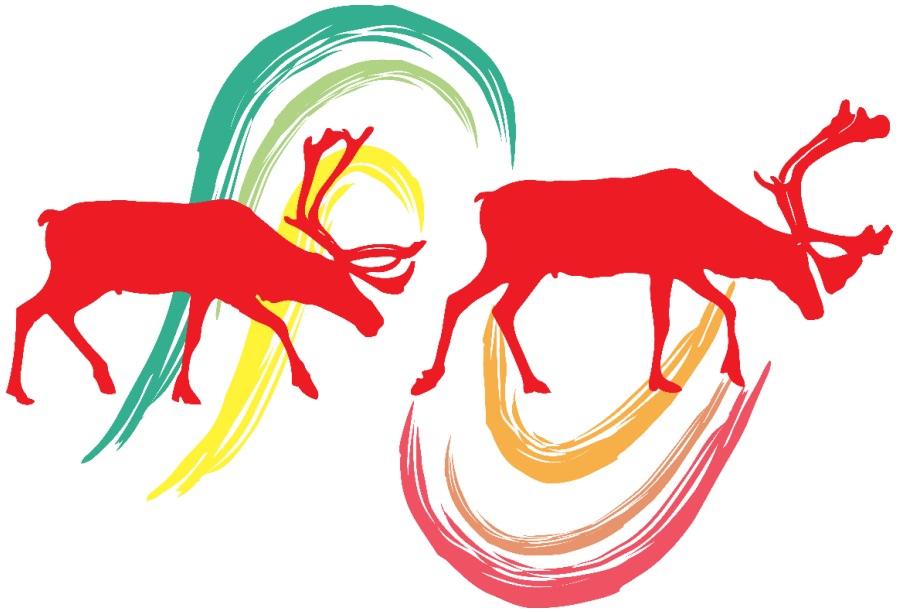
ACCWM Annual Status Meeting Summary
November 19–21, 2019

CAPE BATHURST CARIBOU
BLUENOSE-WEST CARIBOU
BLUENOSE-EAST CARIBOU



Prepared by the Advisory Committee for Cooperation on Wildlife Management

March 2020

Suggested citation:

Advisory Committee for Cooperation on Wildlife Management. 2020. Annual Status Meeting Summary for the Cape Bathurst, Bluenose-West, and Bluenose-East Caribou Herds. Yellowknife, NT.

Production note:
This meeting summary was prepared by the Advisory Committee for Cooperation on Wildlife Management Working Group. For additional copies contact:

Advisory Committee for Cooperation on Wildlife Management
c/o Wek'èezhìı Renewable Resources Board
102 A 4504 49th Avenue, Yellowknife, NT X1A 1A7 Tel.: (867) 873-5740 Fax: (867) 873-5743
Email: jpellissey@wrrb.ca

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'ı̨nę Gots'ę́ Nákedı (Sahtú Renewable Resources Board), Wek'èezhìı 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 17 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 summarizing 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.

Contents

Contents i
Tables ii
Acronyms Used in This Plan iii
Introduction 4
Management and Action Planning Overview 5
Roles and Responsibilities 7
How a Herd's Status and Appropriate Management Actions Are Determined 8
Communications 9
Cape Bathurst Status Assessment 10
Understanding Current Cape Bathurst Herd Status 11
The 2020 Management Setting 11
Status Decision 2019 11
Presentations Given at the 2019 Annual Status Meeting 13
Inuvialuit Community Knowledge Presentation 13
Gwich'in Community Knowledge Presentation 14
Presentation on Scientific Information 15
Table 6: Criteria used to assess Cape Bathurst herd status in 2019 20
Bluenose-West Status Assessment 32
Understanding Current Bluenose-West Herd Status 33
The 2020 Management Setting 33
Status Decision 2019 33
Presentations Given at the 2019 Status Meeting 35
Inuvialuit Community Knowledge Presentation 35
Gwich'in Community Knowledge Presentation 36
Tuktut Nogait National Park Management Board Presentation 36
Sahtú Community Knowledge Presentation 37
Presentation on Scientific Information 39
Table 12: Criteria used to assess Bluenose-West herd status in 2019 44
Bluenose-East Caribou 58
Understanding Current Bluenose-East Herd Status 59
The 2019 Management Setting 59

Status Decision 2019 60
Presentations Given at the 2019 Annual Status Meeting 61
Sahtú Community Knowledge Presentation 61
Tłı̨chǫ Community Knowledge Presentation 62
Kugluktuk Community Knowledge Presentation 64
Presentation on Scientific Information 65
Table 14: Criteria used to assess Bluenose-East herd status in 2019 68
Appendix A: List of ACCWM Working Group Members 75
Appendix B: Terms of Reference for the ACCWM Annual Status Meeting 76
Appendix C: Communication Plan 79
Appendix D: Background to Some Survey Information Used in the Action Plans 84
Scientific Knowledge: Background to post-calving survey methods 84
Traditional and Community Knowledge: 2018 community engagement or survey methods 85
Appendix E: Determining Allocations and Total Allowable Harvests 85

Tables

Table 1: CB Rivest population estimates (2000–2018). 15
Table 2: Results from hunter harvest body condition sampling for Tuktoyaktuk Peninsula and Cape Bathurst caribou combined. 17
Table 3: Results from hunter-collected back fat and health sampling for the Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined. 18
Table 4: Results from hunter-collected back fat and health sampling for the Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined. 19
Table 5: Number of wolf carcasses/samples submitted to ENR by Tuktoyaktuk and Inuvik hunters, 2007–2018. 20
Table 6: Criteria used to assess Cape Bathurst herd status in 2019 20
Table 7: BNW Rivest population estimates (2000–2018). 39
Table 8: Results from hunter-harvest body condition sampling for Bluenose-West caribou. 41
Table 9: Results from hunter-collected back fat and health sampling for the Bluenose-West herd combined. 42
Table 10: Harvest data for Bluenose-West collected by ENR, Inuvik Region since quota implementation in 2007. 42
Table 11: Number of wolf carcasses/samples submitted to ENR by Paulatuk hunters, 2007–2019. 43
Table 12: Criteria used to assess Bluenose-West herd status in 2019 44
Table 13: BNE population estimates (2000–2018). 65
Table 14: Criteria used to assess Bluenose-East herd status in 2019 68

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
ISR	Inuvialuit Settlement Region
ITH	Inuvik-Tuktoyaktuk Highway
NWMB	Nunavut Wildlife Management Board
NWT	Northwest Territories
PCA	Parks Canada Agency
RRC	Renewable Resources Council
SE	Standard Error
SRRB	Sahtú Renewable Resource Board
TAH	Total Allowable Harvest
TG	Tłı̨chǫ Government
TNNPMB	Tuktut Nogait National Park Management Board
WEMP	Wildlife Effects Monitoring Plan
WMAC (NWT)	Wildlife Management Advisory Council (Northwest Territories)
WWHPP	Wildlife and Wildlife Habitat Protection Plan

Introduction

This ***ACCWM Annual Status Meeting Summary*** 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 part of a collaborative management planning process that has involved 17 communities in six land-claim areas over the last ten years. It is a companion document to the Action Plans describing the specific actions for each herd 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).*** This document summarizes the traditional and local knowledge and scientific information presented at the 2018 Annual Status Meeting, methods used by the Boards to collect information for the monitoring tables, and other relevant information pertaining to the Annual Status Meeting.

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), IGC, GTC, SSI, TG, DCFN, PCA (Western Arctic Field Unit), NTI and KHTO (KAA) n 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

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.

categories of management actions are outlined in the Plan, including ***Education***, ***Habitat***, ***Land Use Activities***, ***Predators***, and ***Harvest Management***.

Separate Action Plans were developed for each of the three herds. These Action Plans lay out specific objectives, tasks, and priorities for the herds. They also provide further details on the parties responsible for management actions, as well as how and when these actions 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 for three to five years, but are reviewed annually and may be revised as needed. Action Plans for 2017/18 and 2018/19 were developed after the ASMs. In 2018, the ACCWM decided to write a meeting summary and then separate action plans that focus on the action tables for each herd.

The ultimate goal of the ACCWM *Taking Care of Caribou Process* (the Management Plan, Annual Status Meeting Activities, Meeting Summary and the Action Plans) is to ensure that there are caribou for today and for future generations.

The management goals 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 Cape Bathurst, Bluenose-West, and Bluenose-East 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.

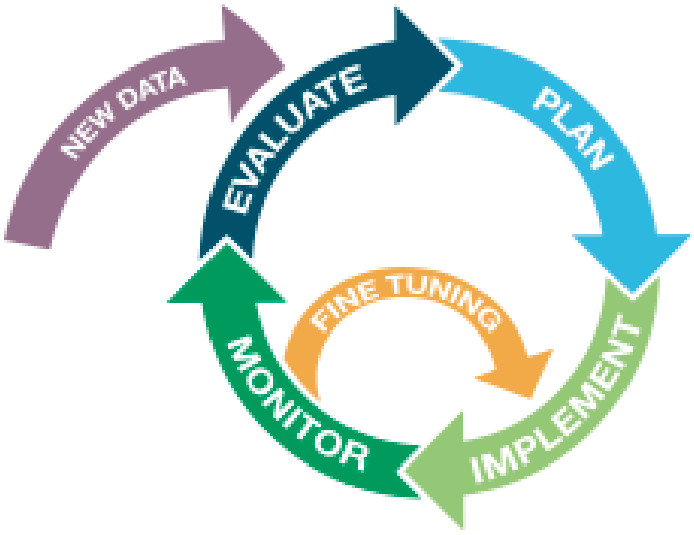


Figure 1: Diagram showing the process of an adaptive management cycle (figure from Weeks, R., and S. Jupiter. 2013. Adaptive Comanagement of a Marine Protected Area Network in Fiji. Conservation Biology, Vol. 27, No. 6: 1234-1244.)

Issues thought to be affecting barren-ground caribou have been identified

collaboratively through both scientific research and community engagement. Certain 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 management 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).

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

The Management Plan provides an overall framework for how this cooperation can take place. An inclusive, consensus-based approach is used at all stages of the planning process. Sometimes, management topics can be controversial and coming to an 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. To increase understanding and help us remain aware and respectful of differences in points of view throughout the planning cycle, the Action Plans include information on **"sharing perspectives"**. These are glimpses into some of the ways in which our culture, training, or beliefs influence our approach to management or our worldview. They are based on discussions that arose during planning and are intended to provide further insights into the 'hot topics' described in the Management Plan.

Each ACCWM Member Board is responsible for approving 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. All Member Boards recognize that implementation of the Action Plans needs to be collaborative, effective only with community input and support.

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'ı̨nę Gots'ę́ Nákedı (Sahtú Renewable Resources Board (SRRB))
- Wek'èezhìı Renewable Resources Board (WRRB)
- Kitikmeot Regional Wildlife Board (KRWB), and
- Tuktut Nogait National Park Management Board (TNNPMB)

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 toward 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.

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.

Sharing Perspectives: Naming Caribou

Each Indigenous region in NWT and Nunavut has a traditional name for barren-ground caribou. Some within the Bluenose-East range include: tuktuvialuk, tuktut, ɔedə, ɔekwę́, and ɔekwǫ̀ in Inuvialuktun, Inuinnaqtun, K'áhsho Got'ı̨ne/Dela Got'ı̨nę, Délı̨nę Got'ı̨nę, and Tłı̨chǫ dialects and languages. Indigenous names are mostly based on an understanding that 'caribou are caribou' – that is, that there are no real differences amongst herds. As a result, Indigenous names tend not to reflect scientific understandings or naming protocols of distinct herds based on calving grounds.

To coordinate management actions across different regions, we needed to develop a shared understanding of which caribou we were talking about. ACCWM members agreed to use the scientific definition of three herds and prepare separate action plans with specific management directives for Cape Bathurst, Bluenose-West, and Bluenose-East caribou. The framework and principles laid out in the Management Plan apply to the entire range of the three herds together.

