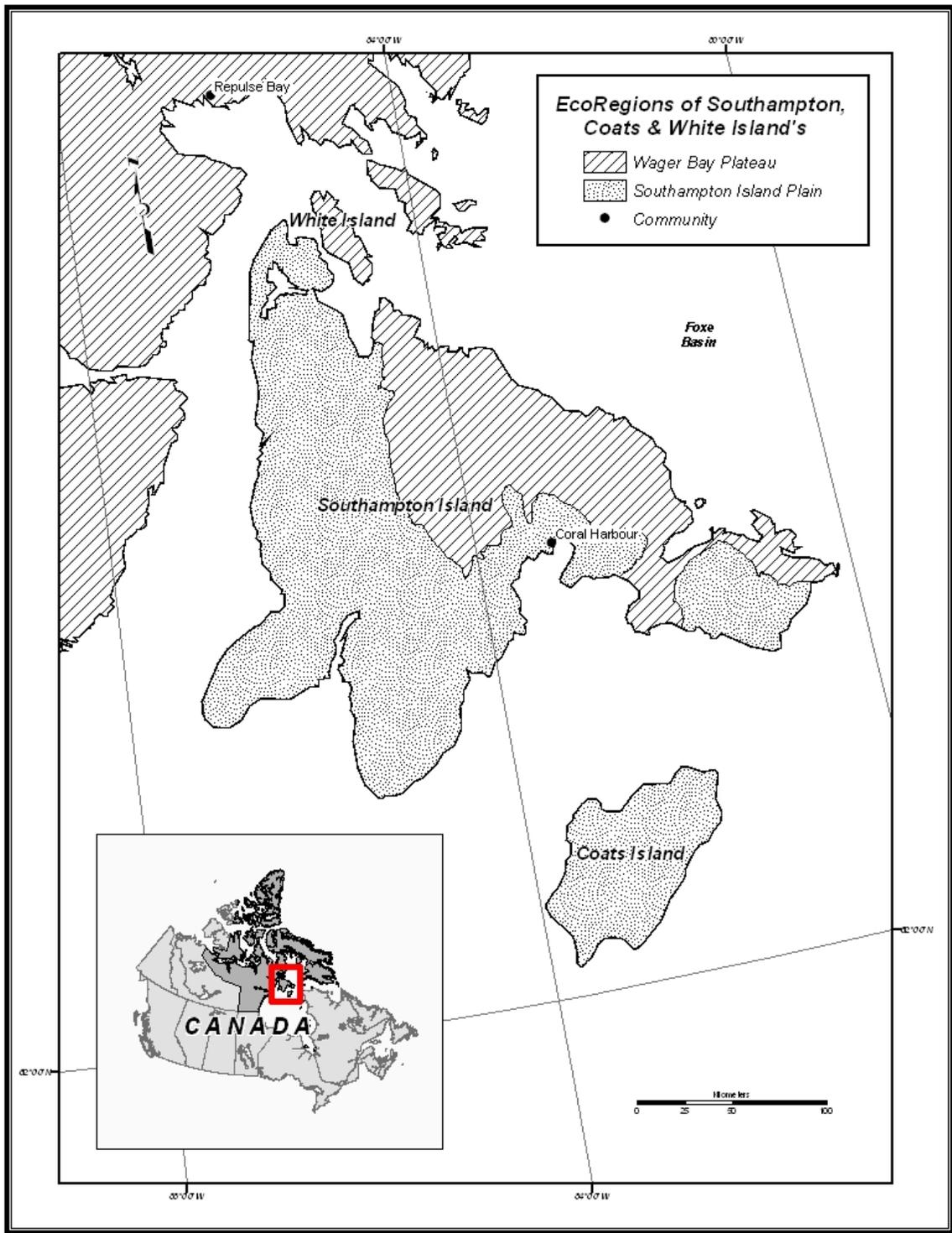


Figure 1 EcoRegions of the Southampton Island, Coats Island and White Island study area's (Natural Resources Canada, 2007).

2.2 Communities that Harvest SHI Caribou

The main harvesters of the SHI caribou population reside in the community of Coral Harbour though harvesters from the community of Repulse Bay and Cape Dorset undertake a smaller harvest on White Island and at times the northern extents of Southampton Island. In recent years some harvesters residing in Coral Harbour have developed a strong export market. The market dealt mainly with the export of caribou from Coral Harbour to communities mainly within the Baffin Region where caribou have become scarce due to what is believed to be declining populations across that region.

