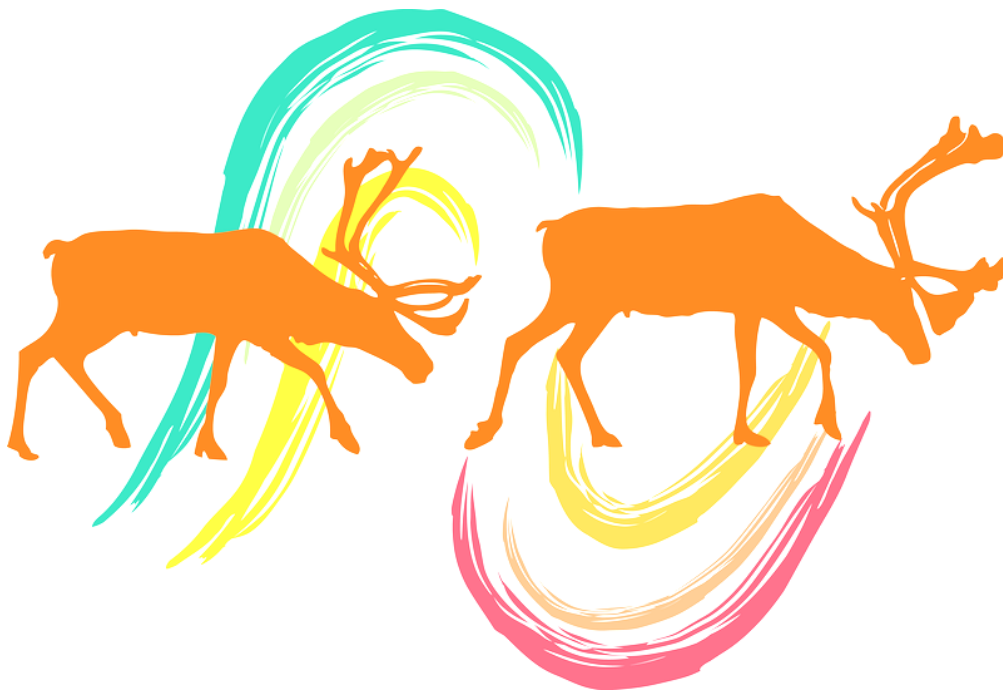


Action Plan for

THE BLUENOSE-EAST
CARIBOU HERD
— *ORANGE STATUS* —



Prepared by the Advisory Committee for
Cooperation on Wildlife Management

March 15, 2017

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About the ACCWM

The Advisory Committee for Cooperation on Wildlife Management was established to exchange information, help develop cooperation and consensus, and make recommendations regarding wildlife and wildlife habitat issues that cross land claim and treaty boundaries. The committee consists of Chairpersons (or alternate appointees) of the Wildlife Management Advisory Council (NWT), Gwich'in Renewable Resources Board, ʔehdzo Got'ıne Gots'ę Nákedı (Sahtú Renewable Resources Board), Wek'èezhìi Renewable Resources Board, Kitikmeot Regional Wildlife Board, and Tuktut Nogait National Park Management Board.

About Taking Care of Caribou and the associated Action Plans

In late 2014 and early 2015, members of the ACCWM approved *Taking Care of Caribou: the Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds management plan*. The Plan was developed in consultation with most of the communities that harvest from the three herds. The intent is for the Plan to address caribou management and stewardship over the long term. It was presented to the Minister of Environment and Natural Resources (Government of the Northwest Territories), the Minister of Environment (Government of Nunavut), and the Environment Minister (Government of Canada) in 2014. The Management Plan is supported by two companion documents: a report that summarizes recent scientific information about the herds, and a report that provides a summary of the information that was shared during community meetings to develop the Plan. Individual Action Plans were then developed for each of the three herds. These Action Plans provide details on the types of actions that are recommended based on a herd's status, as well as who is responsible for the actions, and when they should be done.

Disclaimer:

The ACCWM recognizes that the implementation of management actions moving forward is subject to appropriations, prioritizations, and budgetary restraints of the participating agencies and organizations.

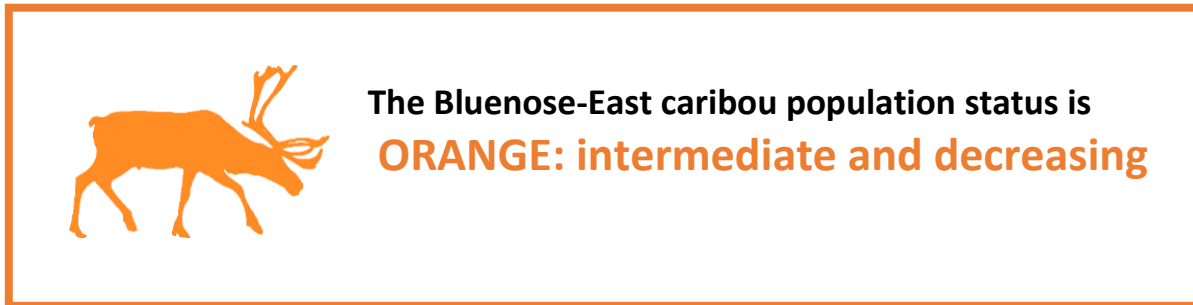
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Acronyms used in this Plan

ACCWM (WG)	Advisory Committee for Cooperation on Wildlife Management (Working Group)
CI	Confidence Interval
DoE	Department of Environment, Government of Nunavut
ENR	Department of Environment and Natural Resources, GNWT
GN	Government of Nunavut
GNWT	Government of the Northwest Territories
GRRB	Gwich'in Renewable Resources Board
HTC	Hunters and Trappers Committee
HTO	Hunters and Trappers Organization
IGC	Inuvialuit Game Council
ISR	Inuvialuit Settlement Region
KHTO	Kugluktuk Hunters and Trappers Organization (Kugluktuk Angoniatit Association)
KRWB	Kitikmeot Regional Wildlife Board
NWMB	Nunavut Wildlife Management Board
NWT	Northwest Territories
OLS	Ordinary Least Squares model
PCA	Parks Canada Agency
RRC	Renewable Resources Council
SRRB	Sahtú Renewable Resources Board (ʔehdzo Got'ᵓnᵓ Gots'ᵓ Nákedı)
TAH	Total Allowable Harvest
TG	Tłjchq Government
TNNPMB	Tuktut Nogait National Park Management Board
WMAC (NWT)	Wildlife Management Advisory Council (NWT)
WRRB	Wek'èezhii Renewable Resources Board

Introduction

This *Action Plan for Bluenose-East Caribou* was developed by wildlife management boards with stewardship responsibilities for barren-ground caribou and their habitat in the Northwest Territories and Nunavut.¹ It is the next step in a collaborative management planning process that has involved 17 communities in six land claim areas, over the last ten years. The Action Plan describes the specific actions that will carry out the **principles** and goals outlined in *Taking Care of Caribou: the Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds Management Plan (November 3, 2014)*.

Members of the Advisory Committee for Cooperation on Wildlife Management (ACCWM) approved *Taking Care of Caribou* (the Management Plan) in late 2014 and early 2015. The ACCWM presented the Plan to the Minister of Environment and Natural Resources (Government of the Northwest Territories), the Minister of Environment (Government of Nunavut), and the Environment Minister (Government of Canada) in 2014. The intent is for the Plan to address management activities and caribou stewardship over the long term. The Plan describes the consensus-based approach, herd definitions, principles, and goals that guided the process. It provides a framework for **Monitoring** the herds, making decisions, and taking action. Five different categories of management actions are outlined in the Plan, including **Education, Habitat, Land Use Activities, Predators** and **Harvest Management**.

Separate Action Plans have been developed for each of the three herds. Plans such as this one lay out

Management Plan **principles**:

- Management decisions will respect treaties and land claim agreements and Aboriginal harvesting rights in areas both with and without a land claim agreement
- Management decisions will reflect the wise use of the herds in a sustainable manner
- Adequate habitat (quantity and quality) is fundamental to the welfare of the herds
- Management decisions will be based on the best available information – including science, as well as traditional and local knowledge – and will not be postponed in the absence of complete information
- Effective management requires participation, openness and cooperation among all users and agencies responsible for the stewardship of the herds and their habitat. Shared use requires shared responsibility
- Harvests must be allocated in a manner which respects Aboriginal harvesting rights and the sustainable harvesting limit, if any, of each herd
- The impacts to caribou herds and their habitat must be anticipated and minimized
- Harvesting is fundamental to the cultural, social, spiritual and economic well-being of the communities of the Northwest Territories and Nunavut (*Taking Care of Caribou*, p. 12).

¹ Throughout the Management Plan and Action Plans, the terms ‘wildlife management boards’ or ‘member boards’ refer to the six boards which are members of the Advisory Committee for Cooperation on Wildlife Management.

specific objectives, tasks and priorities for the herds, and provide more details on who is responsible for management actions, as well as how and when they will be carried out. The Action Plans are based on the best current information available, but are designed to be “living documents” to allow for the adjustment of tasks as new information becomes available. They are intended to be in place three to five years, but are reviewed annually and may be revised as needed.

The ultimate goal of the Management Plan and the accompanying Action Plans is to ensure that there are caribou for today and for future generations. The management goals of the plans are to:

- Maintain herds within the known natural range of variation,
- Conserve and manage caribou habitat, and
- Ensure that harvesting is respectful and sustainable (*Taking Care of Caribou*, p. 12).

Management and Action Planning Overview

Stewardship planning for the Bluenose-East, Bluenose-West and Cape Bathurst caribou herds is founded on an “adaptive management cycle”. This means that there are ongoing efforts to monitor and assess the results of management actions, adapt when things aren’t working well, use what is learned to shape future actions, and share that information with others. This is an important process in being able to gauge the success of management actions. Figure 1 shows a diagram of the adaptive management cycle.

Issues thought to be affecting barren-ground caribou have been identified collaboratively through both scientific research and community engagement. Some factors, such as climate change, are difficult to influence, but all require cooperation and coordination for effective action. The Management Plan was developed because the ACCWM identified a need to:

- Develop a cooperative approach to managing for the herds,
- Protect the habitat in the herds’ range, and
- Make decisions on the shared harvests in an open and fair manner (*Taking Care of Caribou*, p. 6).



Figure 1: Diagram showing the process of an adaptive management cycle (figure from Weeks, R., and S. Jupiter. 2013. *Adaptive Comanagement of a Marine Protected Area Network in Fiji*. *Conservation Biology* Vol. 27, No. 6: 1234-1244.)

The Management Plan provides an overall framework for how this cooperation can take place. Implementation of the Action Plans is also cooperative, requiring ongoing community input and support. An inclusive, consensus-based approach is used at all stages of the planning process. Sometimes, management topics can be controversial and finding agreement is challenging. In order to honour differing perspectives yet still move ahead with planning, it was decided to be transparent about differences and acknowledge them as unresolved **'hot topics'** that are likely to require further work.

Hot topics presented in the Management Plan include:

- Defining Caribou Herds
- Exchange or Movement between Caribou Herds
- Caribou Collaring
- Perspectives on Harvesting and Harvest Monitoring
- Predator Control Programs
- Priorities for Harvest Allocation
- Cow vs. Bull Harvests.

Each ACCWM member board is responsible for approving these Action Plans for implementation within its region. Once an Action Plan is approved, it is submitted to the appropriate governments and other parties for implementation.

Roles and Responsibilities

The **Advisory Committee for Cooperation on Wildlife Management** was established in 2008, to exchange information, help develop cooperation and consensus and make recommendations regarding wildlife and wildlife habitat issues that cross land claim and treaty boundaries. The chairpersons of six wildlife management boards make up the ACCWM.

The ACCWM member boards have authority through land claim and other agreements to make recommendations and decisions on wildlife management issues. Under their mandates, the boards have responsibility for wildlife and wildlife habitat management. The ACCWM can work towards consensus-based recommendations to governments regarding caribou management actions. However, ACCWM recommendations do not prohibit individual boards from providing additional recommendations, nor are individual boards bound by ACCWM recommendations.

The **Advisory Committee for Cooperation on Wildlife Management** consists of the Chairpersons (or alternate appointees) of:

- Wildlife Management Advisory Council (WMAC (NWT))
- Gwich'in Renewable Resources Board (GRRB)
- ʔehdzo Got'ıne Gots'ę Nákedı (Sahtú Renewable Resources Board (SRRB))
- Wek'èezhii Renewable Resources Board (WRRB)
- Kitikmeot Regional Wildlife Board (KRWB), and
- Tuktut Nogait National Park Management Board (TNNPMB).

Early in 2015 the ACCWM established a Working Group to prepare draft Action Plans for the Cape Bathurst, Bluenose-West and Bluenose-East barren-ground caribou herds. The members of this Working Group are included in **Appendix A**. It is important to note that the success of the Management Plan and associated Action Plans is not just the responsibility of the ACCWM and its Working Group, but also relies on the cooperation of multiple partners. Potential government partners include the Government of the Northwest Territories, Government of Nunavut, Parks Canada Agency, Tłı̨chǫ Government and other Aboriginal Governments. Regional partners, which vary significantly by region, may include individual community members, community organizations such as Renewable Resource Councils (RRCs), Hunters and Trappers Committees and Organizations (HTCs and HTOs), and regional organizations.