These differences in language and points of view can lead, at times, to confusion in co-management settings. As a result, some Indigenous communities are developing more specific terms to differentiate among herds. For example, Délı̨nę has suggested ʔehdaı̨la Goɔekwę́ as an appropriate Délı̨nę Got'ı̨nę term for barren-ground caribou within Bluenose-East range. Similarly, the Tłı̨chǫ term Sahtı ʔekwǫ̀ more clearly describes caribou within the area of Sahtı (Great Bear Lake).

While it is acknowledged and respected that the use of correct Indigenous names can help to convey traditional understandings of caribou, as these Action Plans span several regions, incorporating first languages into the main body of the plans is challenging. As the ACCWM refines the action planning process and regions expand their inputs, inclusion of Indigenous languages and perspectives may evolve over time.

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 (GWNT-ENR), 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**.

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

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:

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.

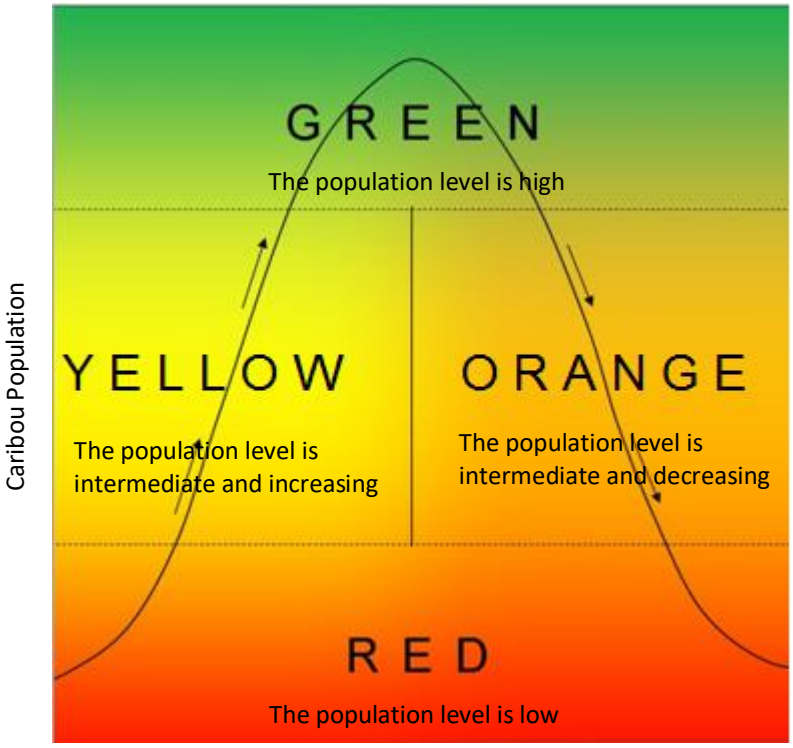


Figure 2: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans.

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 the appropriate prioritized actions, their objectives, and what specific tasks will be done, by whom, and within what timeframe.

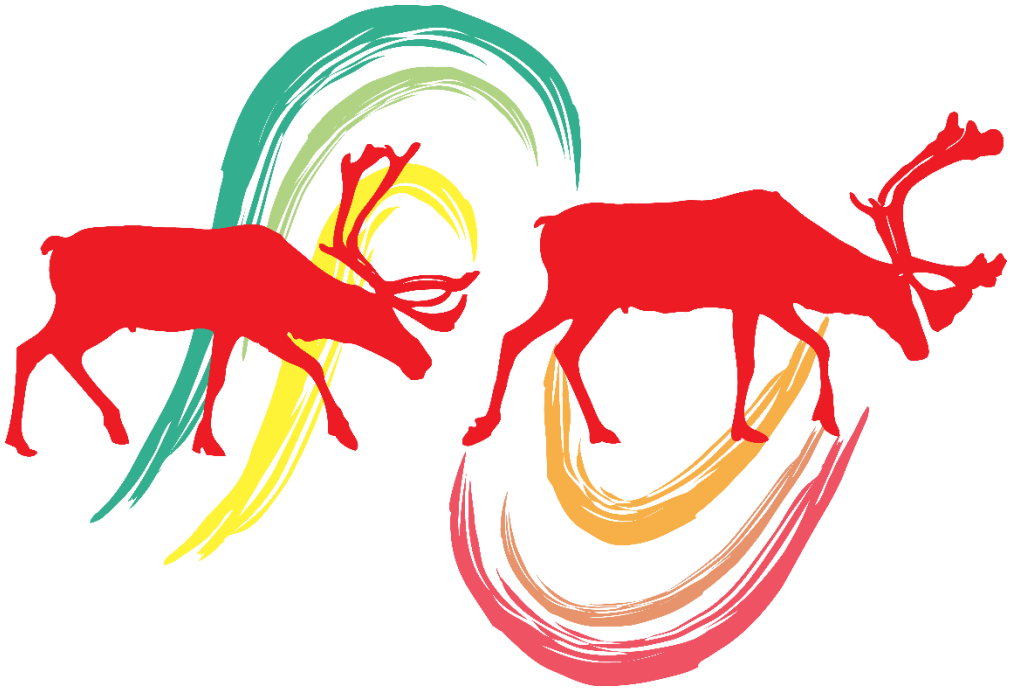
Communications

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 about the ACCWM and its processes and outputs will include efforts from the ACCWM as a collective and its individual Member Boards, the territorial governments, local resource management organizations such as HTCs, HTOs, and RRCs, 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**.

CAPE BATHURST CARIBOU

– RED STATUS –



Tuktuvialuk (Inuvialuktun, Siglitun dialect)
Vadzaih (Teetł'it and Gwichya Gwich'in)

Understanding Current Cape Bathurst Herd Status

The ACCWM met on November 20th, 2019 to review information pertaining to the status of the Cape Bathurst caribou herd. Prior to that, Member Boards reviewed information available and held discussions in preparation for the annual status meeting. During status meeting discussions about Cape Bathurst caribou, scientific knowledge was provided by ENR biologists. Community knowledge was provided from two regions: the Inuvialuit Settlement Region (ISR) and the Gwich'in Settlement Area (GSA).

The 2020 Management Setting

At the start of the 2019 status meeting, a roundtable was held to give participants an opportunity to provide a brief update on some of the management actions and developments that arose in their region over the course of the last year.

Within the range of the Cape Bathurst caribou, people talked about some concerns that were raised at last year's status meeting, such as the completion of the Inuvik-Tuktoyaktuk Highway (ITH), the need to protect calving grounds, and that the overlap of the Cape Bathurst and Bluenose-West ranges may be resulting in the harvest of Cape Bathurst caribou. In addition to these ongoing management concerns, several items that could have implications for Cape Bathurst caribou were also brought forward to the group:

- **Species at Risk Assessments:** COSEWIC has assessed barren-ground caribou as Threatened. The federal SARA listing has not been undertaken yet. Depending on listings, work on recovery planning and identification of critical habitat may need to happen.
- **Draft Caribou Management Strategy (2018–2022):** GNWT-ENR is awaiting Cabinet review and approval; will then be submitted for public/broader review and approval.
- **Completion of the ITH:** The highway opened in November 2017 and may be leading to increased access to Cape Bathurst caribou on their winter range and problems with dust on vegetation. ENR is using existing collars and monitoring data to analyze the impacts of the road on caribou.
- **Rise in signs of climate change:** There are more landslides, slumping, and warmer temperatures; the impacts on caribou are hard to predict.

Status Decision 2019

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 3 (below) along with the approximate thresholds for the Cape Bathurst (CB) herd.

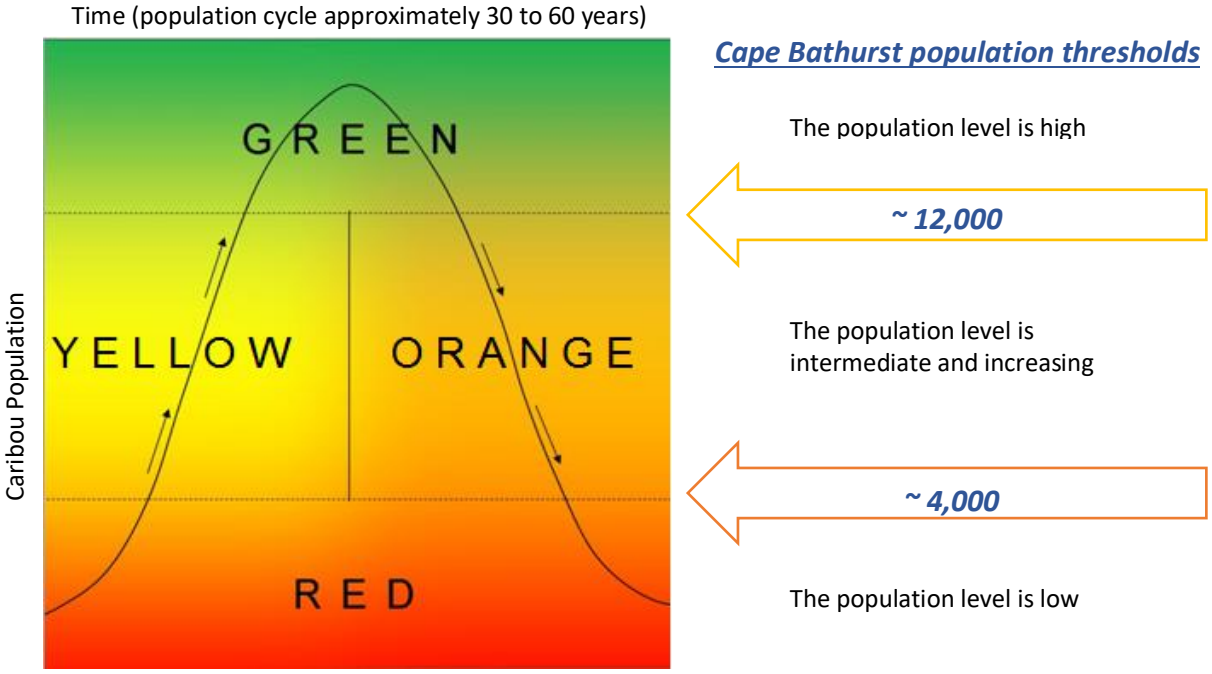


Figure 3: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans with defined Cape Bathurst population thresholds.

According to the process outlined in the Management Plan, numerous criteria are used to make an annual status decision. Information considered by the ACCWM in making the 2019 decision is summarized in Table 6 below.

Based on the information provided, the ACCWM determined the Cape Bathurst herd status colour zone to remain **red (low)**. Discussions regarding this year's status continued past the Annual Status Meeting. Based on community observations, the WMAC (NWT) proposed a yellow (increasing) status at the Annual Status Meeting. The GRRB did not feel there was sufficient evidence of a population increase to support the status change at this time. After further discussion and correspondence, the boards agreed to maintain the more conservative status designation, **red (low)** The ACCWM noted that the population appears to be slowly

In 2020/21

the Cape Bathurst caribou population status is

RED: low

recovering based on the community observations presented. As there are still concerns about the low population numbers, hunting pressure along the Inuvik-Tuktoyaktuk Highway and the potential use of Bluenose-West caribou tags for harvesting Cape Bathurst caribou in the areas where the ranges of the two herds overlap, the ACCWM felt that there was sufficient evidence that the status for the herd should remain **red (low)**.

Presentations Given at the 2019 Annual Status Meeting

Both scientific and community knowledge helped to inform the 2019 status decision; further details on some of the relevant survey methods are included in **Appendix D**. ENR provided the most recent scientific information; the data included here were presented at the meeting.

Some community information was provided on each of the ten monitoring criteria. The following outlines regional approaches to gathering information:

Inuvialuit Settlement Region (ISR), NWT – Information provided for this region was summarized from public meetings held in Inuvik and Tuktoyaktuk during a community tour with representatives from WMAC (NWT). Representatives of the WMAC (NWT) participated in the status meeting.