3.0 - The Necessity for a Caribou Management Plan

3.1 – A History of Harvest Management

In February 1978, the first caribou hunt since the 1968 introduction was carried out on Southampton Island. The quota was set at 25 bulls and was based on observations during a reconnaissance survey flown in 1977 that sighted a total of 172 caribou, 79 of which were adult males, 54 adult females and 39 yearlings providing evidence of a sex ratio skewed towards males (Kraft, 1978 “The status of barren ground caribou on Southampton island, N.W.T.). In August 1979 the quota for bulls was increased to 50 largely based on the findings of the November 1978 population survey. Early in 1983, the first cow harvest was approved with the quota set at 20. Regulations were developed along with this new quota stipulating that 10 cows be harvested in the spring and the remaining 10 in the fall. The harvest quota was raised from 50 to 250 bulls and from 20 to 50 cows based on recommendations following the 1987 population estimate (Heard and Grey, 1987).

Concerns regarding the accidental harvesting of females seem to have led to the removal of the female quota and an increase in the male quota to 300 animals sometime in 1988 at which time it was clearly indicated in the regulations that; “hunting zone J/2 was restricted to 300 male caribou. In 1989, recommendations to increase the harvest to 400 caribou of which 100 would be female were made. In 1989, these recommendations were supported by Doug Heard who indicated the proposed increases were based on sound ecological principles (Renewable Resources Official Correspondence 140 007 005 & 150 001 005, October, 1989). Seasons for this new quota were recommended as being October 1st to October 31st for males and April 1st to May 31st for females. Subsistence harvesting quotas were dropped in 1993 in response to the continued rapid growth of the population reported by Oulett in June 1991.

A non-sex selective subsistence quota of 1,000 animals was re-instated in 1994 apparently to offset an increase in the commercial quota from 1,000 to 5,000 over the same period (Junkin, 2003). By 1997, in response to survey results indicating the continued rapid growth of the population to 30,381 +/- 3,982 (95%CI)(Mulders, 1997), concerns about the caribou population exceeding the Islands hypothesized carrying capacity were being realized (Oulett et al 1994, Oulett et al 1993). In response to these concerns the wildlife regulations were once again amended to allow an unlimited non-sex selective subsistence harvest and a non-sex selective commercial quota of 6,000 caribou. These regulated quotas are still in effect as of this report.

3.2 – History of Subsistence and Commercial Harvesting

The first commercial quotas were established in 1992 and were set at 250 animals (gender breakdown unknown) (Junkin, 2003)(Table 2). It was not until 1993 that five caribou (of unknown gender) were harvested commercially representing the first commercial harvest since the herd's reintroduction from Coats to Southampton

Island in 1968. Commercial quotas continued to rise to 1,000 animals in 1993, 5,000 in 1994 and 6,000 by 1997 (Junkin, 2003). Since 1993 there have been annual commercial harvests up to and including the 2007 and 2009 harvesting season.

The actual harvest of caribou on the Island since their introduction has been difficult to ascertain. The Nunavut Wildlife Management Board (NWMB) is tasked with the collection of this data through the Nunavut Harvest Study. Unfortunately the collection of subsistence harvest data for this study is based on a voluntary reporting system and yields unreliable estimates. Despite this knowledge gap, and given that only one community regularly harvests from this population, subsistence harvest estimates can be made as long as they are treated appropriately (Table 1). In total since 1978, an estimated 67,632 caribou have been harvested from Southampton Island, 41,157 or 61% of which were taken for commercial purposes.

Throughout the introduction wildlife managers of the time have proven to have been vigilant in their on-going management of the herd. Management recommendations in all cases were based on research results and in particular, population estimates (Figure 2). Despite the continued increases in allowable quota in an attempt to stem the herds rapid rate of increase, the community was unable to meet the recommended harvest rates either by subsistence or by commercial means.

In recent years some harvesters residing in Coral Harbour have developed a strong export market. The market dealt mainly with the export of caribou from Coral Harbour to communities mainly within the Baffin Region where caribou have become scarce due to what is believed to be declining populations across that region. Within the last two years exporters have been utilizing internet media and later sell & swap to market their caribou meat. Though the export of caribou was initially small, within the last year it has accelerated in excess of 5,000 pounds of caribou meat/month (Air freight records, 2012) (Figure 2). This accelerated export is unsustainable and if maintained will likely cause the extirpation of caribou from the Island. The Hunters and Trappers Organization of Coral Harbour as well as the elders of the community and many community members have entered into the development of this management plan to help put in place the management actions necessary to ensure conservation and recovery of a caribou population able to sustain harvesting needs.