How a Herd’s Status and Appropriate Management Actions are Determined

The ACCWM is responsible for determining herd status each year and developing appropriate management actions based on that status. Each fall, the member boards meet to share information and make collaborative decisions regarding the herds, according to the requirements of regional legislation and land claims agreements. The implementation of the Action Plans is also reviewed at this time. The annual status meeting is an opportunity for the ACCWM to invite authorized representatives of management agencies such as Environment and Natural Resources (GNWT), Parks Canada, and the Government of Nunavut, as well as harvesters, the public, and researchers to get together and discuss the best available information about the caribou. Terms of reference for the meeting are included in **Appendix B**.

New information presented and reviewed at the annual status meeting may include that from monitoring and research programs, as well as community and/or traditional knowledge. Herd status is determined based on information that includes several **monitoring indicators**. Decisions are also influenced by other information from harvesters and scientists.

Scientists and traditional knowledge holders recognize that caribou populations tend to go up and down in cycles that usually last between 30 and 60 years. The Management Plan and Action Plans rely on a “traffic light” approach to indicate the relative levels of risk associated with the different phases of a population cycle. The levels are colour-coded as follows:

Monitoring indicators used to assess herd status include:

- Population size
- Population trend and rate of change
- Productivity and recruitment
- Adult composition
- Body condition and health
- Harvest levels
- Predator populations
- Range and movement patterns
- Environment and habitat
- Human disturbance.



yellow the population level is **intermediate and increasing**



green the population level is **high**



orange the population level is **intermediate and decreasing**



red the population level is **low**

Management actions are based on these phases of the population cycle, using approximate levels or “thresholds” as a guide. Thresholds for the herds were determined by the ACCWM based on known historic highs and lows, with input received from community and technical experts in a consensus-based process. **However, it is not only the threshold value that is used to determine the colour zone – the determination of herd status takes into account all available information.** The traffic light approach to understanding risk in caribou population cycles is shown in Figure 2 along with the approximate thresholds for the Bluenose-East herd.

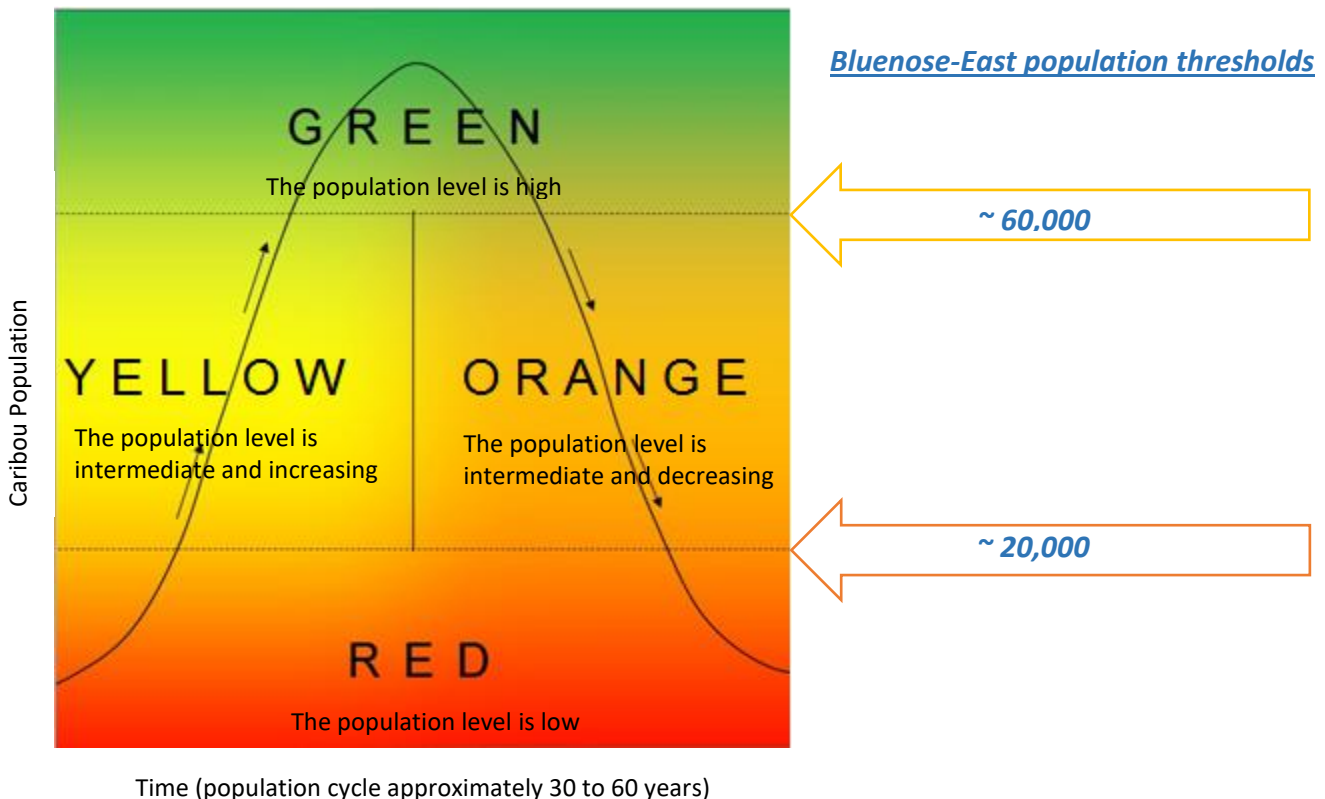


Figure 2: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans.

Setting herd status helps provide guidance to implementers about the appropriate monitoring and management actions that should be taking place at each population level. Once herd status is set, the Action Plan includes details about what are the appropriate prioritized actions, their objectives, and what specific tasks will be done, by whom and within what timeframe.

Communications

In order for the Management Plan to be successful in achieving its goal of having caribou today and for future generations, people need to know about the Plan, the management actions, and related activities. Without successful communication, we cannot expect people to be engaged, informed, active participants in *Taking Care of Caribou*.

Communication is the process of transmitting and receiving ideas and information. Communication can take many forms and is not a one-time event, but an ongoing process. It occurs at all levels and scales and is the responsibility of all groups engaged in stewarding these caribou. This includes the ACCWM as a collective and its individual member boards, the territorial governments, local resource management organizations such as HTC, HTO, and RRC, as well as individuals at the family and community level. There are special requirements for effective communication in the NWT and Nunavut, as it is an immense geographical area that crosses territorial boundaries and numerous regions with diverse cultures and environments. There is also a wide diversity of management institutions operating at different scales from the local to the national. **Appendix C** includes a detailed **Communication Plan**.



Figure 3: ACCWM and Working Group members at 2016 annual status meeting in Inuvik, NWT (missing from photo: KRWB).

Understanding Current Bluenose-East Herd Size, Trend and Status

The ACCWM met on November 29, 2016 to review information pertaining to the status of the Bluenose-East caribou herd. Prior to that, member boards reviewed information available and had discussions, in preparation for the annual status meeting. During status meeting discussions about Bluenose-East caribou, up-to-date scientific knowledge was provided by ENR biologists, and community knowledge was provided primarily by representatives from three regions – Wek’èezhìi (Tłı̄chq̄), the Sahtú Settlement Area, and the Kitikmeot region of Nunavut.

Status Decision 2016

According to the process outlined in the Management Plan, numerous criteria are used to make a status decision. The information considered by the ACCWM in making the 2016 decision is presented below and summarized in Table 1 at the end of this section. Additional historic scientific information can be found in a report available from ACCWM members and on the ENR website.²

Based on the information provided, the ACCWM determined the Bluenose-East herd status colour zone to be **orange** in November 2016. The 2017/18 actions outlined in this Plan are based on this determination. Each year at the fall status meeting the Action Plan will be reviewed. Concerns were raised about the rate of continued decline and herd size proximity to red zone despite ongoing management actions. The member boards agree there has been inconsistent implementation of management actions range-wide and there is a need for continued conservation of the herd. Complete implementation of actions agreed to under this Plan is required.



The Bluenose-East caribou population status is
ORANGE: intermediate and decreasing

The 2016 status decision was made in accordance with the principles stated in the Management Plan. While some information was provided for all of the criteria outlined in Table 1, it is hoped that in the future, even more information from all regions will be made available to the ACCWM for determining herd status, especially from community and traditional knowledge sources.

² Davison, T. 2016. Technical Report on the Cape Bathurst, Bluenose-West, and Bluenose-East Barren-ground Caribou Herds: companion report to Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds management plan. Department of Environment and Natural Resources, Government of the Northwest Territories. File Report No. 150. 81pp.

Information used in the 2016 Status Decision

Both scientific and community knowledge helped to inform the 2016 status decision. ENR provided current scientific information at the status meeting; the data included here were presented at the meeting. Because ENR conducts photo surveys on calving grounds to estimate herd size every three years, no new population estimates were available (the next survey will be 2018). A brief background to the relevant scientific survey methods are included at the end of this section.

Community information was provided on nine monitoring criteria. The following outlines regional approaches to gather information:

Wek'èezhii (Tłıchq), NWT – Information provided for this region came from two main sources: 1) Community meetings held in November by the Tłıchq Government in Wekweètì, Gametì, and Behchokò; and 2) Submissions encompassing both Bluenose-East and Bathurst caribou herds during the WRRB's 2016 hearing proceedings. Representatives of the WRRB and Tłıchq Government participated in the status meeting.

Sahtú Settlement Area, NWT – Information provided by the Sahtú Renewable Resources Board (ʔehdzo Got'ıne Gots'ê Nákedı, SRRB) draws upon 2015/16 meetings of the Délıne ʔekwé (Caribou) Working Group; ʔehdzo Got'ıne (Renewable Resources Council) meetings in Fort Good Hope, Tulít'a, and Délıne; the Caribou Meeting jointly sponsored by the Sahtú Secretariat, Inc. and SRRB in Colville Lake; and submissions encompassing both Bluenose-East and Bluenose-West herds during the SRRB's 2016 Bluenose East ʔekwé Hearing proceeding.

Kitikmeot Region, NU – Information for the monitoring table was provided by members of the Kitikmeot Regional Wildlife Board (KRWB) and Kugluktuk Hunters and Trappers Organization (KHTO) who took part in the status meeting by teleconference. Their input primarily represents knowledge from the community of Kugluktuk.

An Inuvialuit appointee to the Tuktut Nogait National Park Management Board also commented on one criterion relevant to the Inuvialuit Settlement Region (ISR), NWT – *Human disturbance* (see Table 1). Representatives of the WMAC (NWT) and the Inuvialuit Game Council (IGC) abstained from providing information for the Bluenose-East herd monitoring table as people living in the ISR do not regularly encounter or use these caribou.

Population size

Representatives from Wek'èezhii (Tłıchq) and the Sahtú Settlement Area describe the current population of Bluenose-East caribou as low. The communities are consistently reporting that caribou are fewer in number and harder to find; people have to travel further to encounter them.

ENR’s most recent calving ground survey was conducted in 2015, so no new population estimate was available from biologists for Bluenose-East caribou. The 2015 survey results estimated the herd at $38,592 \pm 4,733$ (95% CI) adults at least 1.5 years old. This number was significantly lower than the herd estimate of $68,295 \pm 18,041$ (95% CI) in 2013 and $102,704 \pm 39,965$ (95% CI) estimated in 2010. Data for these most recent three estimates relevant to current herd status are shown in Figure 4; these estimates are provided with Confidence Intervals (CI) that indicate the range within which the actual population size falls.³ Earlier years of survey results are available in *Taking Care of Caribou* and in the ENR technical report.

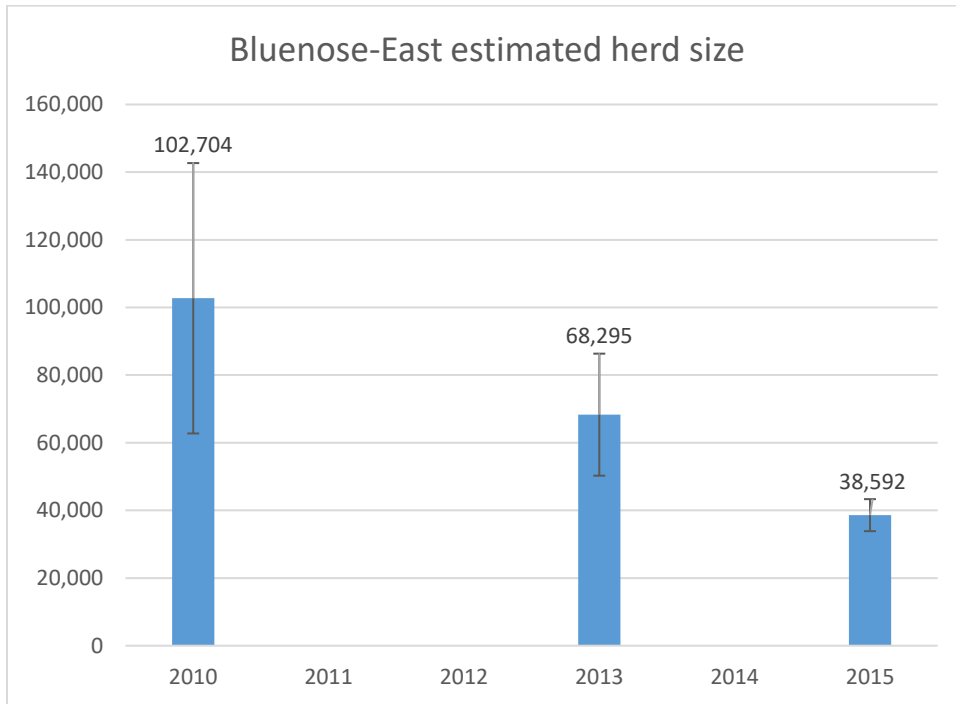


Figure 4: Graph showing Bluenose-East herd estimates from calving ground surveys in 2010, 2013 and 2015.