Gwich'in Settlement Area, NWT – The Gwich'in Renewable Resources Board held a community meeting that included Cape Bathurst and Bluenose-West caribou in the 4 Gwich'in communities. In addition, the GRRB interviewed 6 BNW tag holder and 2 RRC coordinator. Shared information is included in the table as "GRRB". GRRB representatives participated in the annual status meeting.

Representatives of other regions did not provide information specific to Cape Bathurst monitoring, as people living in those areas did not regularly encounter or use these caribou.

Inuvialuit Community Knowledge Presentation

Larry Carpenter (WMAC-NWT)

The Inuvialuit Community Knowledge Presentation is largely covered in Table 6.

Jimmy Kalinek mentioned that he and other hunters are getting bulls near Inuvik which are looking really healthy. In the fall, they are twice the size of a cow and thick with fat. The fat is so thick that some will cut half of it off and freeze it. The extra fat is great to cook with.

The game council has been hearing that the sample incentive is too low. So, at WMAC-NWT's last meeting they supported a request for increasing ENR's incentives in the ISR that will be forwarded to the GNWT. People talk about the need to hunt wolves all the time, but no one is going out to do so because the cost isn't worth it.

Larry Adjun (KHTO) remarked that there are a lot of good young hunters in the Kugluktuk region who are going out and they're doing a good job with the hides so they can get the maximum value for their wolves. The combined incentives from both the GNWT and Nunavut helps a lot.

> *It's good to hear that. I enjoy [hunting wolves]. It's something I like to do. My boy wants a cell phone but I say you don't need one. It's just going to distract you. We set snares with him. Yeah, he goes out each weekend. I like to hear the comments that you are educating them and that those groups are doing it. - Jimmy Kalinek*

Gwich'in Community Knowledge Presentation

Édouard Bélanger (GRRB)

This presentation focused mainly on the data presented in the status table (see Table 6 below). Community data was limited as very few people are hunting in the area where Cape Bathurst caribou are present. It was noted that with the relative ease of access to the Porcupine Herd and the restrictions on hunting the Cape Bathurst herd, few hunters were able to make observations on the status of the herd.

The GRRB comments for the Cape Bathurst Herd mirror their comments for the Bluenose-West as the harvesters are going to the I/BC/06 where the ranges of the two herds overlap.

One harvester thought there were fewer caribou now compared to last year. To him, it wasn't because of the new highway but rather due to the oil and gas industry that used to be in the area. Mostly, the harvest is sustainable and is not the cause of the low population numbers. Predation was seen as much more of a concern.

> *I think [this information] sparks discussion on predators. On the community level there should be more attention on predators. At ArcticNet we need to redirect our efforts to wolves and grizzlies. We heard eagles [are an issue too], we don't know. When you look at fawns they are small for those big birds. Wolves can have a diet of 70% caribou. They couldn't tell if that's migration or what. Grizzly bears, 10% [of their diet] can be caribou. How much impact is from that? I know in TTNP, we are going to look in wolf dens and do some poking and prodding to get answers. - Ray Ruben*

Jimmy Kalinek and George Barnaby (SRRB) agreed that more focus needs to be placed on getting people to hunt grizzlies and that more research should be done on the impact predation is having on the potential for the herds' recovery.

Larry Adjun (KHTO) mentioned that Nunavut beneficiaries don't need tags to hunt grizzlies and that they are trying to get more sport hunting tags issued for the area, while at the same time trying to support resident hunters to hunt grizzlies in the Kugluktuk area.

Presentation on Scientific Information

Tracy Davison (ENR Inuvik)

ENR's most recent post-calving ground survey was conducted in 2018. The post-calving population survey results were used to calculate the size of the Cape Bathurst herd by using the Rivest method instead of the historically utilized Lincoln-Peterson. Of the two population estimation methods, ENR and the boards agreed at the 2016 meeting that the Rivest is the preferred estimation method, as it takes into account group size along with the data from collars and photo surveys.

The estimate for 2018 was likely biased high because there were a number of collared bull caribou that didn't aggregate with the main group. The number of groups with a group size of 1 influences the statistics.

The population survey results (the number of adult caribou) were:

Adult Population Estimate: 4,521 ± 875

Although the population estimate places the Cape Bathurst herd status within the orange zone, the lower confidence interval places the herd in the red zone, as the threshold between the orange and red zones for this herd is 4,000 animals.

While there is no new population data this year, ENR is hopeful that the other factors indicate that the population may be recovering somewhat.

Population trend and rate of change

This data was presented at the 2018 ACCWM meeting.

Table 1: CB Rivest population estimates (2000–2018).

Year	Rivest Estimate
2018	4,521 ± 875
2015	2,524 ± 284
2012	2,447 ± 350
2009	2,925 ± 1,252
2006	2,039 ± 319
2005	3,566 ± 1,373
2000	13,612 ± 5,245

The 2018 Rivest population estimate of 4,521 ± 875 caribou (95% CI) is higher than the previous 2015 estimate, but the 4% yearly increase (between 2005–2018) is not statistically significant due to the wide confidence intervals (-3 to 10%). The population estimates seem to show a trend in that the herd went through a large decline and there is possible evidence of a slight recovery in the last few years, but the herd has been relatively stable between 2005 and 2015 at low numbers. Rivest population estimates (with 95% confidence intervals) as well as minimum counts for the period from 2000 to 2015 are shown in Table 1 and Figure 4 on the following page.

Productivity and recruitment

A recruitment survey was completed in 2019.

Recruitment surveys show the number of calves that have survived their first winter to be "recruited" into the adult population. This can vary greatly from year to year; in harder winters, fewer calves will survive. Generally, ratios of greater than 30 calves per 100 cows are considered good.

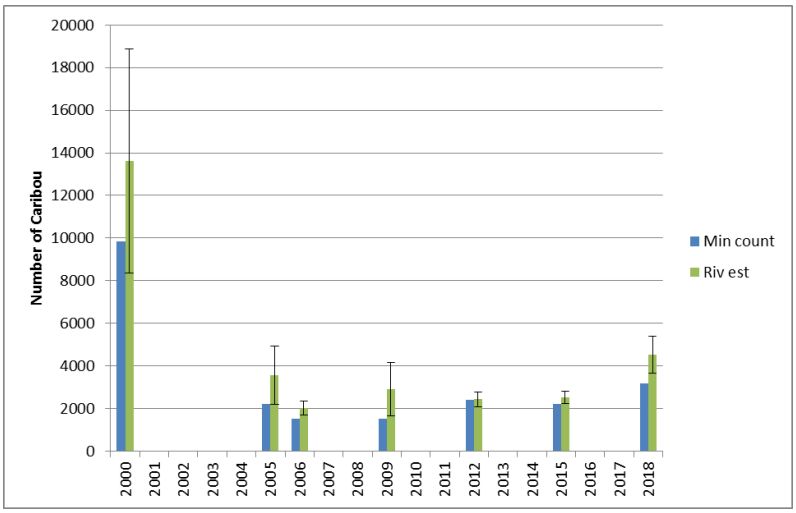


Figure 4: Cape Bathurst herd Rivest population estimates from post-calving surveys since 2000. Minimum counts are included for comparison purposes.

Recruitment surveys were conducted on Tuktoyaktuk Peninsula and Cape Bathurst caribou together in 2017, as the herds are mixed during the survey period; a very high ratio of 41 ± 6.7 (95% CI) calves to 100 cows was found. Recruitment estimates (number of calves per 100 cows) over time are shown in **Error! Reference source not found.**. In the years 1983–1994, "Bluenose" includes Cape Bathurst, Bluenose-West, and Bluenose-East.

Calf-to-cow ratios can be impacted by the harvesting of females. For example, if a large proportion of cows are harvested and the calves are not, then the number of calves per 100 cows left in the herd will be inflated and will be an inaccurate reflection of actual calf survival. Based on the management actions, a portion of the range used by the caribou in the survey is closed to harvest; however, the total harvest and sex ratio of the harvest is not known for the open area. Therefore, it is possible that the calf-to-cow ratio may be skewed. Good harvest data, including the sex of the animals, date of harvest, and location, is needed to better assess the impact of this harvest on the calf-to-cow ratios.

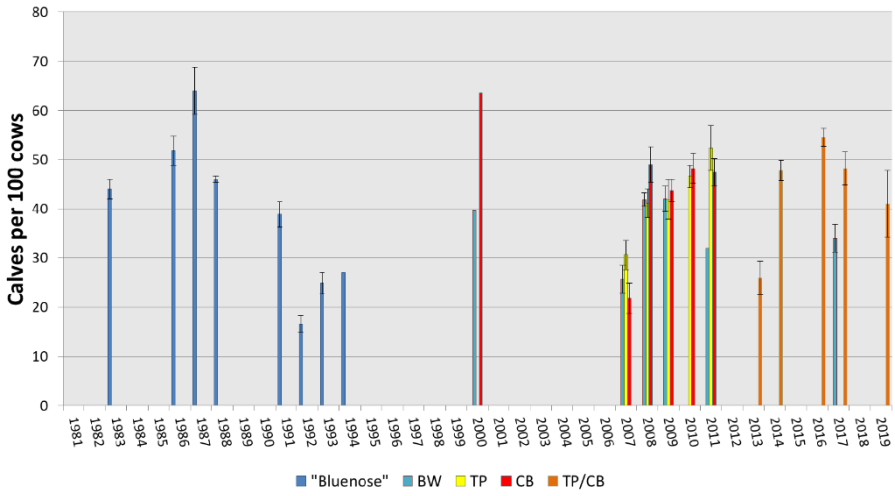


Figure 5: Recruitment estimates (calves per 100 cows) for the Tuktoyaktuk Peninsula (TP), Cape Bathurst (CB), and "Bluenose" barren-ground caribou herds, 1983–2019.

Adult composition

No new data on adult composition was provided. Data from previous years was presented and is summarised below.

A fall composition survey was conducted in October/November of 2015 as part of the monitoring program for the Cape Bathurst herd. Fall surveys to classify caribou are conducted during the rut to obtain a bull-to-cow ratio. Information is presented as the number of bulls per 100 cows.

The number of bulls per 100 cows was 43 ± 4.6 (SE) for the Cape Bathurst and Tuktoyaktuk Peninsula herds combined in 2015. There are no fall composition data from these herds to use for comparison. The 2009 results for the Bluenose-West and Bluenose-East herds showed bull-to-cow ratios of 70 and 42.9 ± 3.4 (SE) respectively.

Figure 6: Average condition codes for the Tuk Peninsula/Cape Bathurst herds, assessed by hunters on a scale of 1–4 with number of samples noted at the top of the bar.

Body condition and health

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. These ratings are translated to a numerical value between one and four, with 1 = Poor and 4 = Excellent, so they can be averaged. Scientific information is based on harvester reports and samples for the Tuktoyaktuk Peninsula and Cape Bathurst herds combined.

Condition information, including back fat measurements, was reported for 32 cows and 34 bulls in the 2018/19 season. The back-fat measurements indicate that cows were of good condition and the males lower when sampled.

Results for average body condition ratings for Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined are presented in Table 2 and Figure 6.

Table 2: Results from hunter harvest body condition sampling for Tuktoyaktuk Peninsula and Cape Bathurst caribou combined.