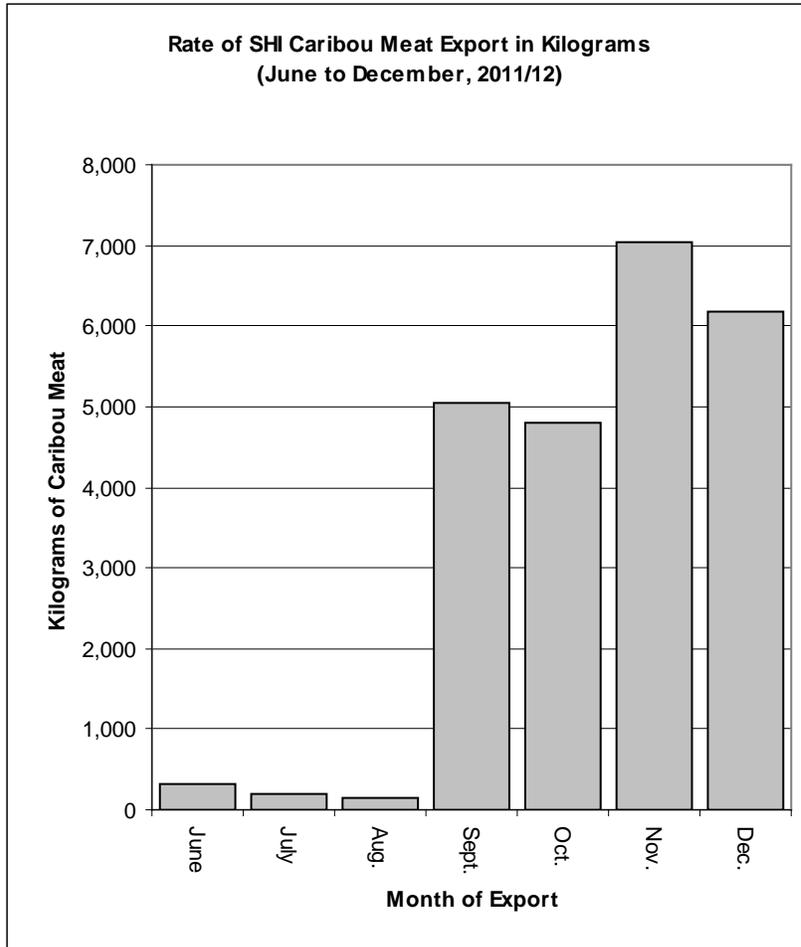


Figure 2 *Airfreight records indicating kilograms of Southampton Island caribou meat shipped off the Island per month. Baffin Island communities make up the predominant destinations.*

Table 1 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).

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

3.3 - Role of the Co-Management Partners

The Coral Harbour HTO will be responsible for providing on-going Inuit Qaujimagatuqangit (IQ) advice and support to co-management partners, allocating annual TAH to their respective members, regulating their Members and fulfilling other obligations in accordance with the NLCA and reviewing and updating the management plan as necessary.

The GN DOE will be responsible for the scientific monitoring, protection, management and sustainable use of the SHI barren-ground caribou population. The Department will also be responsible for conducting research when required, preparing reports, providing information and support to the Coral Harbour HTO as necessary/required to fulfill the Management goals of this Management Plan.

NTI Wildlife will be responsible for ensuring that all processes adhere to the NLCA; the Department will also provide information and support to the co-management partners as needed.

4.0 - Community Involvement and Information

4.1 - The Role of The Community in Caribou Management

The community of Coral Harbour as the primary user of the SHI barren-ground caribou population will play a vital role in the management of that population through their local HTO. The HTO in turn will garner ongoing support through the Kivalliq Wildlife Board (KWB) and the extensive collective knowledge and expertise the assembled KWB will bring.

4.2 - Inuit Qaujimajatuqangit

Inuit Qaujimajatuqangit (IQ) is the knowledge and insight gained by Inuit through generations of living in close contact with nature. For Inuit, IQ is an inseparable part of their culture and includes rules and views that affect modern resource use.

The community of Coral Harbour, through their HTO in addition to the KWB, will be consulted on an on-going basis to ensure that IQ is utilized in conjunction with scientific information in the management of the SHI barren-ground caribou population.