The estimates of adult caribou in these years are derived in part from estimates made of the number of breeding cows. In 2015 the estimated number of breeding cows was $17,396 \pm 2,308$ (95% CI). This estimate is lower than both estimates of the number of breeding cows made in 2013 ($34,472 \pm 4,364$ (95% CI)) and in 2010 ($51,757 \pm 11,092$ (95% CI)). These data are shown in Figure 5.

³ A count of an entire population of animals would be very costly if not impossible to do. A well-designed survey that samples the area where the population occurs can provide a good estimate of the population size. A confidence interval accompanies a survey estimate, to represent the variation that exists with this method. It means that if the survey were to be done repeatedly under the same conditions, the estimates would fall within that range. So with a 95% confidence interval, if the survey was repeated many times, 95% of the time the estimates would fall within that range.

Population trend and rate of change

Representatives from Wek'èezhii (Tłı̄chǫ), the Sahtú Settlement Area, and the Kitikmeot region of Nunavut all described the current population of Bluenose-East caribou as declining.

A reconnaissance survey was conducted on the Bluenose-East calving grounds in 2016. These surveys are useful indicators of population trend, but do not provide accurate measures of actual population size. The 2016 survey indicates $18,536 \pm 15,686$ (95% CI) caribou that are at least a year old; the 2015 survey result was $20,239 \pm 3,781$ (95% CI) caribou. While the 2016 reconnaissance survey result is associated with a high variance, it does suggest that this herd continues to decline (annual rate of decline 8.4% for 2015/16).

The 2015 calving ground survey results also suggested that herd size had continued to decline and that in recent years there had been a faster rate of decline – the annual rate of decline was 11% between 2010 and 2013, and the annual rate of decline from 2013 to 2015 was 21% (Figure 4).

The June 2015 photo survey suggest that there has been a decline of about 50% in breeding cows over a two year period. This equates to an annual rate of decline of breeding females of about 25% from 2013 to 2015, compared to a slower annual rate of decline of 11% of breeding females from 2010 to 2013 (Figure 5).

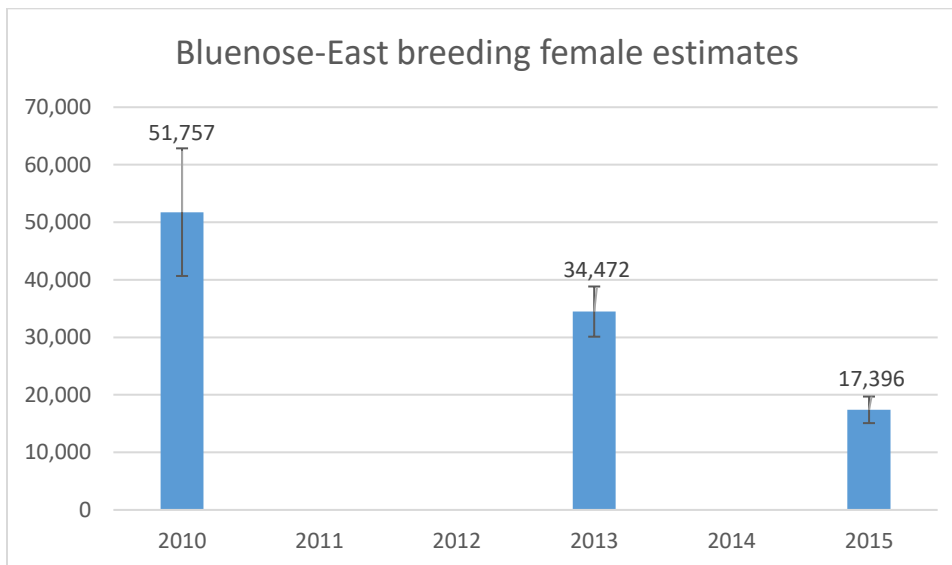


Figure 5: Graph showing estimates of breeding female caribou during calving ground surveys in 2010, 2013 and 2015.

A low pregnancy rate will translate into a lower proportion of breeding females on the calving ground, with the understanding that all non-breeding females may not be found on the calving ground. In both 2010 and 2015 the pregnancy rate of sampled females was approximately 64%; in both these years the calving ground surveys showed a lower proportion of breeding females (Figure 6). These estimates of the proportion of breeding females are only available for

the years (2010, 2013 and 2015) when calving photo surveys are conducted. In addition, pregnancy rates were generally low for cows captured for collar placement in 2012 (60.9% or 84 of 138) across multiple herds.⁴ In that year the pregnancy rate was 64.3% (27 of 42) for Bluenose-East cows captured for collaring.

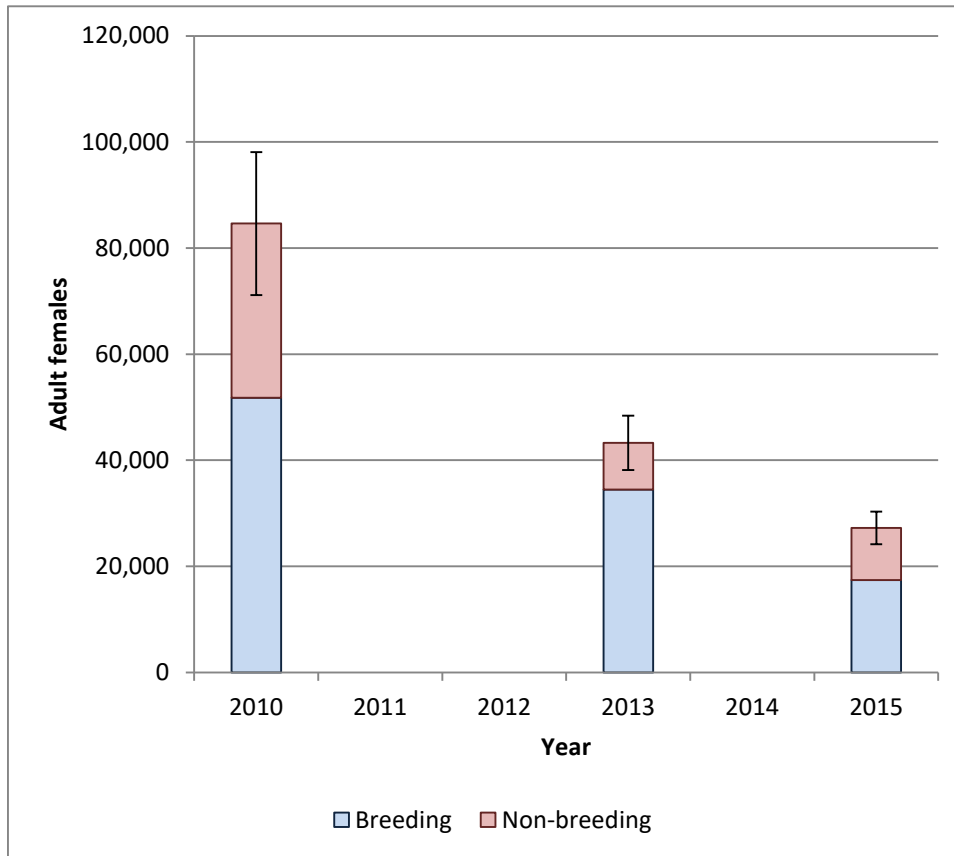


Figure 6: Comparison of 2015 estimate of adult females with estimates from the 2013 and 2010 calving ground surveys.

Productivity and recruitment

Scientific information on pregnancy rates in the Bluenose-East herd comes from two sources: Tłıchq hunter kill information (2010-2014), analyzing samples from collared cows (2010, 2012, 2014), and an ENR composition survey (2015), which can indicate what proportion of breeding-age cows gave birth. The hunter-killed information suggested a fairly low pregnancy rate (~60%) in 2010, and variable rates between 2010 and 2014 (70-100%), however, there were some years that had small sample sizes. The ENR survey suggested a pregnancy rate of 64% for 2014-2015, which is well below what is thought to be a desirable pregnancy rate of at least 80%.

⁴ Adamczewski, J., Boulanger, J., Croft, B., Elkin, B. and H.D. Cluff. 2016. Overview: Monitoring of Bathurst and Bluenose-East Caribou Herds, October 2014. Department of Environment and Natural Resources, Government of the Northwest Territories. Manuscript Report No. 263. 76 pp.

Over the past several years, other scientific population indicators such as calf survival have been consistent with the declining population trend. Often, more than half the calves die in their first few months. Spring calf to cow ratios indicate the proportion of calves that survived through their first nine to ten months (they will become adults and are “recruited” into the herd). A spring ratio of at least 30-40 calves per 100 cows is associated with a stable herd. This measure of calf survival for the Bluenose-East herd was below 30 calves for every 100 cows between 2012 and 2015; in 2016 the number was slightly higher at 31.9 (see Figure 7 and Table 1). In addition, cow survival rates have continued to be below normal – modelling estimated adult female survival at 71% (2008-2015) – and herds need rates of at least 80-85% to maintain stability.⁵

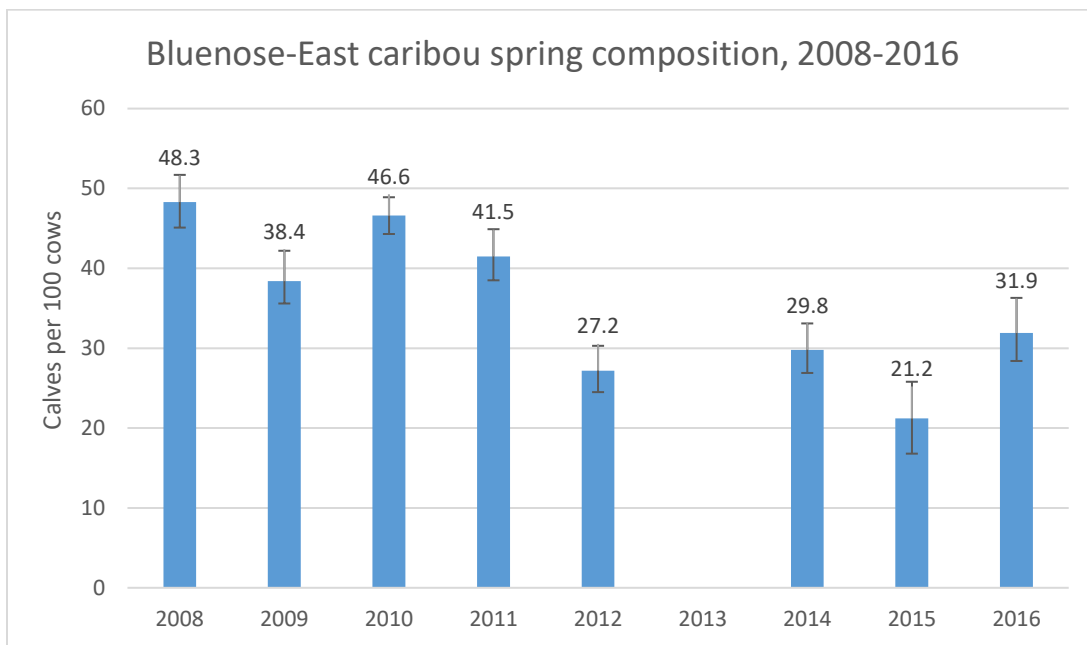


Figure 7: Graph showing recruitment estimates, 2008 – 2015, including 95% Confidence Intervals. No survey was done in 2013.

Representatives of Wek’èezhii (Tłı̄chǫ) and the Sahtú Settlement Area said they have not been hearing anything unusual in regards to productivity and recruitment, nor has there been new information specifically about calves or pregnancy in the communities that encounter the herd. In the Sahtú, observations of twins or triplets can indicate that herd numbers will soon recover, however this has not been seen in recent years.

Reports from the Kitikmeot Regional Wildlife Board are that people are seeing very high numbers of grizzly bears on the calving grounds in Nunavut, and this is affecting calf survival.

⁵ Boulanger, J., B. Croft, J. Adamczewski, D. Lee, N. C. Larter, and L. M. Leclerc. 2016. An estimate of breeding females and analyses of demographics for the Bluenose-East herd of barren-ground caribou: 2015 calving ground photographic survey. Department of Environment and Natural Resources, Government of Northwest Territories. Yellowknife, NT.

Adult composition

The number of bulls per 100 cows was determined by scientists in 2009, 2013, and 2015, and there was little change between the three years of information (see Table 1; 37-43 bulls to 100 cows each year). Steady bull to cow ratios in a period of cow decline would indicate that bulls are likely to be declining at a similar rate to that of cows. The number of bulls is naturally lower than the number of cows and bulls are able to mate with many cows within the same season.