	Average Condition Code (number of samples)	
Season	**Female**	**Male**
2018/19*	**3.1** (32)	**2.9** (34)
2017/18*	**2.7** (70)	**2.2** (34)
2016/17*	**2.6** (74)	**2.0** (44)
2015/16*	**2.0** (57)	**2.3** (27)
2014/15*	**3.2** (40)	**2.3** (28)
2013/14	**2.7** (26)	**3.2** (15)
2012/13	**2.1** (10)	(0)
2011/12	(0)	(0)
2010/11	(0)	**4.0** (4)
2009/10	**1.9** (11)	**1.5** (2)
2008/09	**2.5** (11)	**2.1** (7)

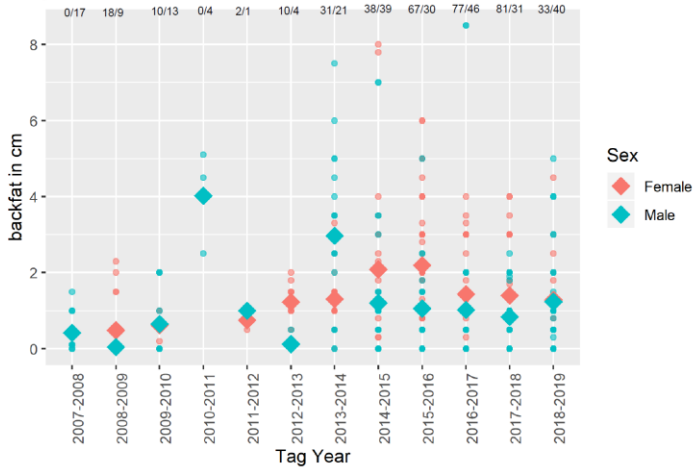


Figure 7: Reported back fat measurement (in centimeters) and average (diamond). Includes: I/BC/08 harvests plus from 14/15 to present harvest by Inuvik and Tuktoyaktuk harvesters.

Back fat measurements for Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined are presented in Table 3 and Figure 7. Marrow fat measurements are shown in Table 4 and Figure 8 (on the following page).

Table 3: Results from hunter-collected back fat and health sampling for the Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined.

	Back Fat in cm (number of samples)	
Season	**Female**	**Male**
2018/19*	**1.28** (32)	**1.24** (34)
2017/18*	**1.90** (80)	**0.72** (26)
2016/17*	**1.43** (76)	**0.73** (45)
2015/16*	**2.7** (65)	**1.06** (30)
2014/15*	**2.13** (37)	**1.21** (37)
2013/14	**1.31** (25)	**3.42** (18)
2012/13	**1.22** (6)	(0)
2011/12	(0)	(0)
2010/11	(0)	**4.03** (4)
2009/10	**0.62** (10)	**0.25** (2)
2008/09	**0.8** (11)	**0.00** (7)

** Samples submitted from I/BC/08 harvests plus from 2014/15 to present include I/BC/06 samples from Inuvik and Tuktoyaktuk because, based on collar data, the change of zone boundary means Inuvik and Tuktoyaktuk harvesters were mainly accessing Tuktoyaktuk Peninsula and Cape Bathurst Herds.*

Harvest levels

Determining harvest levels for the Cape Bathurst herd is complicated due to changes in management zone boundaries. Prior to 2005 the harvest between Tuktoyaktuk and Inuvik was estimated at about 1,600 caribou, with the majority cows. In 2007, the mainland caribou management area in the ISR – area I/BC/06 was adjusted to reflect core areas of the herds based on recommendations from the WMAC (NWT). Area I/BC/06 was divided into three zones: I/BC/08 to reflect the core area of the Tuktoyaktuk Peninsula herd; I/BC/07 was described to reflect the core area of the Cape Bathurst herd; and I/BC/06 to reflect the core portion of the Bluenose-West herd in the ISR.

In 2007, harvesting was closed in I/BC/07 and G/BC/02 based on recommendations from the WMAC (NWT) and the GRRB. Harvesting in I/BC/08 was closed seasonally from April 15 to June 15 to allow the Cape Bathurst herd to migrate to the calving grounds.

In 2009, the boundary between the Tuktoyaktuk Peninsula area (I/BC/08) and Cape Bathurst area (I/BC/07) was moved south to the Diamond Lake Trail to make it simpler for harvesters to identify the zone boundary out on the land. At the same time, the seasonal closure was extended to April 1 to protect migrating Cape Bathurst caribou.

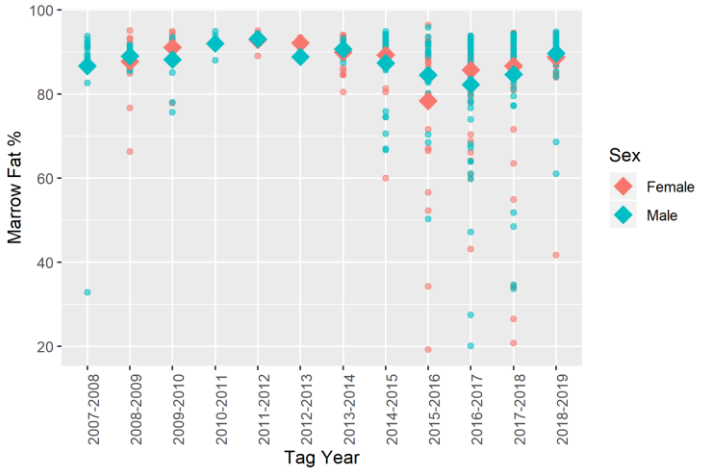


Figure 8: Marrow fat percent and average (diamond). Includes: I/BC/08 harvests plus from 14/15 to present harvest by Inuvik and Tuktoyaktuk harvesters.

In 2014/15, the eastern boundary of I/BC/07 was moved to Husky Lakes; the adjustment of the Bluenose-West zone meant that it now included some of the range of the Cape Bathurst and Tuktoyaktuk Peninsula herds as well as Bluenose-West range. Concerns were raised by the GRRB that tags originally issued as part of a Total Allowable Harvest (TAH) for Bluenose-West caribou are now being used in an area with Cape Bathurst caribou, and this could be impacting the Cape Bathurst herd. The Tuktoyaktuk Peninsula herd has also started coming into the expanded area of I/BC/06 in the winter, where the tags can be used. It is difficult to tell which herd harvested animals in this expanded area of the I/BC/06 zone are from; Cape Bathurst, Tuktoyaktuk Peninsula, and some Bluenose-West herds all use this expanded area.

Table 4: Results from hunter-collected back fat and health sampling for the Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined.

	Marrow Fat in cm (number of samples)	
Season	**Female**	**Male**
2018/19*	**88.8** (77)	**89.7** (37)
2017/18*	**86.7** (77)	**84.7** (37)
2016/17*	**85.8** (73)	**82.3** (50)
2015/16*	78.4 (24)	84.5 (16)
2014/15*	89.3(27)	87.4(30)
2013/14	90.0(21)	90.7(9)
2012/13	92.1 (16)	88.8(3)
2011/12	92.88(3)	93.1(1)
2010/11	0	92.0 (4)
2009/10	91.1 (11)	88.2(13)
2008/09	87.8(17)	89.0(10)

Data reported to ENR for 2018/19 showed 171 tags possibly used in Tuktoyaktuk Peninsula/ Cape Bathurst area (166 of those were likely used to harvest Cape Bathurst and Tuk Peninsula animals).

Predator Populations

ENR collects samples from wolves harvested by hunters in the Inuvik Region (Table 5, following page); samples are mostly from the winter season, when wolves tend to be hunted. In the past, stomach contents were sampled, and of all the Inuvik region mainland wolf samples submitted, 68% of the stomach contents was caribou. ENR is now looking at a more long-term analysis using stable isotopes, which will provide information on more than just wolves' most recent meal (e.g., will reveal more information about wolves' year-round diet).

Other scientific information

Overall, the scientific information indicates the following:

- During calving period, cows and bulls use different ranges.
- Summer range – cows and bulls tend to be more mixed and found in same areas.

- During fall migration, there is little difference in the movements of cows and bulls, although bulls will go further south.
- There are some differences in winter range used between cows and bulls; bulls tend to be farther south.
- In spring there is considerable overlap of range with some differences; cows are generally ahead of the bulls.
- Cape Bathurst caribou have tended to winter together with the Tuktoyaktuk Peninsula herd in recent years. However, the collar data showed 100% fidelity of cows to calving grounds in 2019 for the Cape Bathurst herd, and 1 of the 6 Tuk Pennisula collared cows moved to the Cape Bathurst calving grounds.

Table 5: Number of wolf carcasses/samples submitted to ENR by Tuktoyaktuk and Inuvik hunters, 2007–2018.

Year	Inuvik	Tuktoyaktuk
2007/2008	20	8
2008/2009	11	22
2009/2010	15	12
2010/2011	24	16
2011/2012	21	15
2012/2013	16	15
2013/2014	19	14
2014/2015	17	23
2015/2016	33	21
2016/2017	8	21
2017/2018	21	9
2018/2019	29	0
Total	**234**	**176**

- 96% of collard Cape Bathurst cows have returned to the same calving grounds year after year between 2010 and 2019.
- The largest habitat disturbance is the new highway. Now that it has been open for a couple of years, ENR is currently using the collars and monitoring data to assess any impacts. This will be presented when complete.

Table 6: Criteria used to assess Cape Bathurst herd status in 2019

Criteria	Community-Based Information	Scientific Information	Comments
Population size	**Tuktoyaktuk (WMAC-NWT):** In the past 4 years, more caribou have been seen than prior to 5 years ago, and last year even more were seen. **Inuvik (WMAC-NWT):** Members noted the population size is the same as last year. **GRRB:** A harvester mentioned that he believes there were fewer Cape Bathurst caribou now.	Estimated number of adult caribou in 2018 Rivest: 4,521 ± 875	Estimate based on July 2018 post-calving ground survey

	Four harvesters didn't see any caribou. Some harvesters mentioned that there were more caribou 3–4 years ago in this area (Husky Lakes). A harvester mentioned that there were fewer caribou around Miner River than in the past; they only saw old tracks. Another mentioned seeing no tracks at all. One harvester mentioned that he saw fresh tracks between Sitidgi Lake and Husky Lakes. These observations were made late winter and early spring.		
Population trend and rate of change	**Tuktoyaktuk (WMAC-NWT):** Community members observed the population is going up; a group of 300 caribou on the Tuk Pen was seen in mid-March. **Inuvik (WMAC-NWT):** Members noted it's hard to say anything because of changes in distribution. Harvesters did not see as many in the usual hunting areas. **GRRB:** Several harvesters mentioned that there are fewer caribou now than there used to be in the distant past. Some mentioned that they used to hunt them in the GSA, around and north of Caribou Lake. Now there are none there. Trappers also used to see them around that area.	Between 1992 and 2005 population dropped from over 19,000 to ~2,500 adult caribou. Between 2005 and 2018 the herd shows a non-statistically significant increase of 4% per year (CI -3 to 10%).	Trend analysis is based on Rivest estimates: 2015: 2,524 $\pm$ 284 2012: 2,447 $\pm$ 350 2009: 2,925 $\pm$ 1,252 2006: 2,039 $\pm$ 319 2005: 3,566 $\pm$ 1,373

Productivity and recruitment	**Tuktoyaktuk (WMAC-NWT):** Members observed twins in spring; a calf for every two cows in I/BC/06; the calves look very healthy with nice fur. There were a lot of calves spotted in March. **Inuvik (WMAC-NWT):** Members noted that harvesters are not in the area where the cows usually are, but there are some observations of one cow and one calf that were spotted alone. In 2017, there were a lot of cows and calves in Old Man/Uruqhart Lake area, but members didn't see any in that area this year.	In 2019, there were a good number of cows with calves in early April. Estimated number of calves per 100 cows in 2019: 41 ± 6.7 (95% CI)	2019 recruitment survey included both CB and Tuktoyaktuk Peninsula herds.
Adult composition	**Tuktoyaktuk (WMAC-NWT):** Members are seeing no change. During the winter and spring, there are a lot of young bulls with cows, more than usual. Observations of 15 big bulls together in late October near the Inuvik-Tuktoyaktuk Highway and 60 bulls last November in the tag zone. Majority of the caribou harvested in the fall are bulls. **Inuvik (WMAC-NWT):** Members noted there are limited observations as the areas travelled (Miner River, in treeline) mainly has only bulls. The caribou are separated by	There is only one bull-to-cow ratio for CB (2015) so the trend is unknown, but the 2015 results are considered normal. Estimated number of bulls per 100 cows in 2015: 43 ± 4.6 (SE)	Increasing herds in NWT in the early 1980s had sex ratios of about 65 bulls: 100 cows.