5.0 - Management of the SHI Caribou Population

5.1 – Goals and Objectives of the Management Plan

The goals and objectives of this Management Plan are simple and designed to provide guidance and direction to the Coral Harbour HTO and their co-management partners. There are 4 main goals/objectives:

- 1) To manage the SHI Caribou Population in a co-operative manner that involves the full participation of HTO, community and government.
- 2) To include local knowledge, Inuit Qaujimaqatuqangit and scientific knowledge equally in the management process.
- 3) To promote local and regional involvement in decision-making.
- 4) To conserve and manage in order to maintain a healthy SHI barren-ground caribou population and to recover a depleted population.
- 5) To meet (GNDōE, NTI and Coral HTO) at least once per year to re-visit management plan goals and objectives.

5.2 Management Plan Priorities

In addition to the goals of the Management Plan, specific priorities have been set by the KWB and supported by the co-management partners, these are as follows:

- A. To establish harvesting limitations either through HTO regulated bylaws, non quota limitations (NQL), and/or through the establishment of a TAH for the purposes of sustainably harvesting the SHI caribou population.
- B. Establish a mutually agreed upon monitoring program using IQ, local knowledge and scientific knowledge to inform priority “A”.
- C. To insure the management plan recommendations remain flexible to allow for timely adjustment to priorities “A” and “B” where and when necessary.
- D. To meet (GNDōE, NTI and Coral HTO) at least once per year to re-visit and re-asses management plan priorities.

5.3 – Harvest Management

Given the history of harvesting impacts on the SHI barren-ground caribou population and the known potential for extirpation of the herd should the harvest exceed the populations rate of growth, harvest management remains the most effective tool to ensure the long term sustainability of this caribou population.

Though prior to 2001 when growth rates had far exceeded all harvest rates (commercial and subsistence), recent information of disease effects on productivity, continued high harvesting rates and frequent icing events, specifically over the 2010/2011 winter season causing starvation for an estimated 1.5 to 3.0 thousand caribou (Campbell, 2011 in prep.), have all lead to a sustained decline in caribou population abundance (Table 2; Figure 3). At

present over-harvesting represents the single greatest risk to the long-term survival of this population. Fortunately harvest rates are the one mortality factor communities and governments can control given the political and individual will of community members. The alternate to not practicing sustainable harvest management will be the total loss of the resource and the known hardships to subsistence harvesters that will follow.

Table 2 *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; Haskellet al 2007). Non bold italics indicate estimates based on best available evidence and past trends, lacking statistical analysis to determine variability in the estimate.*