Community representatives from all regions reported that they are not hearing anything outstanding or unusual in regards to the proportion or number of bulls and cows.

Body condition and health

Traditional knowledge studies from Wek'èezhii (Tłı̨chǫ) have documented concerns about caribou health, and recently people are noticing a weird smell when they cut animals open, and seeing weird cysts on the caribou.⁶ These observations are not restricted to Bluenose-East, but are seen in all barren-ground caribou in the area. There were also concerns raised about how forest fires over the last two years may be impacting the food and therefore the health of the caribou.

In the Sahtú, some harvesters observed caribou in really good health in 2016 – some animals in particular seemed nice and fat. Based on this observation, some elders and harvesters suggested that a portion of the herd stayed behind around Hottah Lake and Lac St. Therese this year, and did not travel as far as the calving grounds. This was noted as unusual behavior, however it is possibly happening in the Tłı̨chǫ region also (see ***Range and movement patterns***).

Kugluktuk harvesters said that caribou taken in their late August harvest were healthy.

ENR monitors body condition and health in barren-ground caribou by working with harvesters. Harvesters are asked to measure back fat, and to rate the body condition of the caribou they harvest as Excellent, Good, Fair or Poor. While sample sizes were small some years, evidence from hunter-killed cows of the Bluenose-East herd suggested fair condition between 2012 and 2014, and good condition for 2010-2011. All samples came from Wek'èezhii (Tłı̨chǫ). No new scientific information was available for body condition since then, however ENR also reported that recent studies indicate the warble fly index is increasing similarly to the drought index, and this can have an impact on caribou health.

Harvest levels

Based on harvest reports, the estimated total harvest for the Bluenose-East herd in 2015-2016 was approximately 800 caribou. The following harvests were reported from three regions:

⁶ Dedats'eetsaa: Tłı̨chǫ Research and Training Institute. 2016. Ekwò zò gha dzò nats'édè - "We Live Here For Caribou" Cumulative Impacts Study on the Bathurst Caribou. Tłı̨chǫ Traditional Knowledge and Land Use Study. Behchokò, NT.

- Sahtú (Déljñę) = 150 (mostly cows)
- Tłjchq ~ 373 (mostly bulls)
- Kugluktuk ~190 (likely mostly cows).

There were also harvests in low numbers by other Aboriginal groups in the NWT, and additional mortalities due to wounding losses and unreported harvests were not accounted for. However, because the caribou were far from the communities and hard to get, it was felt that the numbers may be fairly accurate.

Between 2009 and 2014, reported annual harvest levels averaged 2,746 Bluenose-East caribou in NWT, of which 65% were reported to be cows; this does not include unreported harvests. Community plans that include harvest targets are being developed or implemented in three regions currently. In the Sahtú, the community of Déljñę has a harvest objective of 150 animals as part of their conservation plan. In Wek'èezhii (Tłjchq) there is a Total Allowable Harvest (TAH) of 750 animals being implemented. In Nunavut, a TAH of 340 caribou was established in November 2016. Kugluktuk has also completed a community-based management plan for Bluenose-East caribou.

Predator populations

No quantitative scientific data regarding predator populations was available to inform the status decision, however both scientists and harvesters alike say they are seeing high numbers of predators. During caribou surveys between 2010 and 2015 biologists report more grizzly bear sightings than wolves on the calving ground.

In Wek'èezhii (Tłjchq), there is consensus amongst harvesters that wolf packs are bigger, more aggressive, and are coming closer to town more often than in the past. In the Sahtú, community members have noted the positive role that predators play with respect to the herd; there are some harvesters who feel that there are more wolf packs and wolf predation on caribou is increasing. Predator populations (both wolves and grizzly bears) are reported to be high in the Kitikmeot region of Nunavut. Reports from the Kitikmeot Regional Wildlife Board are that people are seeing very high numbers of grizzly bears on the calving grounds in Nunavut, and this is affecting calf survival.

Range and movement patterns

During the 2016 status meeting, ENR biologists presented summary maps showing caribou seasonal movement patterns. These updated seasonal range maps use collar data from cows for 1993 to 2012, and are included in Figures 8 through 10. Overall, scientists report that they are seeing the Bluenose-East range contract to the north, especially the winter range, and that they are seeing more animals out on the tundra now. This pattern is common to several other caribou herds also – when population sizes are low, they tend to stick to core areas; animals tend to occur in more outlying areas when their numbers are high. Data from 2010 to 2015

show high fidelity (~98%) of Bluenose-East cows to their calving grounds and there is no evidence of a significant movement of Bluenose-East caribou to other herds.



Calving

Figure 8: Bluenose-East caribou movement patterns during calving (May 28-Jun. 20) based on collared cows, 1993-2012, 95% Kernel Density polygons.



Winter

Figure 9: Bluenose-East caribou movement patterns during winter (Dec. 26-Apr. 9) based on collared cows, 1993-2012, 95% Kernel Density polygons.



Spring migration

Figure 10: Bluenose-East caribou movement patterns during spring migration (Apr. 10-May 27) based on collared cows, 1993-2012, 95% Kernel Density polygons.

As mentioned in **Body condition and health**, some Délı̄nę (SSA) elders and harvesters have said that they suspect some of the herd stayed behind on the wintering grounds around Hottah Lake and Lac St. Therese – not returning to the calving grounds. It was speculated that this could be due to changes in snow and ice conditions (see **Environment and habitat**). This is based on observations that some caribou seemed to be in really good health in 2016. Délı̄nę harvesters also reported that bulls and cows were more mixed than they expected in the fall of 2015.

Tłı̄ch̄q representatives reported that harvesters now have to travel further to get caribou, and that some movement patterns have changed, possibly due to habitat changes brought on by climate change (e.g., changes in water levels, later freeze-up, etc.). Similar to what was heard in the Sahtú, Tłı̄ch̄q harvesters say that the bulls’ movements have changed in the winter range – they are starting to stay in one spot to make themselves fatter, and in spring they start moving again.

Environment and habitat

During the 2016 status meeting, ENR biologists presented some information pertaining to environmental trends relevant to the Bluenose-East caribou range. Information compiled from 1979 to 2014 indicates that there has been a decline in annual maximum snow depth, and an

increase in the drought index.⁷ 2014 was the highest drought index recording to date; this corresponds to an intense year for fire on the Bluenose-East range. The drought index is important in determining fire severity, and also has implications for the summer vegetation that caribou feed on. Poor summer conditions can result in low pregnancy rates like those seen in the Bluenose-East herd.

In the Sahtú, people are reporting that changes in snow and ice conditions plus increasing dryness in muskeg areas are impacting caribou food and movements. There are also observations that the expanding muskox population is negatively impacting the caribou.

In Wek'èezhìi (Tłı̨chǫ) some harvesters report that weather conditions in 2016 had a negative impact on caribou. Examples given were that ice was not thick enough for the animals to travel on, and icing events following periods of warm weather have made it hard for caribou to access their food. There was also mention that in the last two years some areas of winter range have burned and the caribou can no longer feed there.

Representatives of the Kitikmeot region report that muskox populations are currently high around the east side of Coppermine River (northeast area of Bluenose-East range), and as a result, hunters are taking more muskox lately. High muskox presence tends to deter barren-ground caribou.

Human disturbance

There were no active mines on the Bluenose-East range as of 2016, and limited road access. There has however been exploration activity southeast of Kugluktuk on the Bluenose-East calving grounds from 2014 to 2016 by Tundra Copper Corp. There was consensus amongst meeting participants that this is a significant concern. Potential sources of human disturbance are shown on a map in Figure 11.

In the Sahtú, people have some concerns about the potential disturbance harvesters can have on the leaders of the caribou migration early in the season; this issue is being worked on. There are also concerns that the planned cleanup of mines (Silver Bear Properties) on the east side of Great Bear Lake may create disturbance.

In Wek'èezhìi (Tłı̨chǫ) there are additional concerns about the negative impacts of old explorations and associated remnants left behind.

An Inuvialuit appointee to the Tukturnogait National Park Management Board expressed concerns about possible impacts of research activities in the ISR (especially flights and collaring activities).

⁷ Russell, D. and A. Gunn. 2016. Climate trends on NWT migratory tundra caribou seasonal ranges (Excerpt April 1, 2016). Draft report prepared for ENR-GNWT, March 2016. CircumArctic Rangifer Monitoring and Assessment Network.

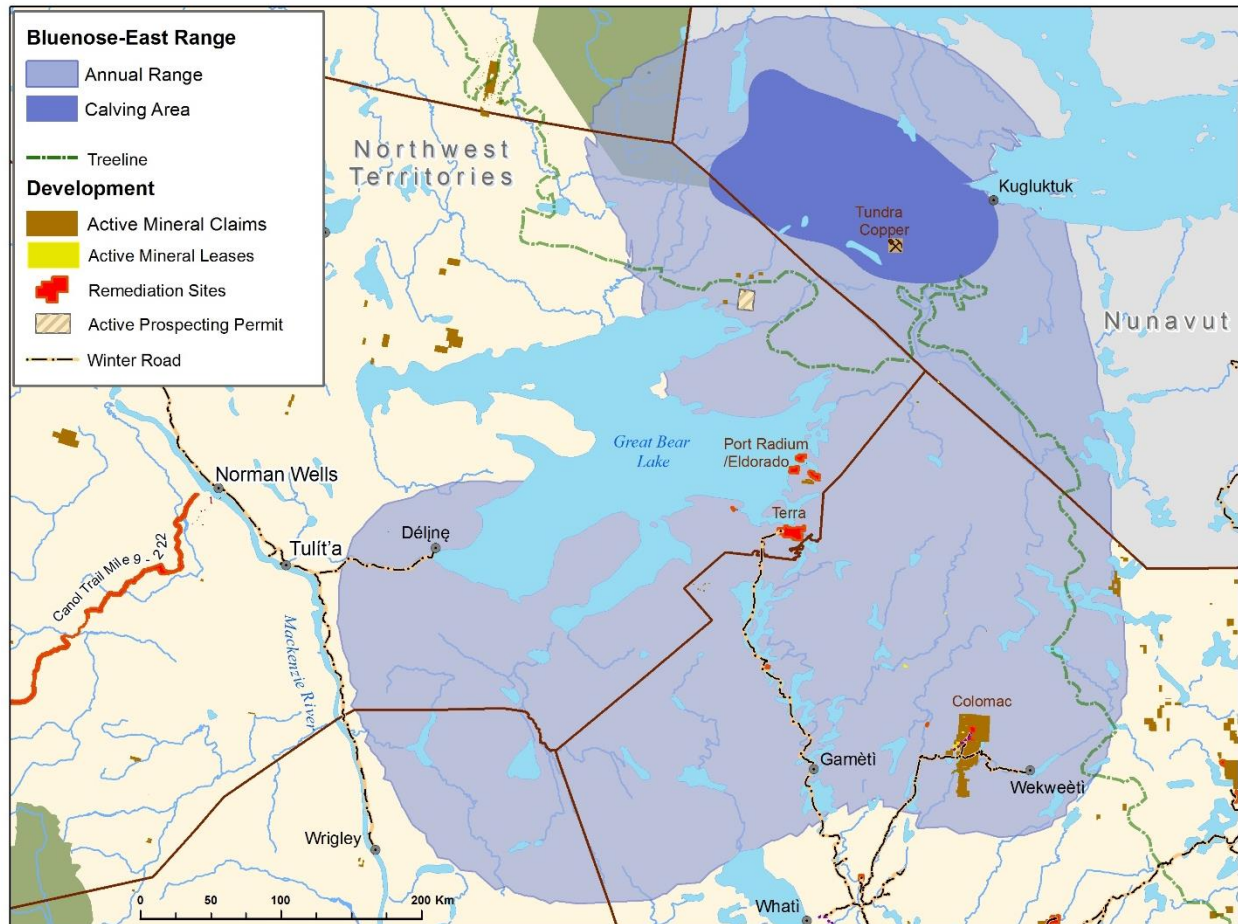


Figure 11: Map showing human disturbance near and on the range of Bluenose-East caribou.

Background to calving ground survey methods

From 2000 to 2006 herd population estimates were done using a post-calving survey method. In 2009 an attempt to get an estimate was unsuccessful as the herd did not aggregate as needed. In 2010 the herd was surveyed using both a calving ground and post-calving survey; since then the calving ground survey technique has been used on this herd. There are four steps involved in doing a calving ground survey:

1. The Bluenose-East herd calving ground survey method starts with reconnaissance work to assess the status of calving and conduct a systematic survey of the calving ground. This preliminary work provides information about the proportion of cows that are calving and an estimate of the number of 1+ year old caribou on the calving ground. This helps researchers know where the caribou are, where they are calving, and the current stage of calving. In years where no photographic survey is done, the reconnaissance survey can also provide a rough estimate of the herd size, and has been shown to reflect the population trends indicated by the photographic survey.

2. The higher density calving ground, as defined by the reconnaissance work, is then surveyed and photographed with specialized planes. Other lower density areas are surveyed visually. This provides a more fine-tuned estimate of the number of caribou on the calving ground.
3. Composition surveys take place twice a year – once during the calving season and once in the fall. These surveys provide information on the bull to cow ratio as well as the pregnancy rate.
4. Estimates of the total herd or population size are then extrapolated using the calving ground photo survey (information from Step 2) and the bull to cow ratio and pregnancy rate (information from Step 3).