	the time harvesters from Inuvik go out.		
Body condition and health	**Tuktoyaktuk (WMAC-NWT):** Members noted the caribou are really fat (one harvested in September was too fat and had less meat). The caribou are almost "obese". The caribou are getting fatter faster in the summer because of less pressure from bugs. There is no sickness, fewer warble flies, fewer bugs due to cold damp summer. **Inuvik (WMAC-NWT):** The caribou in late spring are very lean, more so than the last few years. The caribou seem healthy, with no sickness and clean livers. There is fat around the organs, none on the rump, and good bone marrow considering they are leaner. The caribou looked like they were about to put on weight. Out of 9 caribou harvested, only 2 had visible fat on the outside.	The condition of both bulls and cows was on average 'good' in the 2018/2019 harvest season. Average back fat in 2018/2019 season was 1.28 cm (range 0 to 4.5 cm) for cows and 1.24 cm (range 0 to 5 cm) for bulls. Average bone marrow fat in 2018/ 2019 was 88.8% for cows and 89.7% for bulls.	Scientific information based on harvester reported samples for Tuk Peninsula and CB herds. In 2018/2019 season, condition information was reported for 32 cows and 34 bulls, back fat information was reported for 33 cows and 40 bulls.
Harvest levels	**Tuktoyaktuk (WMAC-NWT):** Tuktoyaktuk shared that educating the younger harvesters is important. There is good information where tags are regulated in hunting zones. Successful harvest this year on Tuk Pen herd. There are less harvesters on the western coast (McKinley Bay area)	I/BC/07 is a closed zone for CB. A total of 166 I/BC/06 tags were possibly used in Tuk Peninsula/CB area in 2018/2019 (106 of those have reported sex: 59 males, 47 females)	In 2014/2015, the I/BC/06 area was enlarged and now includes some of the winter range of the Tuk Peninsula and CB herds. Some of the I/BC/06 tags are now being used on these herds.

	because of highway access to Husky Lakes. Members noticed fewer people going out due to weather and other reasons, such as berry picking along the highway. Harvests leading to the rut season are mostly bulls. After freeze-up/rut season, harvesting consists of young bulls and dry cows. Members shared there is caribou drymeat for sale. **Inuvik (WMAC-NWT):** Members stated not all tags were used this year. They had a successful community harvest and noticed people are too busy to hunt. Caribou are not in the areas where people usually hunt; they were at Miner River instead of Old Make Lake area. Harvesters have to travel further, and most people are not comfortable travelling into areas where the caribou are due to quick changes in weather (above Sitigi Lake, South Storm Hills). All harvests are being reported. **GRRB:** The main time of harvest was around late winter and early spring. A few harvesters went around Husky and Sitidgi Lakes for BNW. They didn't see any caribou and saw very few tracks. They went hunting again later around Caribou Lake for woodland caribou. They weren't successful. Only one		

	harvester interviewed was successful for BNW. The Ehdiitat RRC (Aklavik) mentioned that the trip to go get Bluenose-West caribou was too expensive for only 5 tags. The uncertainty of the caribou's location and where they could be harvested were also reasons mentioned for not having used the tags. A harvester mentioned that he was fine with the increase in tag numbers because the population had increased. Another mentioned that he respects the GRRB and the tag system. Nowadays, people only hunt caribou, but it should be seasonal, he said. Harvest should change depending on the season, e.g., geese in the spring, rabbit in winter. Also, now there are fewer hunters because there are fewer caribou.		
Predator populations	**Tuktoyaktuk (WMAC-NWT):** Members stated there are more wolves and grizzly bears. There were grizzly bears spotted with 3 cubs. There are more and larger packs of wolves, more wolverines than usual, and increasing eagles. An eagle was observed taking calves. One observation noted a grizzly bear chasing a muskox until it aborted its young, and it was asked if this happens	Tuktoyaktuk and Inuvik submitted 34 wolves in the 2018/ 2019 season.	A change in wolf harvest does not necessarily reflect changes in wolf abundance.

	with caribou. There are fewer hunters in the younger generation so there is less pressure on predators. The cost of gas and equipment makes it difficult to go out on the land to hunt predators. If the price of fur is too low, people won't hunt predators as much, but some people are opportunistic harvesters. There are changes in climatic conditions that will affect where harvesters go. Hunters with unethical harvesting practices are characterized as "human predators". **Inuvik (WMAC-NWT):** Members stated they didn't see too many wolves this year, but snow was too deep and if there were predators it would be hard to escape. Not many predators in general; the caribou were very tame. Some small packs of wolves (4–5) around Miner River and lots of wolverine and wolverine tracks heading north out of the treeline. No bears spotted in that area, indicating early emergence from their dens. **GRRB:** One harvester saw a lone wolf toward Sitidgi Lake. This harvester mentioned that too many wolves can affect the population because they eat a lot of caribou, and he said they should put a bounty on them. He also mentioned		

	that there are more grizzly bears now. Another harvester mentioned that predators were about the same as last year around Miner River.		
Range and movement patterns	**Tuktoyaktuk (WMAC-NWT):** Members observed there are more caribou in the trees because of very low snow conditions. There are fewer bugs and the caribou don't have to go to the coast to escape them. There are lots of caribou in the east between Anderson and Horton/Mason River; they are tamer due to less hunting pressure. Seeing many more caribou from Cape Bathurst to above Husky Bend on Anderson River, and all along the eastern shore of Liverpool Bay during April/May. They have been seeing more in the past three years. **Inuvik (WMAC-NWT):** Members observed the distribution is a little different: caribou stayed around Miner River almost all winter, not in the usual harvesting areas around Old Man Lake and Urquhart Lake. The caribou didn't come out of the trees until at least the end of April. There is a lot of deep snow. They seemed to stay late into spring.	In 2019, 19 CB collars were still active from 2017 and all returned to CB calving ground. One Tuk Peninsula collared cow switched to the CB calving ground in 2019. Between 2010 and 2019, 95% of collared CB cows returned year after year to the calving ground.	

	GRRB: A few harvesters mentioned that the caribou used to come down in the GSA, around Caribou Lake. Another harvester mentioned that maybe they have moved away because the food they usually get was not there anymore. Another harvester doesn't think that movement patterns have changed since last year.		
Environ-ment and habitat	**Tuktoyaktuk (WMAC-NWT):** Members noted an icing event in January with about a half-inch ice layer. The icing events cause caribou and other animals to lose hair on their legs. Summer weather is cooler, with fewer bugs. Ice isn't thick enough, which limits caribou movement across water bodies. There are more slumps and slides. **Inuvik (WMAC-NWT):** Members noted there is deep snow until late spring, a bit of icing earlier, more noticeable in the tundra than in treeline. At the end of February, some hills were glazed, making it hard for the skidoos to climb. Lots of slumping in places there never used to be, which is dangerous for traveling. A lot more landslides too, further south around Caribou Hills area. Many rivers are getting silty and shallower,	There were very few fires in the 2019 season.	

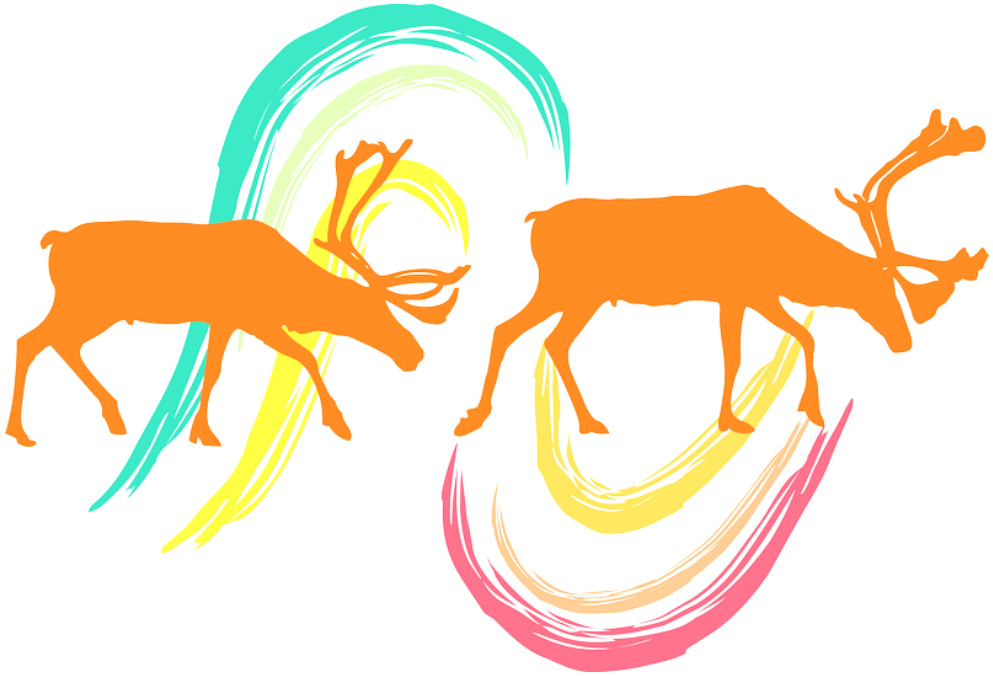
	which is starting to affect travelling routes. Shallow Bay has areas you can't even go through due to low waters. **GRRB:** A harvester mentioned that he doesn't think the highway has affected the caribou. Another mentioned that when "they" started doing the oil and gas, the population declined. A harvester mentioned that he doesn't think harvesters are having a big impact on the caribou now. He believes that the harvest is sustainable and attributes the low numbers to predation. A harvester mentioned that during springtime, it was fairly warm. He mentioned that the lakes were slushy, but that there was lots of snow in the forest, around 3–4 feet. Two harvesters mentioned that the snow was the same as usual, both for the forested and barren areas.		
Human disturbance	**Tuktoyaktuk (WMAC-NWT):** Members stated the caribou get really skittish when they are hunted and chased with fast skidoos (instead of hunters being patient). Enforcement presence needs to increase; an ENR officer should be based in Tuktoyaktuk all year for regular patrols. Should increase enforcement in no-	The largest development in the range of the CB herd is the Inuvik–Tuktoyaktuk Highway that opened in November 2017 and passes through the winter range of the herd.	The Wildlife Effects Monitoring Program is using caribou collar data to access impacts of the road.

	harvest areas and when tags are finished. Asked if there is more funding for investigations than patrols. **Inuvik (WMAC-NWT):** Members stated the caribou are very tame. It was hard to travel because of icing and thick trees. There was less hunting pressure this year. Aircraft are not a concern as they fly really high. Perhaps more caribou spotted from road this year than previous years; quite a few around Jimmy Lake and toward Husky Lakes. Members were not concerned around ITH. The caribou around the road are very tame. Lots of dust on south side of ITH, covering the land. **GRRB:** A harvester mentioned that he doesn't think the highway has affected the caribou. Another mentioned that when "they" started doing the oil and gas, the population declined. A harvester mentioned that he doesn't think harvesters are having a big impact on the caribou now. He believes that the harvest is sustainable and attributes the low numbers to predation.		
Competitors	**Tuktoyaktuk (WMAC-NWT):** Members noted there are stray reindeer and the muskox are moving south and west.		

	Tuktoyaktuk wants to deal with invasive species and/or competitors before they get out of hand. Asking if it is possible to track harvesting from hunters from other communities, possibly increase communication between HTCs.		

BLUENOSE-WEST CARIBOU

– ORANGE STATUS –



Tuktuvialuk (Inuvialuktun, Siglitun dialect)
Vadzaih (Teetł’it and Gwichya Gwich’in)
Ɂedə (K’áhsho Got’ı̨ne, Dela Got'ı̨nę)
Ɂehdaı̨la Goɔekwę́ (Délı̨ne Got’ı̨ne)

Understanding Current Bluenose-West Herd Status

The ACCWM met on November 20th, 2019 to review information pertaining to the status of the Bluenose-West caribou herd. Prior to that, Member Boards reviewed information available and held discussions in preparation for the annual status meeting. During status meeting discussions about Bluenose-West caribou, scientific knowledge was provided by Environment and Natural Resources (ENR-GNWT) biologists. Community knowledge was provided from three regions: the Inuvialuit Settlement Region (ISR), the Gwich'in Settlement Area (GSA), and the Sahtú Settlement Area (SSA).