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

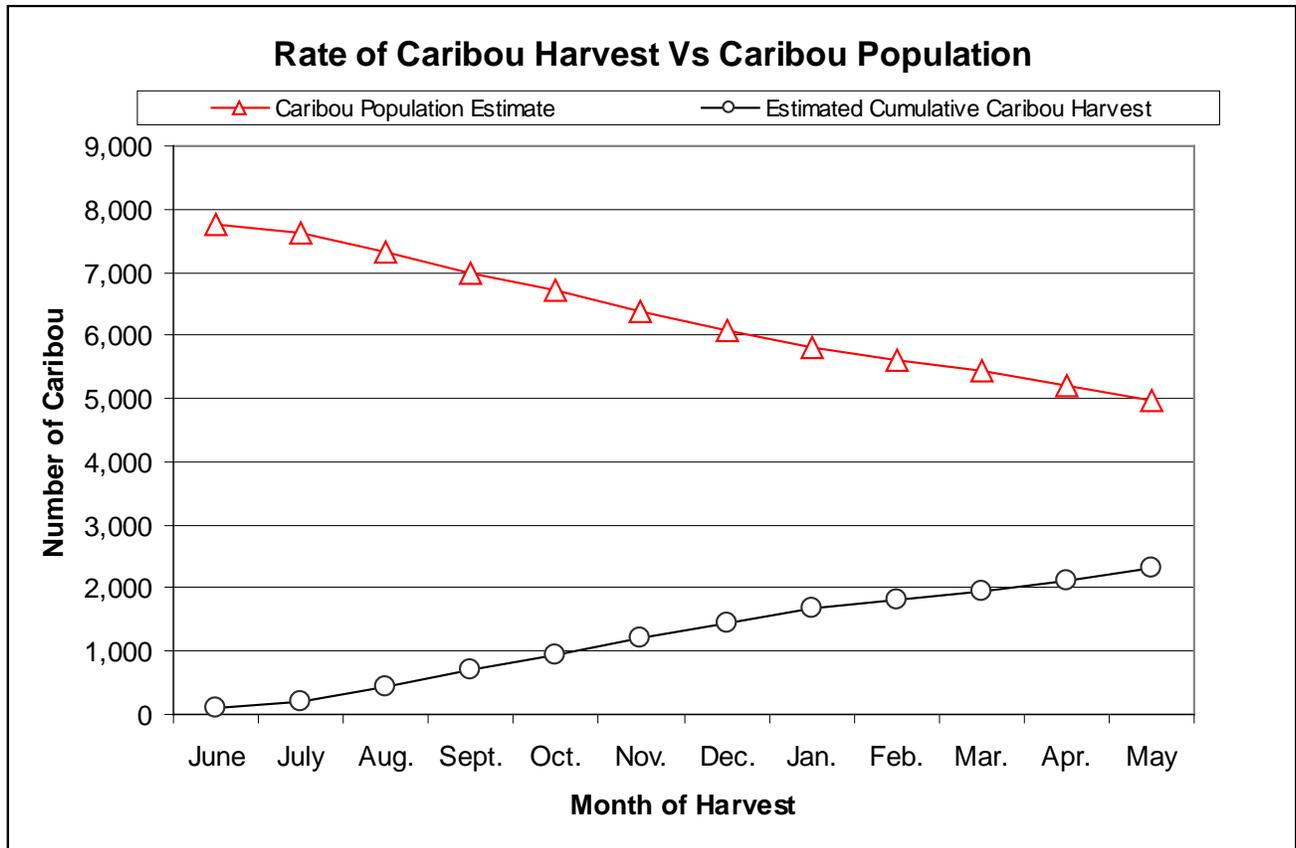


Figure 3 *The estimated rate of decline over one year for the SHI caribou population. Harvest rates are based on estimates of export (Airfreight records, June – January, 2012) and subsistence use (Priest and Usher, 2004). The lowest annual values for subsistence harvest were used to estimate total annual rate of harvest. Caribou population estimates include a 7.5% natural annual mortality rate (not including predation) spread across an 11 month period (Haskal and Bellard, 2005).*

For the purposes of this management plan the total sustainable harvest of the SHI caribou population will be based on known productivity rates as assessed through spring composition studies (measuring **over winter survival of calves**) and known **pregnancy rates** (as determined through condition sampling).

Though composition studies have not been conducted in recent years, quantitative studies of late winter pregnancy rates have (Figure 4). The most recent measure of pregnancy rates for SHI caribou was recorded in early March 2011 to be **35 %**.

Unfortunately the herd's sex ratio has not been measured though local knowledge and scientific indices strongly indicate a ratio skewed towards females. Given a normal ratio for barren ground caribou of 60 females to 40 males, we estimate the SHI caribou herd sex ratio to be close to **70% females to 30% males**. Considering that of the **70%** Females an estimated **60%** are capable of successfully calving, the total (maximum) estimated number of calves coming into the population is estimated to be

Population Estimate of June 2011 = 7,762

Therefore:

Total number of breeding females = 7,762 x 0.60 = 4,657

Therefore:

Total number of calves = 4,657 x 0.35 = 1,630

Allowing for an annual natural calf mortality rate of **20%**, we would be left with **1,304** new yearlings being introduced into the population this harvesting season. Any harvest exceeding this value would cause the population to decline.