Table 1: Criteria used to assess Bluenose-East herd status in 2016.⁸

Criteria	Community-Based Information	Scientific Information	Comments
Population size	Wek'èezhii (Tłjchq): population low Sahtú: population low	Calving ground survey. Number of adult caribou at least 1.5 years old in 2015: 38,592 ± 4,733 (95% CI)	Estimated based on June calving ground photo surveys. Previous herd estimates: 2013 = 68,295 ± 18,041 (95% CI) 2010 = 102,704 ± 39,965 (95% CI)
Population trend and rate of change	Wek'èezhii (Tłjchq): population in decline Sahtú: population in decline Kitikmeot: population in decline	Estimated annual rate of decline = 8.4% (2015-2016) Annual rate of decline = 21% (2013-2015) Decline in breeding cows = 50% (2013-2015) 2016 Reconnaissance Survey (1+ year old caribou) = 18,536 ± 15,686 (95% CI) 2015 Reconnaissance Survey (1+ year old caribou) = 20,239 ± 3,781 (95% CI)	June calving ground photo surveys (number of breeding cows and herd size, ENR): 2015 = 17,396 ± 2,308 (95% CI) 2013 = 34,472 ± 4,364 (95% CI) 2010 = 51,757 ± 11,092 (95% CI) Estimates of adult females (used to estimate trends): 2015 = 27,246 + 3074 (95% CI) 2013 = 43,252 + 5113 (95% CI) 2010 = 84,607 + 13,504 (95% CI) 2016 Reconnaissance survey has high variance (~3,000-34,000), but suggests continued decline. Recon. surveys are useful for indications of trend, not population size.
Productivity and recruitment	Sahtú: twins or triplets are not being noticed (traditional knowledge indicates that when seen, this is an indication of possible recovery to come); last noticed in 1983 Kitikmeot: impacts of grizzly bear predation on calving grounds	Number of calves per 100 cows in Oct 2016 = 43.4 (95% CI 38.9-48.1) Number of calves per 100 cows in June 2016 = 31.9 (95% CI 28.4-36.3) Number of calves per 100 cows in 2015 = 21.2 (95% CI 16.2-24.4) Adult female survival (2013-2015)= 0.71 Pregnancy rates estimated at 64% winter 2014-2015; variable 2010-2014; low in 2010	ENR annual recruitment survey (except in years population estimate is done) Estimated adult female survival based on OLS model Pregnancy rates based on Tłjchq hunter kill information (2010-2014) and ENR composition survey (2015). Sample sizes are small some years, but overall rates are low and a pregnancy rate ≥ 80% is desirable

⁸ This table is populated with information presented to the ACCWM to assess herd status in 2016, and is adapted from the monitoring criteria table included in *Taking Care of Caribou*. Appendix D in this document provides links to specific management action items for each of these criteria.

Criteria	Community-Based Information	Scientific Information	Comments
Adult composition	No information presented at status meeting	Steady number of bulls per 100 cows (37:100 in 2016; 42-43:100 in 2009, 2013, 2015)	ENR composition surveys (follow population estimates or every 2-4 years)
Body condition and health	<p>Wek'èezhii (Tłıchǫ): weird smells on butchering; cysts observed (all barren-ground caribou)</p> <p>Sahtú: last year caribou harvested were good and fat</p> <p>Kitikmeot: in late August harvest caribou were healthy</p>	<p>Condition in hunter-killed cows suggested fair 2012-2014; good 2010/11.</p> <p>Warble fly index increasing similarly to drought index</p>	<p>Body condition information limited – all samples from Wek'èezhii (Tłıchǫ) region and number of samples low some years. Levels of back fat thickness (March), suggest animals in good shape 2010/11 and poorer since.</p>
Harvest levels	<p>Wek'èezhii (Tłıchǫ): ca. 373, mostly bulls</p> <p>Sahtú: Délıneǵ plan is not to harvest in area of Hottah Lake or in the spring; recent higher cow harvest than desired</p> <p>Kitikmeot: harvest levels low on BNE</p>	<p>2015/16 estimated total 800:</p> <p>Kugluktuk ca. 190, likely mostly cows</p> <p>Délıneǵ ca. 150, mostly cows</p> <p>Wek'èezhii (Tłıchǫ) ca. 373, mostly bulls</p> <p>Other Aboriginal groups in NWT harvested low numbers</p>	<p>Reported/estimated NWT harvests averaged 2,746 (65% cows) for 2009-2014; does not include unreported harvests.</p>
Predator populations	<p>Wek'èezhii (Tłıchǫ): wolf packs are bigger and more aggressive; closer to town more often</p> <p>Sahtú: In the Sahtú, community members have noted the positive role that predators play with respect to the herd; there are some harvesters who feel that there are more wolf packs and wolf predation on caribou is increasing</p> <p>Kitikmeot: wolf numbers high on Victoria Island; grizzly bear numbers high as well; not high harvest of wolves and bears</p>	<p>Sighting rates on calving ground surveys 2010-2015 suggest more grizzly bears than wolves</p>	

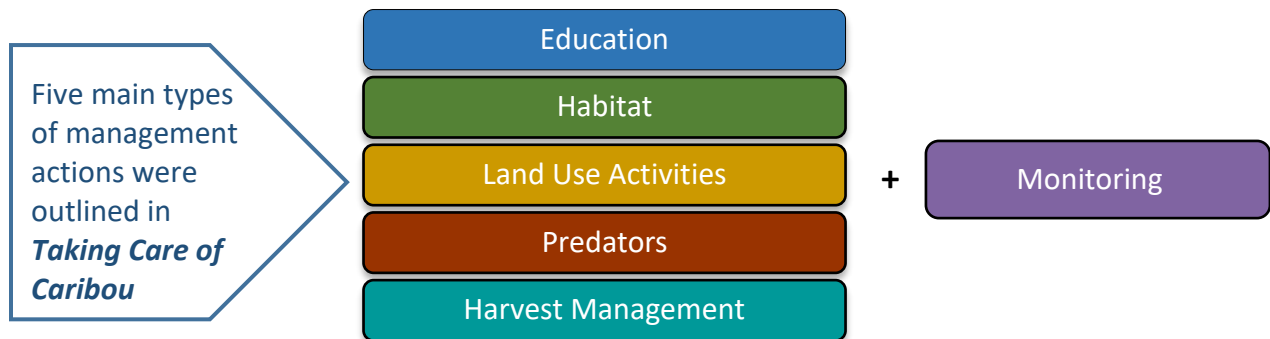
Criteria	Community-Based Information	Scientific Information	Comments
Range and movement patterns	<p>Wek'èezhii (Tłıchǫ): harvesters are travelling further to get caribou; movement patterns have changed (maybe due to habitat changes); bull movements changed</p> <p>Sahtú: Hottah Lake and Lac St. Therese – some caribou may have stayed at wintering grounds; observations of more mixing of males and females in the fall of 2015</p>	<p>Updated seasonal maps presented at status meeting show that Bluenose-East herd range has contracted to the north in recent years, and animals are staying out on the tundra more now. Fidelity to calving grounds based on cow collar data is high (~98% for 2010-2015) and there is no evidence of significant movement of Bluenose-East caribou to other herds</p>	
Environment and habitat	<p>Wek'èezhii (Tłıchǫ): burned areas unusable; weather changes make it hard for caribou; warmer/thin ice; low water levels; icing conditions</p> <p>Sahtú: snow and ice conditions impact movements and access to food; impacts of muskox population expansion in Sahtú region; muskeg area dryness may affect quantity of food</p> <p>Kitikmeot: muskox populations are high at the moment in east side of Coppermine River (NE area of BNE range) meaning there is more muskox harvest lately</p>	<p>Environmental trends suggest increased drought in summer, decreasing snow cover (1979-2014)</p>	

Criteria	Community-Based Information	Scientific Information	Comments
<p>Human disturbance</p>	<p>Wek'èezhii (Tìjchq): concerns about exploration on calving grounds; impacts of old explorations and remnants left behind</p> <p>Sahtú: concerns about harvesting disturbance to leaders of migration early in season; planned Terra Mines cleanup may create disturbance</p> <p>TNNPMB: Concerns about possible impacts of research activities (chopper flights; collaring)</p> <p>Kitikmeot: exploratory camps are inactive at the moment</p>	<p>No active mines on BNE range as of 2016, limited road access. Tundra Copper exploration activity SE of Kugluktuk on calving grounds 2014-2016</p>	

Orange Status Management Actions for Bluenose-East Caribou

Management actions described in *Taking Care of Caribou* fall into five main categories: **Education**, **Habitat**, **Land Use Activities**, **Predators** and **Harvest Management**.

We have included a sixth category here to capture the **Monitoring** actions that were also identified in the Management Plan. Monitoring is a key part of learning and assessing the success of management actions. For the most part, monitoring actions differ from management actions as they are not as dependent on herd status – they are ongoing in many cases, but their frequency or intensity may change with changing status.



To make it easier to find specific information for each of these action categories they have been colour-coded throughout this document.

Different actions are often required depending on whether a herd's status is determined to be green, yellow, orange or red. A table summarizing appropriate management actions for all status levels as agreed to in *Taking Care of Caribou* is included in **Appendix E**. As the status of the Bluenose-East herd is **orange** (intermediate and decreasing), each of the bulleted actions outlined for orange status in that table has now been developed into a series of specific tasks in the **Management Actions Table** of this Action Plan. Links between the monitoring criteria and relevant actions are provided in **Appendix D**.

Because most activities under **Education** and **Habitat** require very long-term approaches to be effective, the suggested management actions remain the same no matter the status of the herd. For actions in the **Land Use Activities**, **Predators**, and **Harvest Management** categories to be responsive to different phases of the population cycle, different actions are required depending on a herd's status – for example, when setting a herd Total Allowable Harvest (see **Appendix F** for an explanation of how allocations and the Total Allowable Harvest for a herd are set).

Management Actions Table for Bluenose-East Caribou: Orange Status

Following principles laid out in *Taking Care of Caribou*, all actions and tasks described in this table will draw upon both community-based knowledge (including traditional knowledge) and scientific information. The ACCWM recognizes that documenting and using traditional knowledge is a priority for all member boards.

A. Education ⁹				
A – 1. Develop education strategy <i>Objective – address community concerns regarding a lack of education (see various themes identified in Taking Care of Caribou) and clarify an approach</i>				
Task	Partners ¹⁰	Performance Measure	Deliverable date	Priority level ¹¹
A.1.1 Strike an Education and Communication Working Group	ACCWM and government partners ¹²	Education and Communication Working Group meeting	2017/18	Top
A.1.2 Develop a Terms of Reference	ACCWM Working Group	Finalized TOR, approved by ACCWM	2017/18	Top
A.1.3 Determine existing materials, programs, gaps, and opportunities for collaboration	Education and Communication Working Group	List of existing materials and programs, and opportunities for collaboration	2017/18	Top
A.1.4 Engage community organizations ¹³ for input on educational strategy	Education and Communication Working Group,	Summary of input / guidance from	2017/18	Top

⁹ Education specific to industrial land uses is dealt with in section C – Land Use Activities (C.3.1 and C.3.2).

¹⁰ Potential partners have been identified for individual tasks. Leads on tasks may vary, and will be determined at a later date.

¹¹ While the ACCWM member boards feel that most of the management actions included here have a high priority, only those tasks and actions that call for immediate attention have been given a priority and deliverable deadline to date. These actions/tasks are categorized as ‘Top’ priority in the table. Further prioritization work (i.e., assigning High Medium or Low priority and deliverable dates to the remaining actions/tasks) will be done at a later date.

¹² Potential government partners include: GNWT, GN, PCA, TG and other Aboriginal Governments.

¹³ Throughout this document, “Engage community organizations” means that the member boards of the ACCWM will decide in any circumstance whether the community perspective is adequately represented within each boards’ discussions, or whether a further process of community/community organizations’ engagement is necessary. ACCWM member boards have discretion as to what community organizations are engaged and how the engagement takes place.

	with assistance from ACCWM	communities and related revisions		
A.1.5 Develop educational strategy, allowing for regional differences	Education and Communication Working Group	Document outlining strategy	2017/18	Top
A.1.6 ACCWM reviews educational strategy and provides advice to member boards ¹⁴ for approval	ACCWM	Advice provided to member boards	2017/18	Top
A.1.7 Implementation of educational strategy	Member boards, government partners and regional partners ¹⁵	Summary report	2017/18 and onwards	Top
A – 2. Develop education materials <i>Objective – address community concerns regarding a lack of education on sustainable and respectful use, as well as caribou ecology</i>				
A.2.1 Develop draft materials based on results of A.1.3 and A.1.4	Education and Communication Working Group	Draft education materials	2017/18	Top
A.2.2 Engage community organizations regarding types of materials and distribution		Summary of input / guidance from communities and related revisions	2017/18	Top
A.2.3 Revise and distribute materials		Send finalized educational materials	2017/18	Top
A – 3. Community education events / programs <i>Objective – address community concerns regarding a lack of education on sustainable and respectful use, as well as caribou ecology. Limit wounding loss and improve identification of individual caribou</i>				
A.3.1 Develop events / programs based on results of A.1.3 and A.1.4	Education and Communication Working Group, with assistance from ACCWM WG and regional partners	Develop 1-3 workshop curricula / programs		

¹⁴ Throughout this Action Plan, the term ‘member boards’ refers to the six boards which are members of the Advisory Committee for Cooperation on Wildlife Management (ACCWM), including the Wildlife Management Advisory Council (NWT), Gwich’in Renewable Resources Board, ʔehdzo Got’Jne Gots’É Nákedı (Sahtú Renewable Resources Board), Wek’èezhii Renewable Resources Board, Kitikmeot Regional Wildlife Board, and Tuktut Nogait National Park Management Board.