The 2020 Management Setting

At the start of the 2019 status meeting, a roundtable was held to give participants an opportunity to provide a brief update on some of the management actions and developments that arose in their region over the course of the last year. During the roundtable, a number of management topics were raised that could have implications for Bluenose-West caribou and their habitat, including:

- **Divergent management systems (tags/community management plans):** While each of the Member Boards seeks to ensure the viability of the herd, divergent management systems have the potential to increase tension. This highlights the need for structures that build trust between organizations, communities, and Member Boards.
- **Species at Risk Assessments:** COSEWIC has assessed barren-ground caribou as Threatened. The federal SARA listing has not been undertaken yet. Depending on listings, work on recovery planning and identification of critical habitat may need to happen.
- **Draft Caribou Management Strategy (2018–2022):** GNWT-ENR awaiting Cabinet review and approval; will then be submitted for public/broader review and approval.
- **A rise in signs of climate change:** There are more landslides, slumping, and warmer temperatures; the impacts on caribou are hard to predict.
- **Community-led conservation planning:** The SRRB adopted a community conservation planning approach, and Colville Lake is in the process of finalizing their caribou management plan.

Status Decision 2019

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 9 (below) along with the approximate thresholds for the Bluenose-West (BNW) herd.

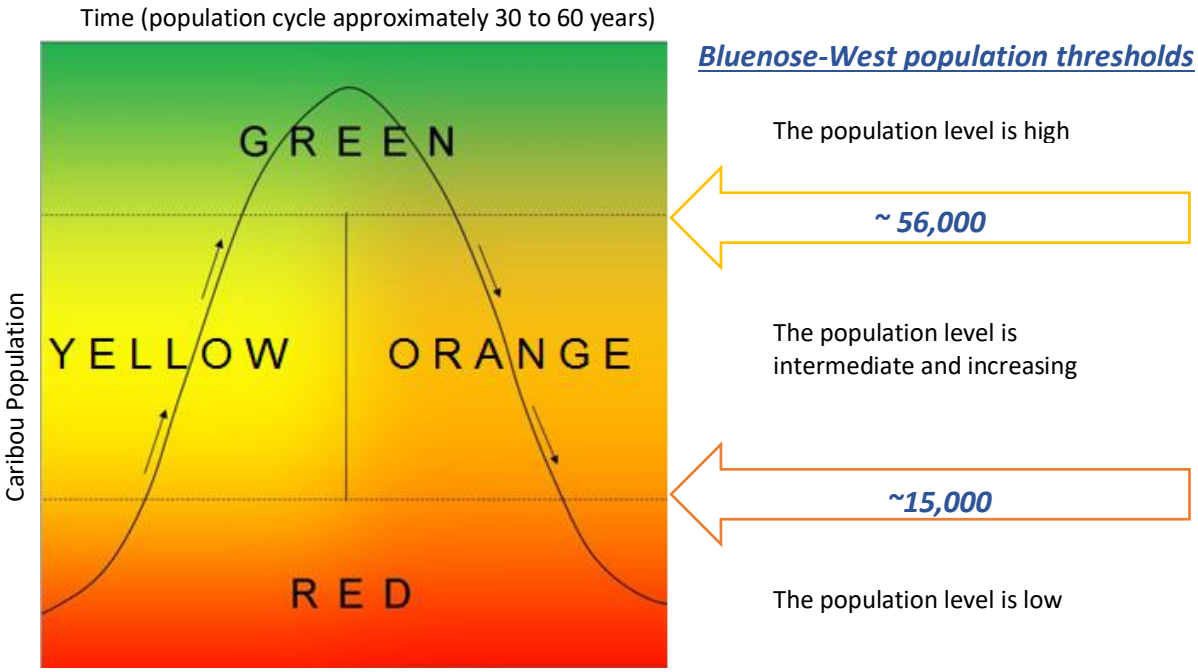


Figure 9: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans.

According to the process outlined in the Management Plan, numerous criteria are used to make an annual status decision. Information considered by the ACCWM in making the 2018 decision is summarized in Table 12 below.

Based on the information provided, the ACCWM determined the Bluenose-West herd status colour zone to be **orange (intermediate and decreasing)** in November 2019. Community members in the Inuvialuit Region observed more caribou than in the past while Sahtú and Gwich'in community members reported similar or fewer numbers compared to recent years. With little new information to indicate a significant change in the population numbers, the ACCWM decided to use the precautionary principle and maintain the previous year's status designation. This decision recognizes that the herd size appears to be stable and that ongoing conservation actions are needed to help the Bluenose-West herd recover.

In 2020/21

the Bluenose-West caribou population status is

ORANGE: intermediate and decreasing

Presentations Given at the 2019 Status Meeting

Both scientific and community knowledge helped to inform the 2019 status decision; further details on some of the relevant survey methods are included in **Appendix D**. ENR provided current scientific information; the data included here were presented at the meeting. The TNNPMB presented on some of the future research that is planned within the park.

Some community information was provided on each of the ten monitoring criteria. The following outlines regional approaches to gather information:

Inuvialuit Settlement Region, NWT – Information provided for this region was summarized from public meetings held in Inuvik, Paulatuk, and Tuktoyaktuk with representatives from WMAC (NWT). Paulatuk is the main community in the ISR that encounters and harvests Bluenose-West caribou, so their comments represent the bulk of the data summarized in the monitoring table for this herd. Representatives of the WMAC (NWT) participated in the status meeting.

Gwich'in Settlement Area, NWT – The Gwich'in Renewable Resources Board held a community meeting that included Cape Bathurst and Bluenose-West caribou in the 4 Gwich'in communities. In addition, the GRRB interviewed 6 BNW tag holder and 2 RRC coordinator. Shared information is included in the table as "GRRB". GRRB representatives participated in the status meeting.

Sahtú Settlement Area, NWT –SRRB representatives participated in all of the status meetings.

Representatives of other regions did not provide information specific to Bluenose-West monitoring, as people living in those areas do not regularly encounter or use these caribou.

Inuvialuit Community Knowledge Presentation

Larry Carpenter (WMAC-NWT)

The Inuvialuit Community Knowledge Presentation is wholly covered in Table 12

Ray Ruben made the following observation after Larry's presentation:

> *The community has a lot to say with migration and [caribou] passing through. They say they are increasing, might not be it. But they are seeing more. The cows are really healthy. We are concerned about char with the salmon coming in. We noted early in the fall the grizzly in the dump were not there as usual. They were up at the creeks with the salmon.*

Gwich'in Community Knowledge Presentation

Édouard Bélanger (GRRB)

Édouard Bélanger provided a review of the information covered in Table 12. He noted that although the Gwich'in held 22 tags last year and all of them had been requested, it is estimated that between 1 and 11 caribou were harvested. Of the six harvesters who were interviewed, four didn't see any caribou. Those who did saw caribou noted that there were fewer than normal.

> *It's quite different from what we see in Miner River area. Last year a lot of caribou in the trees. Not a lot near Husky Lake. They left early and went to the treeline. And when we went to our traplines to set our tent, we noticed big bunches of caribou went early into the GSA and further down. Down around Caribou Lakes and further down south. It changes year to year. There wasn't many around Miner River. They stuck around. From my observation from caribou in that area it hasn't changed, they are just in different areas. I'm heading up to Miner River soon. I'm making a trip up there to see if caribou are up there. But it changes year to year. Maybe some members didn't give their observation of the harvest. So when people don't know the area, they get their tags and go along. Most of the time they are successful. In order to be successful you got to spend the time out there; one or two days is not enough. You got to spend a week out there. - Jimmy Kalinek*

Tuktut Nogait National Park Management Board Presentation

Tom Nesbitt (TNNP management board member), Ray Ruben (Paulatuk HTO), Alison Cassidy (Parks Canada)

Tom Nesbitt gave a brief description of the TNNPB and its mandate. He described how the agreement negotiated in 2001 established a decision-making process for the federal government, the park, the board, and ENR. The agreement compels the superintendent, acting as representative of the Minister, to participate in all TNNPB meetings.

Tom noted the absence of the technical team at the meeting. Normally they'd be there to fill in the group on what the Park is working on with respect to caribou habitat. Currently, they are working on compiling all the data that they get from ENR along with decades' worth of satellite images. They are also adding higher resolution imagery sourced by drone. These drones go out and record features of the places the caribou are visiting.

The goal is to more accurately map the habitat in the core calving grounds, and to develop a model for using the photos to interpret the old satellite data. This will allow Parks Canada to understand how the core grounds have changed over the past decades. There are factors such as bugs, temperature, precipitation, caribou movement patterns, and altitude, but now they are primarily looking at forage quality and availability.

Ray Ruben added that, from a community perspective, the work that the TNNPMB is doing has led to an "aha moment". Seeing the resulting maps allows them to build on their community knowledge and informs their decisions regarding any activity with the Park. The community sees this new information as a valuable tool in monitoring and protecting the caribou.

Sahtú Community Knowledge Presentation

Deb Simmons (SRRB)

The Sahtú Community Knowledge presentation was delivered by Deb Simmons. She started off by expressing her wish that the people of Colville Lake could have been there to see what their neighbours were discussing with respect to the Bluenose-West caribou. She said the main thing that they would like to share is that they feel the caribou are healthy.

The community of Colville Lake asked that an estimated harvest of 300 be reported. They feel this is an overestimation but want to err on the high side.

Colville Lake has developed a plan for caribou management that is based on traditional harvest laws. They have also stopped their community harvest at Horton Lake.

The SRRB and Colville Lake are hosting a public listening session on hunting law and approaches to harvesting. As with other communities, they participated in some community conservation planning and are taking steps to develop food security plans drawn from the harvest study and reviewing the data. Additionally, they have been promoting alternative harvests, as many moose and muskox have been seen in the area. Apparently, people don't like muskox and see them as negatively impacting the caribou. The SRRB is thinking about trying to get people re-habituated to the taste and to promote use of the hides which aren't being used now.

Fort Good Hope–based harvesters haven't been harvesting barren-ground caribou because they want to conserve them. Colville Lake confirms this, so the Sahtú Community Knowledge Presentation focused on Colville Lake. Still, Fort Good Hope is going to be at the listening sessions and the community conservation workshop. The SRRB is hoping that there will be more information from all the communities as a result of the workshop and noted that it was unfortunate that the timing didn't fit with the ACCWM meeting.

At this point Jan commented that there was some mixing of Bluenose-East and Bluenose-West last year near Great Bear Lake. As such, some of the harvest may have been from Bluenose-East.

In response to a question about how the Sahtú harvest study functions and informs population/harvest estimates, Deb Simmons (SRRB) explained:

> *You may remember Janet Windbourne, who helped us develop Taking Care of Caribou. She was the technical writer, to complete the 2005 study. It's been a long journey. It was well done from the standards of the time. It was designed from a*

template from what most of the regions used and it was important for comparison. The report had lots of interviews. But it was not made for public consumption, so people could be candid. We hired a Statistics Canada person to see what we could do to make the info more sound. Then the next step [was] the community validation workshops, and that took a long time. Colville and Norman Wells were the last to participate. We found that Colville's data was terrible. The study was well done; we had high participation. But the study didn't really well represent the actual harvest. It was good in that it engaged harvesters, and it pointed out there is a food system, and that it is a good, complex food system. But for caribou we can't say it's an accurate representation.

This response resulted in a number of the attendees asking about the accuracy of the estimated harvest for Colville Lake and what that estimate was based on. Deb responded that Colville Lake had come up with this number based on their own knowledge of their community and their harvest. The hope is that the upcoming listening session would lead to a good discussion about harvest reporting and harvest management.