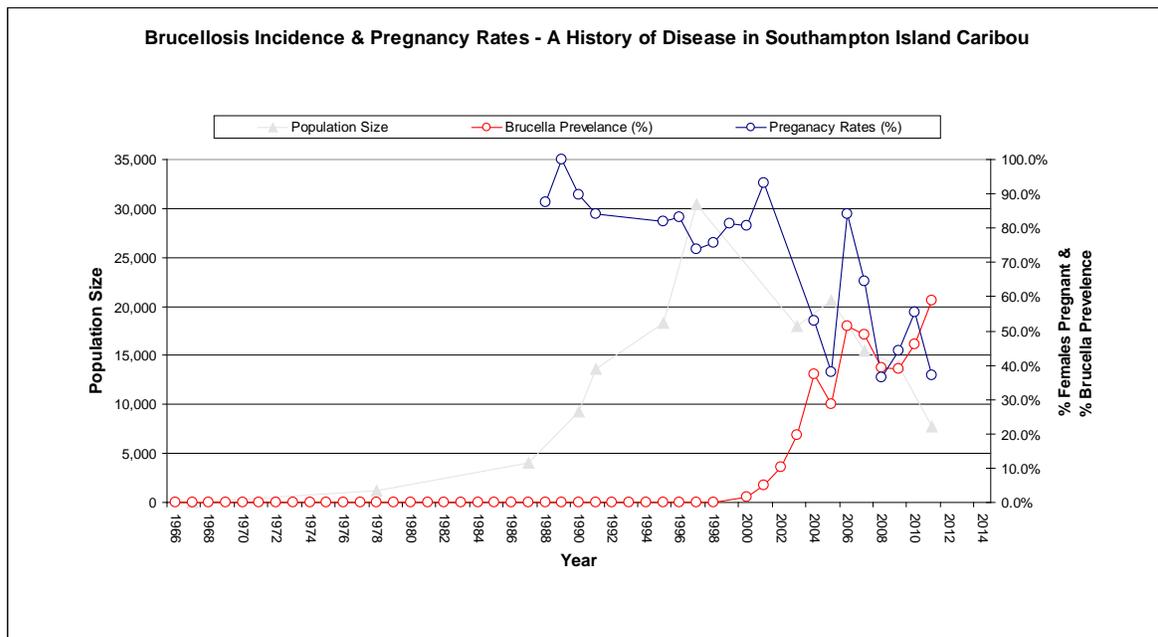


Figure 4 Brucella prevalence pregnancy rates and herd abundance.

6.0 Herd Management

The main objective of herd management is to monitor where the SHI Caribou population is within its long-term cycle to help guide decisions about population management and monitoring actions. The Coral Harbour HTO and the Nunavut Department of Environment continue to work together to develop strategies to determine appropriate management actions for the SHI caribou population based on local knowledge, IQ and ongoing scientific studies and monitoring programs all collected at strategic phases within natural long term population fluctuations. The following management strategic approach patterns the approach used since the 1980's and has been formalized within this plan as recommendations/commitments for the ongoing management of this population. Within this plan we recommend three strategic approaches to overall monitoring and management:

LEVEL - 1: Core Management (Stable or Increasing Trend/High Population)

With Level-1 there are few conservation issues as the population would be at beginning and/or top of its population cycle. During this period productivity would be at or near its cyclical high making the population very resilient to harvesting, disease and environmental fluctuations.

This period would require only “baseline” or “Core” monitoring sufficient to determine when a downward trend in productivity and abundance begins. Core or baseline monitoring and management apply at all times during population cycles and represent the minimum level of population management/monitoring activities that need to be conducted. Core management actions would be applied when population surveys and / or other indicators suggest that population trend is increasing or stable and that population size is above existing commercial, resident and subsistence harvesting needs. There are 4 recommended core management actions that include:

Core Management Actions

- A.** Annual fall meeting with HTO and Community to discuss accumulated local knowledge and IQ to determine current trends, productivity and overall caribou Herd status including a “state of the Range” discussion.
- B.** Aerial population estimates once every **5 to 8** (five to eight) years to confirm discussed trends in productivity and abundance.
- C.** Condition and disease sampling (Late February/Early March) every **2** (two) years to monitor the prevalence of the disease *Brucellosis suis* for public health alerts and indications of declines in productivity.

- D.** Annual fall meeting with Coral HTO to assess the need to apply, modify or remove a TAH (Total Allowable Harvest) based on “**A**”, “**B**”, and “**C**” above.
- E.** Reevaluate, update or otherwise address Management Plan content annually in accordance with all co-management partners.
- F.** Subsistence harvest levels and associated NQL’s will remain un-restricted. Commercial harvesting levels will be adjusted only when an unsustainable situation is indicated during co-management discussions.

LEVEL - 2: Enhanced Management (Declining Trend)

With Level-2 there is a clear indication that the caribou population is in decline though the mechanisms of that decline may not be known. During this period productivity would be negatively impacted as evident by declining pregnancy rates and lower overall abundance, components of which would have been identified upon examining the results of Level-1 “core” actions. In this scenario of change, this plan directs co-management partners to scale up the collection and synthesis of local knowledge, IQ and scientific monitoring to a level which can detect change at a finer scale to foster effective and timely management actions.