¹⁵ Regional partners, which vary significantly by region, may include individual community members, community organizations, such as RRCs/HTCs/HTOs, and regional organizations.

A.3.2 Engage community organizations regarding type and timing of workshops in each region	Education and Communication Working Group, with assistance from ACCWM WG	Summary of input / guidance from communities and related revisions		
A.3.3 Deliver workshops / events	Education and Communication Working Group, with community organizations and government partners	Minimum target: delivery of one workshop / event per region, per year		
A.3.4 Hold sight in your rifle events		Minimum target: delivery of one workshop / event per region, per year		
A – 4. School and youth education events / programs <i>Objective – address community concerns regarding need for education and engagement of youth. Increase knowledge transfer between elders and youth</i>				
A.4.1 Adapt education materials (developed in A – 2) for school use (at elementary and high school levels)	Education and Communication Working Group	Education packages for community agency / organization use		
A.4.2 Adapt community education programs / events (developed in A – 3) for use in school and youth-focused settings appropriate for each community and region (e.g., back to the land camps)		Draft youth-focused workshop curricula / programs		
A.4.3 Engage community organizations regarding types of materials and program delivery		Summary of input / guidance from communities and related revisions		
A.4.4 Program delivery	Community groups / agencies	Minimum target: delivery of one workshop / event per region, per year		
A.4.5 Encourage and promote hunter mentorship – develop programs	Community groups / agencies, with schools	Minimum target: delivery of one workshop / event per region, per year		

B. Habitat

B – 1. Identify and recommend protection for key habitat areas
Objective – address community concerns that key habitat areas are not protected sufficiently

Task	Partners	Performance Measure	Deliverable date	Priority level
B.1.1 Compile and review ENR Technical Report, SARC BGC Status report, land use plans, results of monitoring programs, etc. for information	Government partners and ACCWM WG	Compilation of existing materials	2017/18	Top
B.1.2 Engage community organizations for identification of key habitat areas	ACCWM WG	Summary of input / guidance from communities	2017/18	Top
B.1.3 Identify key habitat areas in a sensitive habitat report based on information from B.1.1 and B.1.2	Government partners and ACCWM WG	Provide report to ACCWM, including draft maps of key areas	2017/18	Top
B.1.4 ACCWM reviews sensitive habitat report and provides advice to member boards for approval	ACCWM	Advice provided to member boards	2017/18	Top
B.1.5 Member boards make and communicate recommendations to appropriate authorities	Member boards	Recommendations provided	2017/18	Top

B – 2. Review results of monitoring, including cumulative effects, to ensure enough habitat is available and caribou are able to move between areas of good habitat
Objective – ensure research and monitoring programs are relevant and addressing current information needs for habitat management

B.2.1 Map and track landscape disturbances	Government partners	Compilation map		
B.2.2 Identify and review recent relevant information (e.g., including results from research, monitoring; see C – Land Use Activities, also F – Monitoring Actions)	ACCWM WG and government partners, academics	Summary report	Every year before annual status meeting	
B.2.3 Identify and / or review any gaps or previous gaps assessments		List of gaps identified		
B.2.4 Seek collaborators to help refine research questions and knowledge gaps		Advice included / received from collaborators		
B.2.5 ACCWM reviews information and provides advice	ACCWM	Advice provided to member boards		

for research and monitoring based on information from B.2.1-4				
B.2.6 Member boards make and communicate recommendations to appropriate authorities	Member boards	Recommendations provided		
B – 3. Recommend important habitat as a ‘value at risk’ for forest fire management <i>Objective – ensure sufficient winter habitat for caribou</i>				
B.3.1 Based on results of B – 1 and as results of B – 2 are available, provide advice to member boards on values at risk	ACCWM	Key areas identified for fire management and advice provided to member boards		
B.3.2 Member boards make and communicate recommendations to fire management	Member boards	Recommendations provided		

C. Land use activities

C – 1. Review results of cumulative effects monitoring programs
Objective – ensure cumulative effects monitoring programs are operational and relevant

Task	Partners	Performance Measure	Deliverable date	Priority level
C.1.1 Building on work done in Habitat (B – 2), identify and review recent relevant information (e.g., CIMP, ENR, DOE)	ACCWM WG and government partners	Summary report		
C.1.2 Identify and / or review any gaps or previous gaps assessments		List of gaps identified. Collation of previous gap assessments		
C.1.3 ACCWM reviews information and provides advice for research and monitoring based on information from C.1.1 and C.1.2	ACCWM	Advice provided to member boards		
C.1.4 Member boards make and communicate recommendations to appropriate authorities	Member boards	Recommendations provided		

C – 2. Provide advice on mitigation of industrial impacts to proponents and regulators
Objective – minimize industrial impacts to caribou and their habitat

C.2.1 Identify parties involved in industrial activities on a herd's range (e.g., regulators, proponents and active developers)	ACCWM WG and other relevant agencies / partners (e.g., Land and Water Boards, ILA)	List of regulators, proponents, active developers		
C.2.2 Engage community organizations to identify land use concerns and how they should be addressed. Engage with regulators to identify any existing protocols	ACCWM WG	Summary of input / guidance from communities and current regulatory protocols		
C.2.3 Identify and / or develop mitigating advice and / or recommendations, targeted to specific audiences, including standards provided in <i>Taking Care of Caribou</i> (Appendix G)	ACCWM WG, regional and government partners	Recommendations provided		
C.2.4 ACCWM reviews information and advises member boards	ACCWM	Advice provided to member boards		
C.2.5 Member boards make and communicate recommendations to proponents (including air carriers and other subcontractors) and regulators, including updates on herd status and sensitive habitat report	Member boards	Recommendations provided; results of C.2.2 and herd status provided		
C – 3. Provide active and accessible communication and recommend education programs for all, including proponents and airlines <i>Objective – address concerns regarding land use activities impacting caribou habitat, and a lack of information on best practices / mitigating advice</i>				
C.3.1 Develop and / or adapt existing education packages specific to proponents, regulators, air carriers and any other users not already covered by actions in A – Education, and C – 1 and C – 2 (recreational, traffic)	Education and Communication Working Group	Draft materials		
C.3.2 Communicate educational materials developed in C.3.1		Finalized materials sent out		
C – 4. Recommend increased enforcement of land use regulations, including community monitors ¹⁶				

¹⁶ Enforcement is an action whereby delegated officers ensure compliance to an act of parliament or legislative assembly, or a regulation disseminated under an act where there is a sanction for failure to “comply” normally in

<i>Objective – evaluate and track effectiveness of enforcement, and ensure community monitoring programs have a role in supporting application of land use regulations</i>				
C.4.A.1 Identify relevant agencies involved in inspection, enforcement and monitoring	ACCWM WG and other relevant agencies / partners (e.g., Land and Water Boards, ILA)	List of relevant agencies and regulations		
C.4.A.2 Compile and review acts / regulations and current inspection and / or enforcement strategies and levels	ACCWM WG and regional partners	Summary report		
C.4.A.3 Engage community organizations regarding enforcement approaches	ACCWM WG and government partners	Summary of input and guidance		
C.4.A.4 Based on information from C.4.A.2 and C.4.A.3, assess enforcement, and provide advice about increased inspection or enforcement and / or regulation changes as required	ACCWM	Advice provided to member boards		
C.4.A.5 If and as required, member boards provide recommendations to appropriate authorities	Member boards	Recommendations provided		
C.4.B.1 Compile and review information on capacity, roles and opportunities for community monitors. Include identification of existing programs	ACCWM WG and regional partners	Summary report		
C.4.B.2 Engage community organizations regarding potential opportunities for community monitors	ACCWM WG and regional partners	Summary of input and guidance		
C.4.B.3 Provide advice and ensure that mitigating advice provided in (C.2.3) includes roles for community monitors where appropriate	ACCWM	Advice provided to member boards		
C.4.B.4 If and as required, member boards provide	Member boards	Recommendations provided		

the form of a fine or imprisonment. Monitoring is an action whereby community monitors (as described in this plan) observe and report on all aspects of land-use activities and wildlife management to the relevant agencies and/or regulators. A community monitor has no delegated legal authority.

recommendations to appropriate authorities				
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D. Predators

D – 1. Review results of research programs that monitor predator abundance and predation rates
Objective – determine which predators impact caribou and the relative intensity of their impacts

Task	Partners	Performance Measure	Deliverable date	Priority level
D.1.1 Gather, compile, review and present predator research and monitoring results to ACCWM (including community and scientific monitoring results)	ACCWM WG and government partners	Summary report	2017/18	Top
D.1.2 Engage community organizations to identify and prioritize research needs	ACCWM WG	Summary of input / guidance from communities	2017/18	Top
D.1.3 Identify and prioritize research needs based on information resulting from D.1.1 and D.1.2	ACCWM WG and government partners	Advice provided to ACCWM	2017/18	Top
D.1.4 ACCWM reviews and provides advice to member boards	ACCWM	Advice provided to member boards	2017/18	Top
D.1.5 Member boards recommend research priorities to appropriate authorities	Member boards	Recommendations provided	2017/18	Top

D – 2. Consider recommending options for predator management
Objective – review information from all partners to determine whether predator management is a viable option

D.2.1 Compile results from research regarding predator management / control programs	ACCWM WG and government partners	Literature review		
D.2.2 Engage with other jurisdictions that have predator control experience		Information for summary report		
D.2.3 Identify jurisdictional / regional rules and regulations around predator management		List of existing regulations and rules		
D.2.4 Compile and review information from D.2.1-3		Summary report		
D.2.5 Engage community organizations regarding potential options for predator management		Summary of input / guidance from communities		

D.2.6 ACCWM provides advice to member boards regarding options for predator management	ACCWM	Advice provided to member boards		
D.2.7 If justified, member boards recommend predator management tools to appropriate authorities	Member boards	Recommendations provided, if needed		

E. Harvest Management

E – 1. Recommend no resident, outfitter or commercial harvest¹⁷

Objective – limit licensed harvest to assist in herd recovery

Task	Partners	Performance Measure	Deliverable date	Priority level
E.1.1 Based on results of discussions concerning a Total Allowable Harvest (TAH) and harvest ratios, member boards make and communicate recommendations to appropriate authorities	Member boards	Recommendations provided		

E – 2 Recommend a mandatory limit on subsistence harvest based on a TAH accepted by the ACCWM¹⁸

Objective – limit subsistence harvest to assist in herd recovery

E.2.A.1 Compile historical and current harvest information by region	Member boards and government partners	Summary documents		
E.2.A.2 Review information from preceding step with community organizations and advise regarding regional processes (e.g., public hearings)	Member boards and regional partners	Summary of input / guidance from communities		
E.2.A.3 Meetings to discuss and propose regional proportional allocations ¹⁹	Member boards and other traditional users	Provide percentages for		

¹⁷ The process differs in Nunavut, where the Land Claim Agreement (1993) specifies that an Inuk “shall have the right to dispose freely to any person any wildlife lawfully harvested. This includes the right to sell, barter, exchange and give either inside or outside the Nunavut Settlement Area” (5.7.30).

¹⁸ As strict conservation measures are needed areas with land claim agreements establish a Total Allowable Harvest (TAH). As circumstances require each ACCWM member (with the exception of the TNNPMB) will set the TAH for their region. When a herd is shared over land claim areas and/or areas without settled land claim agreements proportional allocations are set as to determine how the user groups will share the TAH.