Another thing, we all speak in accents… We have an idea to meet halfway and speak the caribou language. We don't say the same thing we would say when we talk to our community. We want to meet with another community and talk caribou in our language. We keep forgetting at any table there are always discussions and impacts from these. One of those things I want to say – and sit back and look at the last 50 years, you see the transition of the things overriding our lifestyle, like the tag system imposed on us. Younger families are not living like we did. A lot of things are changing. Like we say, use the whole caribou. People are leaving heads, bones, hides. Those are negative side effects of the changes. I'm not saying this is bad. But there is always an impact. I'd like to say that at any level. Years back, NEB picked up. We say, our caribou, our fish. The young people don't talk like that. It's sad. We must keep that in mind when we make decisions. — Ray Ruben

Commenting on behalf of the SRRB, Deb Simmons noted that in partnering with Colville to plan for the public listening session, it's been great to see what's possible when working with communities. They've had some challenging times in the past. It seems like there are a lot of opportunities with conservation measures within the region and partnerships with neighbours. One of the key things now is the talk of indigenous legal traditions and hunting laws. They hope it will be possible to incorporate central indigenous hunting law when considering the whole picture.

Responding to a question about where Délı̨nę's 50 TAH was used, Deb explained that hunters went to the north shore of Great Bear Lake but had no luck. They didn't get close to the 50.

Following up on the point that the Colville Lake study was considered inaccurate, Deb explained that people get sick of responding to surveys and don't trust how the data would be used in a way that people felt would be appropriate. To give an example of the inaccurate data, there

were null results for species the SRRB knew were being harvested. In candid conversations with community members, it was expressed that people would participate to get in the draw but in a token way only. Recognizing and being honest about this is important for the SRRB, as they don't want to work with faulty data.

> *Harvest survey… people never did that before. Same with tags. People never did that. When there was lots of caribou they…. Now they are too far away. They are north of Colville Lake. That's their traditional area. That's why they want to manage who's going in there. Even the mountain people. They know what's going on and they try to keep it under control. So, as a board we do a lot of things. A lot of people, they never do that. Another thing is population is going up. Since Europeans came a lot of people died from sickness. A lot of people died. Only 200 people [survived]. Our population is going back up to what it was. So, we have to think about what we do as it was before. So, some comments. But Colville is trying to bring back the old-time management. So other people are deciding what is going on or who is going out. Colville recognizes what clan or who is going out. — George Barnaby*

Presentation on Scientific Information

Tracy Davison (ENR)

ENR's most recent post-calving ground survey was conducted in 2018. The post-calving population survey results were used to calculate the size of the Bluenose-West herd by using the Rivest method instead of the historically utilized Lincoln-Peterson. Of the two population estimation methods, ENR and the boards agreed at the 2016 meeting that the Rivest is the preferred estimation method as it takes into account group size along with the data from collars and photo surveys.

The population survey results (the number of adult caribou) were: Total Adult Population Estimate: 21,011 ± 4,602.

Estimates place the Bluenose-West herd status well within the orange zone at the low end of the population estimates confidence interval, as the threshold between the orange and red zones for this herd is 15,000 animals.

Population trend and rate of change

The 2018 Rivest population estimate of 21,011 ± 4,602 caribou (95% CI) represents that between 2005 and 2018 the herd experienced a non-statistically significant decrease of 2% per year (CI -4 to 1%).

Rivest population estimates (with 95% confidence intervals) as well as minimum counts for the period from 1986 to 2018 are shown in Table 7 and Figure 10.

Table 7: BNW Rivest population estimates (2000–2018).

Year	Rivest Estimate
2018	21,011 ± 4,602
2015	21,535 ± 5,136
2012	32,326 ± 15,482
2009	21,773 ± 4,884
2006	28,461 ± 7,431
2005	26,228 ± 5,878
2000	118,472 ± 45,177

Productivity and recruitment

No new data on productivity and recruitment was provided. Data from previous years was presented and is summarized below.

Recruitment surveys show the number of calves that have survived their first winter to be "recruited" into the adult population. This can vary greatly from year to year; in harder winters, fewer calves will survive. Generally, ratios of greater than 30 calves per 100 cows are considered reasonable.

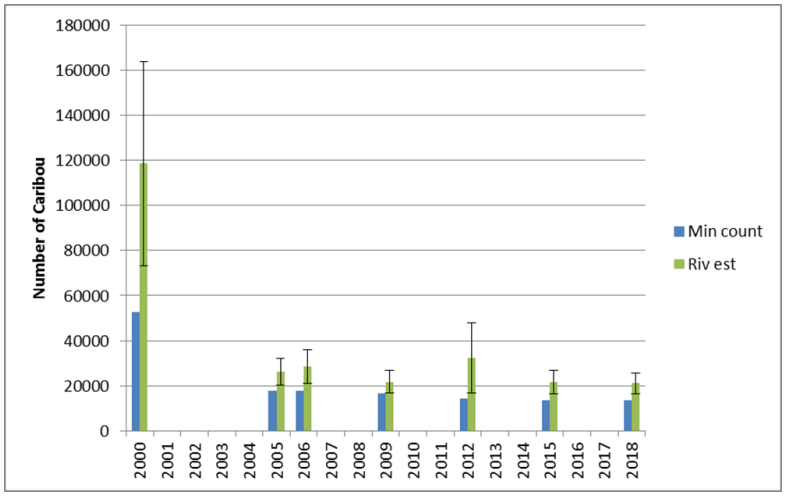


Figure 10: Bluenose-West herd Rivest population estimates from post-calving surveys since 2000. Minimum counts are included for comparison purposes.

In 2017, a recruitment survey was conducted for the Bluenose-West caribou herd, and a good ratio of 34 ± 2.8 calves per 100 cows was found. Recruitment survey data presented during the status meeting is shown in Figure 11. In the years 1983–1994, "Bluenose" includes Cape Bathurst, Bluenose-West, and Bluenose-East.

Calf-to-cow ratios can be impacted by the harvesting of females. For example, if a large proportion of cows are harvested and the calves are not, then the number of calves per 100 cows left in the herd will be inflated and will be an inaccurate reflection of actual calf survival. Good harvest data, including the sex of the animals, date of harvest, and location, is needed to better assess the impact of this harvest on the calf-to-cow ratios.

Adult composition

No new data on productivity and recruitment was provided. Data from previous years was presented and is summarized below.

The last fall composition survey conducted in 2009 found a bull-to-cow ratio of 70 bulls per 100 cows.

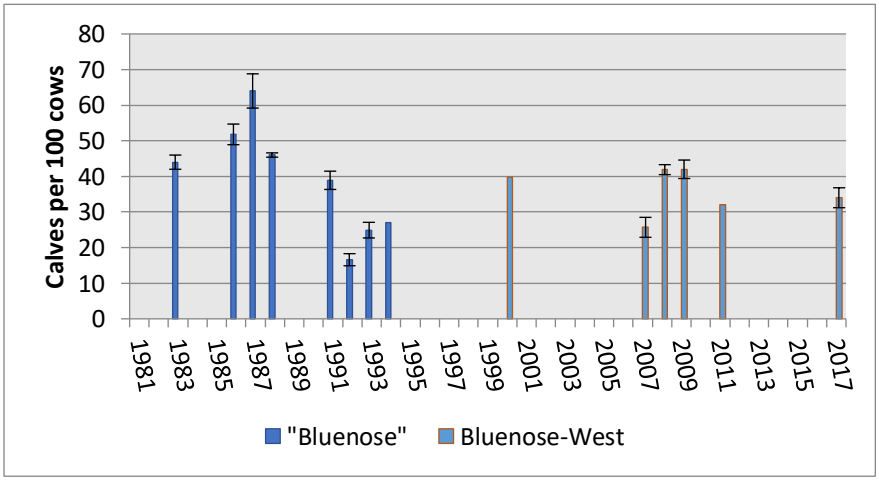


Figure 11: Recruitment estimates for Bluenose-West caribou, 1981–2017.

Body condition and health

ENR monitors body condition and health in barren-ground caribou by working with harvesters through out the region. Harvesters are asked to measure back fat, and to rate the body condition of the caribou they harvest as Excellent, Good, Fair, or Poor. These ratings are translated to a numerical value between one and four, with 1 = Poor and 4 = Excellent, so they can be averaged. Scientific information is based on harvester reports and samples for the Bluenose-West herd.

No condition information was reported in 2019.

Results for average body condition ratings data from previous years was presented and is summarized for the Bluenose-West herd in Table 8and Figure 12 Please note that samples were submitted from I/BC/06 harvests, since the change of zone boundary in 2014 means Inuvik and Tuktoyaktuk harvesters were mainly accessing Tuktoyaktuk Peninsula and Cape Bathurst caribou. Only Paulatuk samples are included since the 2014/2015 season.

Table 8: Results from hunter-harvest body condition sampling for Bluenose-West caribou.

	Average Condition Code (number of samples)	
Season	**Female**	**Male**
2017/18*	**4.7** (6)	**2.1** (8)
2016/17*	n/a	**2.7** (6)
2015/16*	**2.00** (1)	**1.25** (4)
2014/15*	**3.29** (17)	**3.05** (19)
2013/14	**2.6** (11)	**3.1** (21)
2012/13	**2.4** (14)	**2.6** (29)
2011/12	**3.0** (1)	(0)
2010/11	**2.4** (5)	**3.0** (23)
2009/10	**2.2** (12)	**2.5** (22)
2008/09	**1.0** (7)	**2.8** (6)

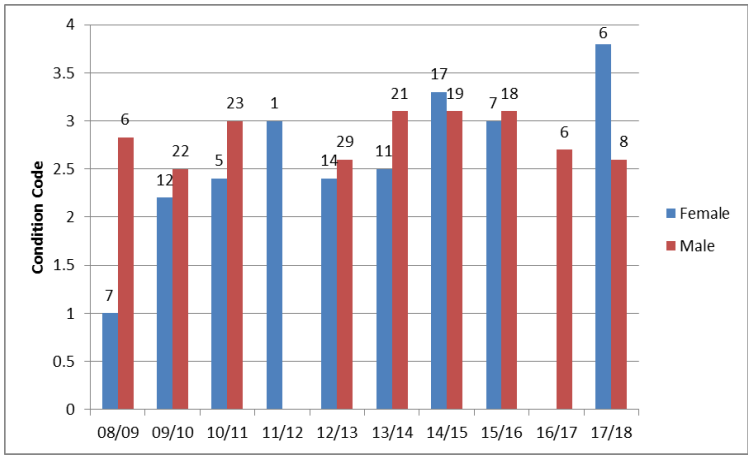


Figure 12: Average condition codes for the Bluenose-West herd, assessed by hunters on a scale of 1–4 with number of samples noted at the top of the bar.

* Includes only samples from Paulatuk since 2014/2015 because based on collar data, the change of the harvest zone boundary in 2014 means Inuvik and Tuktoyaktuk harvesters were mainly accessing Tuktoyaktuk Peninsula and Cape Bathurst herd caribou.

Back fat measurements for the Bluenose-West caribou herd are presented in Table 9 and Figure 13 below.

Table 9: Results from hunter-collected back fat and health sampling for the Bluenose-West herd combined.