Understanding the mechanisms and extent of the decline will be important for determining the actions to be taken. The assessment of current harvesting rates and natural mortality rates will also follow as a priority at this level with respect to whether harvesting is exceeding productivity (the number of animals coming into the population). It is at this level that a TAH may have to be applied and/or modified to bring harvesting (both commercial and subsistence) to a level consistent with either increase or stability, based on the goals and objectives of the HTO at the time of discussion.

Department of Environment roles will be to ensure that monitoring studies are sufficient to detect change at a level consistent with the goals and objectives set out in this plan. The Department will also be responsible for presenting results and making recommendations as to sustainable harvest levels for all harvesting (commercial and subsistence combined) while incorporating local Knowledge and IQ into these recommendations. It will be the role of the HTO to engage meaningfully in the setting of any harvesting restrictions and/or the development of any non-quota limitations to achieve the same, and to determine how a TAH will be distributed amongst its membership if a TAH is deemed necessary. There are 4 recommended Level-2 or “enhanced” management actions that include:

Level 2 Management Actions

- A.** The attendance of co-management partners to **2** (two) meetings annually including a fall meeting with HTO and Community, and a mid-winter meeting with the HTO to discuss accumulated local knowledge and IQ to determine current trends, productivity and overall caribou Herd status including a “state of the Range” discussion.
- B.** Aerial population estimates once every **2** (two) years to confirm discussed trends in productivity and abundance.
- C.** Condition and disease sampling (Late February/Early March) **annually** monitor pregnancy rates, overall health, the prevalence of the disease *Brucellosis suis* for public health alerts and indications of declines in productivity.
- D.** Over winter calf survival surveys every **2** (two) years for the purposes of estimating recruitment.
- E.** Initiate research and IQ studies where and when necessary to determine mechanisms of decline and discuss any possible actions that may help offset these mechanisms in a way that would increase caribou productivity.
- F.** Annual fall meeting with Coral HTO to assess the need to apply, modify or remove a TAH (Total Allowable Harvest) and/or apply any other non quota limitations based on “**A**”, “**B**”, “**C**” and “**D**” above.
- G.** Reevaluate, update or otherwise address Management Plan content annually in accordance with all co-management partners.
- H.** Subsistence harvest levels and NQL’s will remain unrestricted. If a TAH is indicated, it will be applied first to commercial uses.

LEVEL - 3: Critical Threshold Management -Population level below BNL (Basic Needs Level).

Critical Threshold management would apply when the population size is at a low point of the cycle and there are not enough caribou to meet the basic needs level (BNL). Management actions for level – 3 will remain the same for those at level – 2, the key difference here will involve more intensive harvest management. At this level it is expected that a TAH will have to be set below the BNL and the introduction of NQL’s (non quota limitations) such as sex selective harvest, harvesting seasons and harvesting zones put in place for the express purpose of maximizing harvesting quotas as well as to foster recovery of the population. Information collected through local knowledge, IQ and scientific means will maintain the intensity set out in Level-2, and the information used by the HTO and co-management partners to set and justify TAH’s and NQL’s. It is at this level that a moratorium to all forms of harvest may be considered, and if imposed, evaluated by all parties on an annual basis.

There will be on-going consultations between the Coral Harbour HTO, DoE, NWMB, NTI, and KWB regarding the state of the Southampton Island Caribou Herd. The

current management objectives include total allowable harvest recommendations that are based upon maintaining a vital, healthy population capable of sustaining harvesting needs. These recommendations have been established through discussion with the co-management partners and will continue to be updated as necessary through Inuit Qaujimagatuqangit and systematic surveys of the caribou population.

There are 8 recommended Level-3 or “Critical Threshold” management actions that include:

Level 3 Management Actions

- A.** The attendance of co-management partners to **2** (two) meetings annually including a fall meeting with HTO and Community, and a mid-winter meeting with the HTO to discuss accumulated local knowledge and IQ to determine current trends, productivity and overall caribou Herd status including a “state of the Range” discussion.
- B.** Aerial population estimates once every **2** (two) years to confirm discussed trends in productivity and abundance.
- C.** Condition and disease sampling (Late February/Early March) **annually** monitor pregnancy rates, overall health, the prevalence of the disease *Brucellosis suis* for public health alerts and indications of declines in productivity.
- D.** Over winter calf survival surveys **annually** for the purposes of estimating recruitment/productivity.
- E.** Initiate research and IQ studies where and when necessary to determine mechanisms of decline and discuss any possible actions that may help offset these mechanisms in a way that would increase caribou productivity.
- F.** Annual fall meeting with Coral HTO to assess the need to modify an existing TAH and/or apply any other non quota limitations based on “**A**”, “**B**”, “**C**” and “**D**” above.
- G.** Reevaluate, update or otherwise address Management Plan content and recommendations annually in accordance with all co-management partners.
- H.** Subsistence harvest levels will be subject to a TAH and appropriate NQL’s to maximize, where possible that TAH. The commercial use of caribou will be restricted to **0**. Consideration to a herd wide moratorium to all forms of caribou harvesting will be discussed and if considered necessary, applied when and where necessary for the purposes of fostering recovery.