¹⁹ The processes for determining Total Allowable Harvests and regional allocations are described in Appendix F.

		inclusion in Action Plan		
E.2.B.1 Based on information presented at annual status meeting, ACCWM proposes a herd TAH and sex ratio	ACCWM	Proposed TAH and definition of majority bull harvest	Every year, following annual status meeting	
E.2.B.2 ACCWM advises member boards regarding the proposed herd TAH, based on E.2.B.1	ACCWM	Proposed TAH provided to member boards		
E.2.B.3 Each member board consults with communities on regional TAH as required by their respective land claim agreements (including public hearings as required by respective land claim agreements)	Member boards	Summary of input / guidance from communities and related revisions		
E.2.B.4 Boards recommend TAH to Minister		Recommendations provided		
E – 3. Recommend a majority-bulls harvest, emphasizing younger and smaller bulls and not the large breeders and leaders <i>Objective – ensure selective harvest to assist in herd recovery</i>				
E.3.1 Based on results of discussions concerning TAH and harvest ratios (E.2.B.1-3), member boards make and communicate recommendations to appropriate authorities	Member boards	Recommendations provided		
E – 4. Prioritize the collection of harvest information (see F – 1. Develop harvest monitoring program) <i>Objective – record accurate harvest information</i>				
E.4.1 Assess status of harvest reporting programs (see F – Monitoring) and identify any roadblocks / challenges to success	ACCWM WG with government partners and regional partners	Review report of existing programs	2017/18	Top
E.4.2 Based on E.4.1, work with communities / partners to identify what additional support or cooperation is needed, and how best to provide it		Regional workshops as required	2017/18	Top
E.4.3 Adjust educational programming or communication plan if required (see A – Education)		Revised materials, as needed	2017/18	Top
E – 5. Recommend harvest of alternate species and encourage increased sharing, trade and barter of traditional foods, such as the use of community freezers				

<i>Objective – explore other species to harvest to reduce pressure on caribou</i>				
E.5.1 Based on available information, identify alternate species populations whose status allows increases in harvest	ACCWM WG with government partners	List and rationale of potential alternate species / populations		
E.5.2 Engage community organizations to determine regionally appropriate species / populations	ACCWM WG	Summary of input / guidance from communities and related revisions		
E.5.3 Based on information resulting from E.5.1 and E.5.2, develop list of regionally appropriate alternate species for harvest		List of alternate species		
E.5.4 ACCWM reviews list and provides advice to member boards	ACCWM	Advice provided to member boards		
E.5.5 Member boards recommend alternate species populations to users. Collaborate with partners to recommend the development and funding of harvest or sharing programs (may include trade and barter, community hunts or freezers, etc.)	Member boards	Recommendations provided		
E.5.6 Adapt existing Communication Plan and educational materials to better promote use of alternate species (see A – Education and Appendix C)	Education and Communication Working Group	Draft communication plan and education materials		
<i>E – 6. Recommend increased enforcement including community monitors (see footnote clarifying monitoring and enforcement responsibilities at C – 4). Objective – maximize approaches and tools to ensure compliance of regulations</i>				
E.6.A.1 Identify relevant agencies involved in inspection, enforcement and monitoring	ACCWM WG and other relevant agencies / partners (e.g., Land and Water Boards, ILA)	List of relevant agencies		
E.6.A.2 Compile and review acts / regulations and current strategies and levels of inspection and enforcement	ACCWM WG and regional partners	Summary report		

E.6.A.3 Engage community organizations and enforcement officers regarding enforcement approaches	ACCWM WG and government partners	Summary of input / guidance		
E.6.A.4 Based on information from E.6.A.2 and E.6.A.3 assess enforcement and provide advice about inspection and enforcement strategies and levels.	ACCWM WG and regional partners	Advice provided to member boards		
E.6.B.1 Compile and review information on capacity, roles and opportunities for community monitors. Include identification of existing programs	ACCWM WG and regional partners	Summary report		
E.6.B.2 Engage community organizations regarding potential opportunities for community monitors	ACCWM WG and regional partners	Summary of input and guidance		
E.6.B.3 Provide advice about roles for community monitors where appropriate	ACCWM	Advice provided to member boards		
E.6.B.4 Member boards provide recommendations to appropriate authorities	Member boards	Recommendations provided		

F. Monitoring

F – 1. Develop a comprehensive harvest reporting program

Objective – develop or adapt existing harvest reporting programs to collect and provide standardized harvest data from all regions

Task	Partners	Performance Measure	Deliverable date	Priority level
F.1.1 Compile and review information on existing harvest reporting programs and develop minimum standards	ACCWM WG	Summary report	2017/18	Top
F.1.2 Engage community organizations regarding appropriate programs for harvest data collection		Summary report	2017/18	Top
F.1.3. Adapt harvest reporting programs based on information from F.1.1 and F.1.2. to standardize harvest data		Finalized harvest reporting program	2017/18	Top

F.1.4 Implement harvest data collection program	Member boards and government partners	Collections initiated	2017/18	Top
F.1.5 Establish annual data reporting template		Template	2017/18	Top
F.1.6 Adapt and / or develop database and protocols		Pilot database program developed	2017/18	Top
F.1.7 Gather, compile and present total herd harvest data to ACCWM	ACCWM WG	Summary report	2017/18	Top
F – 2. Develop and initiate community-based monitoring (CBM) programs (including observational and experiential data) <i>Objective – develop or adapt existing community-based monitoring programs to collect data in a format that can be used for decision-making</i>				
F.2.1 Compile and review information on existing community-based monitoring programs	ACCWM WG	Summary report		
F.2.2 Compile existing traditional knowledge documentation and identify any new documentation / work required as basis for a community-based monitoring program	ACCWM WG with regional partners	Draft ‘state of traditional knowledge’ report(s)		
F.2.3 Engage community organizations regarding appropriate programs for community-based monitoring to collect herd status information (see Table 1 in <i>Taking Care of Caribou</i>)	ACCWM WG	Summary of input / guidance from communities		
F.2.4 Adapt and / or develop CBM program(s) based on information from F.2.1-3		Finalized CBM program		
F.2.5 Recommend appropriate CBM programs including traditional knowledge studies	Member boards	Recommendations provided		
F.2.6 Establish data-sharing arrangements and / or information-sharing protocols	Member boards and regional partners	Signed data-sharing agreements		
F.2.7 Adapt and / or develop database	ACCWM WG	Database program developed		
F.2.8 Gather, compile and present results to ACCWM	Regional partners	Summary report	Annual ACCWM meeting	
F – 3. Conduct scientific monitoring to assess herd status				

<i>Objective – develop or adapt existing scientific monitoring programs to collect data in a format that can be used for decision-making</i>				
F.3.1 Compile and review information on existing scientific monitoring programs	Government partners and regional partners	Summary report		
F.3.2 Engage community organizations regarding appropriate programs for scientific monitoring to collect herd status information (see also F.2.3) and appropriate ways to collaborate	ACCWM WG	Summary of input / guidance from communities		
F.3.3 Research and develop mechanism for collaboration between regions, compiling information and reporting on research programs	ACCWM to determine responsible parties	Decide on mechanism for collaboration		
F.3.4 Construct scientific monitoring schedule based on engagement and Table 1 in <i>Taking Care of Caribou</i>	ACCWM WG	Annual report / work plan	Annual status meeting	
F.3.5 Support appropriate scientific monitoring studies	Member boards	Approval by member boards	Annual status meeting	
F.3.6 Establish information sharing protocols	Government partners	Information shared according to protocol		
F.3.7 Gather, compile and present results to ACCWM		Status of all monitoring criteria communicated to the ACCWM	Annual status meeting	

Appendix A: List of ACCWM Working Group members

The ACCWM formed a working group to draft the Action Plans that accompany the *Taking Care of Caribou* Management Plan. The Working Group included representatives of the following organizations:

- ʔehdzo Got'Inę Gots'ę Nákedı (Sahtú Renewable Resources Board)
- Dehcho First Nations²⁰
- Department of the Environment, Government of Nunavut
- Environment and Natural Resources (ENR), GNWT
- Gwich'in Renewable Resources Board
- Inuvialuit Game Council
- Kitikmeot Regional Wildlife Board
- Kugluktuk Angoniatit Association (Hunters and Trappers Organization)
- Nunavut Wildlife Management Board, and
- Parks Canada Agency
- Tuktut Nogait National Park Management Board
- Wek'èezhii Renewable Resources Board
- Wildlife Management Advisory Council (NWT).

²⁰ The Dehcho First Nations organization is part of the Working Group, but has had very limited involvement. There is an outstanding invitation for them to join the ACCWM.

Appendix B: Terms of reference for the ACCWM annual status meeting

Background

Taking Care of Caribou: the Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds Management Plan outlines a long-term framework for management actions that are based on a herd's status. The ACCWM is responsible for determining herd status each year and recommending appropriate management actions based on that status. This is done at an annual status meeting, normally held in late November. Management and action planning are based on a July 1 to June 30 harvest year.

Purpose of the Annual Status Meeting

The purpose of the annual status meeting is to:

- Assess the population status of the herd,
- Determine the management (colour) zone that applies to the herd based on the assessment, and
- Recommend management actions for the following year.

Financial Considerations

The individual boards of the ACCWM are responsible for expenses related to their members' participation, and the administrative costs of convening meetings, as outlined in their Memorandum of Understanding (2016). Individual boards of the ACCWM will cover the expenses of their members' travel to and participation in the annual status meeting. They will take turns hosting the meeting, and will cover the costs for the meeting room and other associated costs of hosting the meeting. Host boards may seek supplementary funding to cover these costs as needed. All other participants of the annual status meeting are responsible for costs they may incur in their participation.

Host requirements

The meeting chair/host party shall provide secretariat services to the Committee for the hosted meeting. For further clarity, secretariat services include, but are not limited to, organizing a meeting, preparing a meeting agenda, coordinating preparation of background information, taking notes and preparing meeting minutes and correspondence.

Meeting preparation

Preceding the annual status meeting, the following steps will take place:

1. A meeting date will be set by the ACCWM and communicated to all partners
2. Researchers, community members, and other interested parties may be invited to present information and/or participate as appropriate, eight weeks prior to the status meeting

3. Eight weeks prior to the meeting, member boards will collect, compile and coordinate monitoring information to be shared with other boards. Other agencies and organizations that may also have information will be approached at this time (*e.g.*, PCA, GN, *etc.*). Member boards use this information to populate the monitoring table
4. Four weeks prior to the meeting, parties need to confirm attendance at meeting. Regionally populated versions of the monitoring table are then distributed to confirmed attendees. This will include all information available from community monitoring, traditional knowledge work and scientific monitoring, and will include harvest information
5. There is an expectation that each member board will come to the annual status meeting prepared to discuss herd status and propose management actions through consensus.

Meeting format

The annual status meeting will be organized into two working sessions, with the following steps taking place during those sessions:

1. Public information and comment meeting
 - Review available information from each region
 - Receive presentations, summary reports, etc.
 - Review and discuss actions that were implemented in preceding year
 - Review and evaluate implementation of actions under communications strategy
 - Introduce and discuss actions that are proposed for upcoming year.
2. In-camera meeting of the ACCWM and support staff
 - Finalize monitoring table, based on all regional input
 - Collectively review and discuss all available community-based information (including traditional knowledge) and scientific information
 - Member boards deliberate to determine herd status, considering all information that was presented during the public information and comment meeting
 - Evaluate implementation of priority actions in Action Plan from previous year
 - Review recommended management actions based on status and prioritize actions for coming year
 - At the conclusion of each meeting, the participating members shall determine the chair/host and date of the next meeting.

Meeting deliverables:

1. Written summary of the meeting, including proposed status decisions for three herds, the populated monitoring table, and a rationale for the status decision for review and consideration by each member board
2. Recommendations for prioritized, status-appropriate management actions and revised Action Plans

3. Revised communications actions as needed
4. Determination of the confidentiality of the information.

Following the annual status meeting, the chairs of the member boards present these deliverables to their respective boards for review and consideration. Each member board then follows the process laid out in their land claim agreements to determine whether they support, oppose or accept the recommended status and associated actions with comments or revisions.

Within 30 days, the ACCWM representatives will each meet with their individual member boards (via teleconference or in person) to formalize their board's position regarding the status decision and recommended actions. Each member board then communicates their position to the Minister; other ACCWM member boards are copied on this correspondence. The ACCWM then submits updated Action Plans for implementation. In Nunavut, the Kitikmeot Regional Wildlife Board will communicate their position regarding status and actions to the Nunavut Wildlife Management Board (NWMB) for a decision. The NWMB then will forward their decision and recommendations to the Department of Environment Minister for approval prior to implementation.

Amendments to Annual Status Meeting Terms of Reference

This Terms of Reference will be reviewed from time to time as the ACCWM member boards may determine. Any member board may propose amendments at any time, but amendments proposed within three months of the annual status meeting shall not be reviewed by the ACCWM until after the meeting. The board proposing the amendment(s) has a responsibility to forward them to all member boards. Boards shall have 90 days to provide comment. Once approved by all the member boards, the amended Terms of Reference shall supersede any previous versions.

Appendix C: Communication Plan

This communications plan is a living document. Its current version reflects the knowledge and understanding of the ACCWM during the first round of action planning in 2015 and early 2016. It is expected that it will evolve as the ACCWM and its member boards continue to implement *Taking Care of Caribou* and the associated Action Plans. This communication plan addresses the specific context of managing for these caribou herds in the NWT and Nunavut, which includes a diversity of indigenous and non-indigenous cultures and languages, and various types of wildlife management institutions. This plan focuses on formal communications while recognizing that a lot of communication takes place in informal ways in the north (for example, one on one conversations, phone calls, etc.).

Goals and Objectives

Clear principles and methods for communication will help to ensure that:

- All groups can effectively participate in sharing knowledge of the caribou and of the Management Plan;
- Groups will work together to discuss and implement effective management actions; and
- Trust and confidence in management processes will be built.

Taking Care of Caribou describes communications about caribou stewardship as being accessible and active, as well as two-way between knowledge holders and wildlife managers.

Our goals are for communications about Action Plan implementation to be regionally appropriate. Communications should also be timely so that no one is left guessing as to what decisions have been made, what events are planned, what herd status and monitoring results are, and what activities and actions are underway. Successful communications should help support decision making, and help build awareness and understanding of who the ACCWM is, as well as its mandate and those of its member boards. When sharing information with the public, our goal is to be consistent and make materials clearly identifiable and related to *Taking Care of Caribou*.

Communication objectives may change as management actions are implemented, depending on the type of ideas and information being shared. Many objectives are interconnected and some communications will touch on multiple objectives. Our overall objectives are: announcing and sharing information; building awareness; increasing community and partner participation; and education. Below are some examples of the types of information that may be shared for each of these objectives as *Taking Care of Caribou* is being implemented:

Announcing and Sharing Information

- *Taking Care of Caribou* Management Plan, Community Engagement Report, Technical Scientific Report

- Herd specific Action Plans
- Decisions made by wildlife managers
- Meetings or public events
- New programs and how to participate
- Changes to policy or regulations
- Newly complete reports or reviews
- Perspectives and knowledge
- Partner, community or organizational discussions, concerns or activities with regard to the caribou.

Building Awareness

- ACCWM, mandate and members
- Newly implemented programs
- Successful events held
- Recognition of partnerships and teamwork.

Increasing Community and Partner Participation

- Motivating harvesters to participate in sampling programs
- Encouragement of the public to follow management decisions
- Recruiting people to help plan events
- Recruiting people to participate in meetings or events related to management actions
- Requesting partner feedback or participation on working groups
- Requesting funding support for management actions.

Education

- ACCWM, mandate and members
- Management and Action Planning processes
- The colour-coded herd status
- Any voluntary or regulated limits on harvesting, such as changes to regulations
- Rationale for harvest regulations (e.g., why harvesting mostly bulls rather than cows may be preferable)
- What is being researched or monitored and why
- Results of research or monitoring programs
- Impacts of current or proposed land use activities to caribou and ways to mitigate impacts
- Educational themes, such as promotion of respectful hunting and butchering practices, information about caribou diseases and human health risks, and other themes described in ***Taking Care of Caribou***. (Note: other education specific activities are including in the Education section of the management actions table in this document).

Responsibilities

An Education and Communication Working Group will help prepare official communications about ***Taking Care of Caribou*** and the implementation of management actions that come from the ACCWM as a committee to the public, or that come from ACCWM member boards on

behalf of the ACCWM to their regional communities. Such official communication is a different type of communication than when community organizations or individuals contact their HTC, RRC or ACCWM member board, for example.

The ACCWM and the Education and Communication Working Group need to ensure that overall messaging about the ACCWM and its member boards as well as situational messaging are pre-approved. The ACCWM and its Working Group also need to consider their communication objectives, both long standing and situational, when considering messaging. In addition, the Education and Communication Working Group should also track input given to the ACCWM and ACCWM responses to those inputs. For example, this may include feedback regarding a potential product from a target audience.

The individual boards of the ACCWM will each be responsible for delivering the prepared communications within their regions as scheduled. They will be required to assist the Education and Communication Working Group by giving timely feedback and direction regarding what methods, messages, and audiences will be appropriate for meeting communication objectives in their regions.

While communication will span both formal and less formal methods, overall it will rely on teamwork and cooperation to successfully deliver common messaging about *Taking Care of Caribou* and associated actions.

Target Audiences

For every type of communication method used in implementing management actions, care will need to be taken to determine the specific audience and to target communications appropriately. Several examples of possible target audiences for communication include:

- Youth and schools
- Harvesters
- Proponents and developers
- Regulators
- Air carriers
- Visitors
- Potential funders.

A further task of the Working Group will be to consider how to incorporate languages into communication messaging to ensure that it is regionally appropriate. It is expected that the ACCWM and the Education and Communication Working Group will be responsible for developing messaging that can be adapted by member boards to regional situations with local languages incorporated according to individual board protocols. The Working Group and ACCWM can be a forum for sharing best practices in using local languages.

Timing and Frequency

For *Taking Care of Caribou* to be successful, it is important that communications are timely and appropriately paced. There need to be regular annual communications of the work of the ACCWM. There will also need to be communications that are responsive to decisions between annual status meetings, including responses to urgent situations. The Education and Communication Working Group can help respond through assignments from the ACCWM to prepare materials in these different situations. The Education and Communication Working Group can also make recommendations to the ACCWM regarding timing and frequency.

Again, the individual boards of the ACCWM have a high level of responsibility in ensuring that communications and reviews of draft products prepared by the Working Group are done in a timely fashion and are appropriate for their region.

Methods

There are many communication techniques which may be used depending on the particular message and the intended audience. The Education and Communication Working Group, with feedback from regional partners, will need to consider what each target audience encounters, reads, listens to, watches and engages in, to help place messages where they will be seen and accessed, and to ensure that communications are in a suitable format for the chosen audience. Visual messaging that helps the public easily recognize *Taking Care of Caribou* communications should be used in products prepared by the Education and Communication Working Group. For example, communications may include a recognizable logo with “*Taking Care of Caribou*” as the tagline.

Examples of possible communication methods that were suggested by community members during public engagements for *Taking Care of Caribou* include:

- Posters
- Fliers and brochures
- Radio announcements and programs
- School visits
- Presentations, such as at HTC or RRC meetings
- Newsletters
- Promotional materials (*e.g.*, items such as caps, T-shirts, mugs, bumper stickers, magnets, cloth grocery bags, *etc.*)
- Internet and social media, such as organization websites, Facebook pages, YouTube feeds, podcasts
- Letters to the Editor
- News stories, columns, and reports
- Press releases and press conferences
- Written or in-person briefings to airlines or developers
- Community events, such as on-the-land gatherings, sight-in your rifle events, *etc.*
- Word of mouth

- Music
- Exhibits and public art
- Books or other reading material, such as education modules
- Television (*e.g.*, cable stations can show PowerPoint ads for a low cost; purchased ad time can also be used to convey messages)
- DVDs, such as hunter training videos
- Theatre plays or skits
- Story telling.

The annual status meeting of the ACCWM and its Working Group is another opportunity for face-to-face communication between representatives of management agencies, community members, the public and scientists.

Resources

Successful communications will depend on the availability of resources, including staff, funds and other resources, such as technical equipment needed for various media types. Adequate funding will need to be sought out and budgeted for to ensure that full opportunity is provided for dialogue about the status of herds and management actions being considered or underway. Care should be taken to look for opportunities for partnerships and donated resources that might be available for communications needs (*e.g.*, in editing, translating, printing, publishing and disseminating information).

Evaluation

Each year, the ACCWM will meet to review implementation of the Action Plan(s). Part of this review will include an evaluation of communications made to and from the ACCWM, Plan partners, and the public. It is important to evaluate how well communications were carried out and how well they worked in meeting communications goals and objectives. A template for evaluation can be built from the list of objectives and should also include consideration of the Education and Communication Working Group process and its interactions with and responsiveness to direction from the ACCWM. The communications plan itself will also be reviewed for possible revisions at that time. Good communication would mean that groups effectively participated to share knowledge, and that they worked together to discuss and implement actions and built trust and confidence in management processes. As with the Management Plan, an adaptive management approach will be taken to ensure communications are effective as *Taking Care of Caribou* is implemented.

Appendix D: Criteria used to assess herd status with links to relevant actions in the Management Actions Table for Bluenose-East Caribou: Orange Status

Information	Examples of links to relevant actions in Management Actions Table
Population size	A. Education (A.2, A.3, and A.4) C. Land use activities (C.2 and C.3) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.2 and F.3)
Population trend and rate of change	A. Education (A.2, A.3, and A.4) C. Land use activities (C.2 and C.3) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.2 and F.3)
Productivity and recruitment	A. Education (A.2, A.3, and A.4) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.2 and F.3)
Adult composition	A. Education (A.2, A.3, and A.4) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.2 and F.3)
Body condition and health	A. Education (A.2, A.3, and A.4) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.1, F.2, and F.3)
Harvest levels	A. Education (A.2, A.3, and A.4) E. Harvest Management (E1, E.2, E.3, and E.4) F. Monitoring (F.1, F.2, and F.3)
Predator populations	A. Education (A.2, A.3, and A.4) D. Predators (D.1 and D.2) F. Monitoring (F.2 and F.3)
Range and movement patterns	A. Education (A.2, A.3, and A.4) B. Habitat (B.1, B.2, and B.3) C. Land use activities (C.1, C.2, C.3, and C.4.B) E. Harvest Management (E.2 and E.4) F. Monitoring (F.2 and F.3)
Environment and habitat	A. Education (A.2, A.3, and A.4) B. Habitat (B.1, B.2 and B.3) C. Land use activities (C.1, C.2, C.3, and C.4.B) F. Monitoring (F.2 and F.3)
Human disturbance	A. Education (A.2, A.3, and A.4) B. Habitat (B.1, B.2, and B.3) C. Land use activities F. Monitoring (F.2 and F.3)

Appendix E: Summary table of management actions presented in *Taking Care of Caribou*

Management Actions Based on Herd Status/Colour Zone				
Management Action	The population level is intermediate and increasing	The population level is high	The population level is intermediate and decreasing	The population level is low
Education	<p>Recommend education programs for all status levels. Ideas for educational themes include:</p> <ul style="list-style-type: none"> • Promoting total use of harvested caribou, and proper butchering and storage methods; • Limiting wounding loss; • Letting the leaders pass; • Promoting community hunts with experienced hunters; • Use of alternate species; and • Increased sharing of traditional foods. 			
Habitat	<ul style="list-style-type: none"> • Identify and recommend protection for key habitat areas; • Review results of monitoring, including cumulative effects, to ensure enough habitat is available and caribou are able to move between areas of good habitat; • Recommend important habitat as a 'value at risk' for forest fire management. 			
Land use activities	<ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of industrial impacts to proponents and regulators. 	<ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of the impacts of exploration and development activities to proponents and regulators. 	<ul style="list-style-type: none"> • Review results of cumulative effects monitoring programs; • Provide advice on mitigation of industrial impacts to proponents and regulators; • Provide active and accessible communication and recommend education programs for all including proponents and airlines; • Recommend increased enforcement of land use regulations, including community monitors. 	<ul style="list-style-type: none"> • Work directly with proponents and regulators of exploration and development activities to advise on mitigation measures; • Review results of cumulative effects monitoring programs; • Provide active and accessible communication and recommend education programs for all including proponents and airlines; • Recommend increased enforcement of land use regulations, including community monitors.

Management Actions Based on Herd Status/Colour Zone				
Management Action	The population level is intermediate and increasing	The population level is high	The population level is intermediate and decreasing	The population level is low
Predators	<ul style="list-style-type: none"> Continue research programs to monitor predator condition (e.g., carcass collection and community monitoring programs). 	<ul style="list-style-type: none"> Continue research programs to monitor predator condition (e.g., carcass collection and community monitoring programs). 	<ul style="list-style-type: none"> Review results of research programs that monitor predator abundance and predation rates; Consider recommending options for predator management. 	<ul style="list-style-type: none"> Review results of research programs that monitor predator abundance and predation rates; Consider recommending options for predator management.
Harvest	<ul style="list-style-type: none"> Recommend easing limits on subsistence and then resident harvests ; Consider recommending outfitter and commercial harvests at discretion of the ACCWM. 	<ul style="list-style-type: none"> Support harvest by beneficiaries of a Land Claim and members of an Aboriginal people, with rights to harvest wildlife in the Region; Recommend that if subsistence needs are met resident harvest should be permitted (with limits); Potentially recommend resident (non-beneficiary), non-resident, sport hunts, and/or commercial harvests. 	<ul style="list-style-type: none"> Recommend a mandatory limit on subsistence harvest based on a TAH accepted by the ACCWM; Prioritize the collection of harvest information; Recommend no resident, outfitter or commercial harvest; Recommend a majority-bulls harvest, emphasizing younger and smaller bulls and not the large breeders and leaders; Recommend harvest of alternate species and encourage increased sharing, trade and barter of traditional foods, such as the use of community freezers; Recommend increased enforcement including community monitors. 	<ul style="list-style-type: none"> Recommend harvest of alternate species and meat replacement programs, and encourage increased sharing, trade and barter of traditional foods; Prioritize the collection of harvest information; Review of mandatory limit for subsistence harvest for further reduction; Recommend increased enforcement including community monitors; Resident, commercial, or outfitter harvest remain closed.

Appendix F: Determining allocations and Total Allowable Harvests

In areas of Nunavut and the NWT that have land claims agreements, when strict conservation measures are needed, a Total Allowable Harvest (TAH) is established. The TAH is based on what is considered to be an acceptable percentage of the herd to harvest, considering where it is in its population cycle, whether cows or bulls are harvested, and associated risks to the herd. This means that as a herd's status changes, the TAH will change.

Harvest allocations are an agreed-upon set percentage of how the total harvest from a herd is shared between groups. Agreements about allocations are based on harvest levels and according to the requirements of regional legislation and of land claims agreements. Priorities for harvest allocations are laid out in *Taking Care of Caribou* (p. 48).

The ACCWM recognizes that it is important to work collaboratively when discussing a TAH for shared herds. With the exception of the TNNPMB, each ACCWM member may, if circumstances require, set a TAH for their region; allocation is then done within the region according to what is outlined in individual land claims. Within this setting, communities may also choose to voluntarily restrict harvest – for example, a regional council such as an HTO may set community by-laws that affect harvesting.