7.0 Level Assessment

Following two meetings between the Coral Harbour HTO and the GN DoE in early November; 1) Internal meeting with the HTO Board and GN DoE Wildlife Staff; 2) An annual general meeting open to the public and attended by the Coral Harbour HTO and GN DoE Wildlife staff; and a third follow-up meeting between GN DoE Staff and the Coral Harbour HTO March 6th and 7th, 2012, all parties examined and discussed the most current scientific and local knowledge concerning the status of the Southampton Island Caribou population and overwhelmingly agreed that both the scientific and local knowledge clearly indicate that the Southampton Island Caribou Population had attained “Level 3” status and required Critical Threshold Management.

Attaining this status automatically triggers the “Level 3” management actions, which include, amongst other actions listed above, the setting of a TAH to address the population decline. The Coral Harbour HTO and the GN DoE recommend a TAH and two NQL’s be set based on our current knowledge of:

- 1) *Status of the current harvest (Table 2; Figure 3)*
- 2) *Estimated sustainable harvest (Section 5.3-Harvest Management)*
- 3) *Abundance Estimate of current caribou population (Figure 3)*

8.0 - Recommendations and Actions

During the March 6th, 7th and 8th meeting between the Coral Harbour HTO and the GN DoE wildlife Division, an HTO motion, supported by GN DoE, to establish a TAH and NQL's for the purposes of conserving the Southampton Island caribou population was unanimously approved by the members of the Coral Harbour Hunters and Trappers Organization. The Key Management actions of this decision as they apply to "Level 3" management actions outlined within this management plan are listed below:

Key Management Actions

- 1) Set a TAH of 600 caribou up until June 31st /2012 at which time a TAH of 1,000 will be applied to the 2012/2013 harvesting season commencing July 1st, 2012 and terminating June 31st, 2013. The setting of this TAH is conditional on the following:
- 2) 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, considered a part of the Southampton Island caribou population).
- 3) Establish 2 non-quota limitations designed to maximize the available quota. These limitations include:
 - a. A restriction on the harvesting of any/all mature bulls.
 - b. A restriction on the harvesting of any/all Cow/calf pairs.

The Actions Above are Conditional To the Following:

- 1) Put in place an information campaign to alert and inform airlines and other shipping agencies of the caribou conservation issues on the Island and of their legal requirement to insure that no caribou meat is shipped without being affixed with a legally obtained tag.
- 2) Inform other communities that may from time to time harvest the SHI caribou population of the establishment of a TAH on SHI caribou and the necessity of obtaining a tag prior to any caribou harvesting on the Island for the purposes of population conservation.
- 3) That an abundance survey is flown to re-estimate the SHI caribou population in June 2012 for the purposes of community by-in and trust in scientific methods, and so that the results of this survey can be used to re-assess and if necessary adjust, the 2012/13 harvesting season TAH of 1,000 caribou approved in the motion above in accordance with this management plan.
- 4) That the GN DoE investigate the feasibility of live capturing mature Bulls from Coats and/or Mansel Islands in response to the extremely low levels of mature bulls being observed by local hunters and during scientific surveys, for the purposes of injecting new genetic material into the

population and re-populating healthy mature bulls to aid in recovering pregnancy rates within the SHI population.

Both the Coral Harbour HTO and the Department of Environment Wildlife Research Division recommends that these actions be put in place immediately and that the urgency of this situation will not allow the time necessary to wait for the more lengthy process of working through the NWMB management process. To this end the Coral Harbour HTO respectfully recognizes the importance of the NWMB in the Management of Nunavut wildlife and will immediately provide this material to the NWMB through the KWB so that this process may begin as early as possible and upon resolution be incorporated in to the current Management Plan over the long-term.