Season	Back Fat in cm (number of samples) Female	Male
2017/18*	**1.35** (9)	**0.52** (6)
2016/17*	n/a	**1.79** (6)
2015/16*	**2.00** (1)	**0.13** (4)
2014/15*	**2.21** (17)	**2.94** (20)
2013/14	**1.77** (11)	**2.39** (25)
2012/13	**1.66** (17)	**1.30** (36)
2011/12	**0.75** (2)	**1.00** (1)
2010/11	**2.01** (9)	**3.31** (25)
2009/10	**0.70** (12)	**1.20** (22)
2008/09	**0.00** (5)	**2.40** (6)

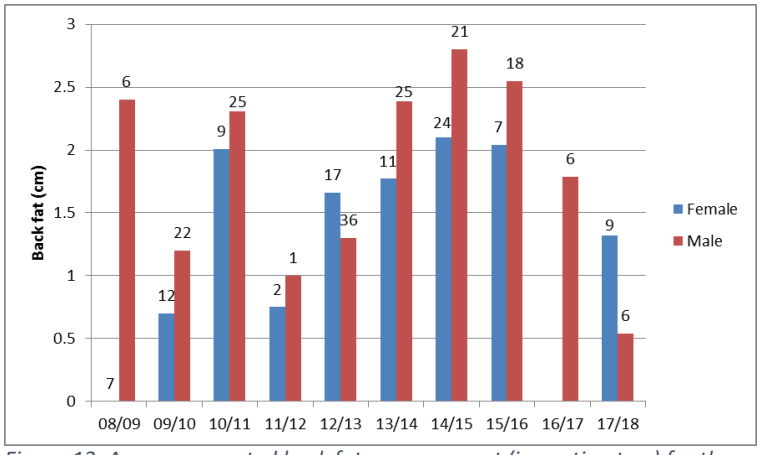


Figure 13: Average reported back fat measurement (in centimeters) for the Bluenose-West herd, with number of samples noted at the top of the bar.

* Includes only samples from Paulatuk since 2014/2015 because based on collar data, the change of the harvest zone boundary in 2014 means Inuvik and Tuktoyaktuk harvesters were mainly accessing Tuktoyaktuk Peninsula and Cape Bathurst herd caribou.

Harvest levels

A tag requirement was put in place for the Bluenose-West herd in the Gwich'in Settlement Area and Inuvialuit Settlement Region in 2007, and in the Sahtú Settlement Area in October 2009, following the boards' decision of a 4% Total Allowable Harvest (TAH) limit. Based on the 2006 (Lincoln-Peterson) population estimate of 18,050, the herd TAH was set at 722 animals. This TAH was shared between regions according to approximate historical use and by agreement of the GRRB, SRRB, and WMAC (NWT) with the Minister of GNWT. The TAH was revised for the 2019/2020 season based on the 2018 estimate and set at 840 animals. Harvest allocations to each region are: 34 Gwich'in (4%), 403 Inuvialuit (48%), and 403 Sahtú (48%). This recommendation also included a bull-dominated harvest with a target of 80% bulls to encourage herd recovery.

Table 10 includes the harvest data collected to date by ENR, Inuvik Region using tag returns since 2007.

Table 10: Harvest data for Bluenose-West collected by ENR, Inuvik Region since quota implementation in 2007.

	Season [a]											
	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15[c]	15/16	16/17	17/18	18/19
Aklavik	0	0	0	0	0	11	0	3	0	0	5	27
Inuvik	33	17	52	41	8	41	0	73	42	94	79	71
Tuktoyaktuk	37	63	14	17	24	27	12	75	75	95	87	70
Paulatuk	198	150	230	239	279	261	150	97	171	72	122	143
Ulukhaktok	0	0	0	0	3	0	0	0	0	0	0	0
Sachs Harbour	0	0	0	0	0	0	0	9	0	0	0	0
	268	**230**	**296**	**297**	**314**	**340**	**162**	**254**	**288**	**261**	**293**	**311**

Gwich'in	2	1	13	22[b]	22[b]	0	0	3	5	4	12

[a] Season changed from Sept 1 to Aug 31 in 2010, to Oct 1 in 2013, and to 1 July in 2017
[b] Tags misplaced, assumed all used
[c] Boundary change between I/BC/06 and I/BC/07

Predator populations

ENR collects samples from wolves harvested by hunters (Table 11; samples are mostly from the winter season, when wolves tend to be hunted. In previous years, stomach contents were sampled, and of all the Inuvik region mainland wolf samples submitted, 68% of the stomach contents was caribou. ENR is now looking at a more long-term analysis using stable isotopes, which will provide information on more than just wolves' most recent meal (e.g., will reveal more information about wolves' year-round diet).

Table 11: Number of wolf carcasses/samples submitted to ENR by Paulatuk hunters, 2007–2019.

Year	Paulatuk	Colville Lake	Fort Good Hope	Unknown
2018/19	**0**	**2**	n/a	n/a
2017/18	1	7	n/a	n/a
2016/17	7	n/a	n/a	n/a
2015/16	4	4	3	4
2014/15	26	n/a	n/a	n/a
2013/14	15	30	2	2
2012/13	11	21	6	8
2011/12	12	19	2	0
2010/11	16	22	3	1
2009/10	1			
2008/09	n/a			
2007/08	3			
Grand Total	**95**	**98**	**16**	**15**

Other scientific information

Overall, the scientific information indicates the following:

- Collars are used to monitor whether the calves and cows return to the same calving grounds year after year. Between 2010 and 2019, 99% have gone back to the same place year after year, showing a very high-fidelity rate.
- There were not many new fires in the Bluenose-West range.
- Industrial work is minimal in the Bluenose-West range. For the most part it is limited to a few helicopter flights, mostly by local communities and researchers in the range.

Table 12: Criteria used to assess Bluenose-West herd status in 2019 [2]

Criteria	Community-Based Information[3]	Scientific Information[4]	Comments
Population size	**Paulatuk (WMAC-NWT):** Members noted the caribou numbers are higher than they have been in the last 2–3 years and they are abundant and healthy. The population has been steadily increasing over the last 3 years. This harvest season, "Everyone had their share." The caribou populations follow natural cycles; a long time ago the hills looked like they were moving with the migrating caribou; it's not like that anymore. **Tuktoyaktuk (WMAC-NWT):** In the past 4 years, more caribou have been seen than prior to 5 years ago, and last year even more were seen. **Inuvik (WMAC-NWT):** Inuvik members noted the population size is the same as last year. **GRRB:** Four harvesters didn't see any caribou. Some harvesters mentioned that there were more caribou 3–4 years ago in this area (Husky Lakes). A harvester mentioned that there were fewer caribou around Miner River than in	Estimated number of adults in 2018 Rivest: 21,011 ± 4,602	Estimate based on July 2018 post-calving ground survey

[2] This table is populated with information presented to the ACCWM to assess herd status in 2019 and is adapted from the monitoring criteria table included in ***Taking Care of Caribou***.

[3] Bluenose-West caribou usually migrate through two settlement areas/regions and are typically harvested by four communities: Aklavik, Inuvik, Tsiigehtchic, and Tuktoyaktuk. In 2018, community-based information was documented in the following ways: 1. The Gwich'in Renewable Resources Board (GRRB) held a community meeting in Inuvik, and 2. The Wildlife Management Advisory Council (WMAC, (NWT)) held community meetings in Inuvik, Paulatuk, and Tuktoyaktuk; of these communities, Inuvik and Tuktoyaktuk are the communities that mostly encounter and harvest Bluenose-West caribou.

[4] All scientific information and comments were provided by Environment and Natural Resources (ENR) (GNWT) unless otherwise noted.

	the past; they only saw old tracks. Another mentioned seeing no tracks at all. One harvester mentioned that he saw fresh tracks between Sitidgi Lake and Husky Lakes. These observations were made late winter and early spring. **Délı̨nę (Sahtú):** One or two ɔekwę́ seen at Neregha (North Shore). Neregha ɔekwę́ are in much smaller numbers than usual. **Colville Lake (Sahtú):** No significant changes noted.		
Population trend and rate of change	**Paulatuk (WMAC-NWT):** Paulatuk members noted the population increased since last year. It's been steadily increasing in the last 3 years; this year has been especially good. The population is better than any previous years (except 2006, which was excellent). **Tuktoyaktuk (WMAC-NWT):** Community members observed the population is going up. A group of 300 caribou on the Tuk Pen was seen in mid-March. **Inuvik (WMAC-NWT):** Members noted it's hard to say because of changes in distribution. Harvesters did not see as many in the usual hunting areas. **GRRB:** Several harvesters mentioned that there are fewer caribou now than there used to be in the distant past. Some mentioned that they used to hunt them in the GSA, around and north of Caribou Lake. Now there are none there. Trappers also used to	Between 2005 and 2018 the herd shows a non-statistically significant decrease of 2% per year (CI -4 to 1%).	Starting in 2019/2020, TAH updated based on 4% of the most recent estimate (2018 Rivest estimate 21,011). Trend analysis is based on Rivest estimates: 2015: 21,535 ± 5,136 2012: 32,326 ± 15,482 2009: 21,773 ± 4,884 2006: 28,461 ± 7,431 2005: 26, 228 ± 5,878

	see them around that area. **Délı̨nę (Sahtú):** The community continues to be concerned about lack of availability. **Colville Lake (Sahtú):** No significant changes noted.		
Productivity and recruitment	**Paulatuk (WMAC-NWT):** Members observed fewer calves than previous years; some young ones but not as much as in the past years. They are seeing more yearlings than calves. Harvesting is happening away from where calves and cows are; they are further east, closer to the Park. The cows and calves are in excellent shape. **Tuktoyaktuk (WMAC-NWT):** Members observed twins in the spring; a calf for every two cows in I/BC/06; the calves look very healthy with nice fur. A lot of calves were spotted in March. **Inuvik (WMAC-NWT):** Members noted that harvesters are not in the area where the cows usually are, but there are some observations of one cow and one calf that were spotted alone. In 2017, there were a lot of cows and calves in Old Man/Uruqhart Lake area, but members didn't see any in that area this year. **Colville Lake (Sahtú):** No significant changes noted.	Last recruitment survey was 2017; no current information available.	
Adult composition	**Paulatuk (WMAC-NWT):** Members saw and harvested a lot of bulls. Successful community harvest of 21 caribou, of which 19 were bulls.	There is only one bull-to-cow ratio for Bluenose-West (2009) so the trend	The bull ratio is monitored because a bull-dominated

	There are many bulls, so not harvesting many cows. **Inuvik (WMAC-NWT):** Members noted there are limited observations as the areas travelled (Miner River, in treeline) mainly contains bulls. The caribou are separated by the time harvesters from Inuvik go out. **Colville Lake (Sahtú):** No significant changes noted.	is unknown, but the 2009 result is considered high. Estimated number of bulls per 100 cows in 2009: 70	harvest was recommended.
Body condition and health	**Paulatuk (WMAC-NWT):** Members noted the caribou are very, very healthy, with 3–5 inches of fat. The bulls and cows are very healthy and fat. The calves look healthy too, probably because of the cool summer and fewer mosquitoes. **Tuktoyaktuk (WMAC-NWT):** Members noted the caribou are really fat (one harvested in September was too fat and had less meat). The caribou are almost "obese". The caribou are getting fatter faster in the summer because of less pressure from bugs. There is no sickness, fewer warble flies, fewer bugs due to cold, damp summer. **Colville Lake (Sahtú):** ʔədə appear to be in normal good health. **Inuvik (WMAC-NWT):** The caribou in late spring are very lean, more so than the last few years. The caribou seem healthy, no sickness and clean livers. There is fat around the organs, none on the rump, and good bone marrow considering they		No body condition samples were collected in 2018/2019 for BNW. Data from samples collected in I/BC/06 in the area where the Cape Bathurst herd overwinter is in Cape Bathurst table.

	are leaner. The caribou looked like they were about to put on weight. Out of 9 caribou harvested, only 2 had visible fat on the outside.		
Harvest levels	**Paulatuk (WMAC-NWT):** Members noted successful community harvest and harvesting. They haven't met quota yet (but close). Started the harvest earlier this year, in August, which was good and consisted of lots of bulls. Weather patterns determine peoples' ability to go out. There is less caribou harvesting in the treeline. There are caribou still being harvested in mid-October that don't smell; suspecting late rutting season. Rut season is usually October 8–11, but lately harvesters are getting bulls later in the season and they don't smell. Since tag system and harvest sex-ratio implemented, not enough tags to do late fall community harvest (used to harvest mainly cows in early November for winter stock-up). **Tuktoyaktuk (WMAC-NWT):** Tuktoyaktuk shared that educating the younger harvesters is important. There is good information where tags are regulated in hunting zones. Successful harvest this year on Tuk Pen herd. There are fewer harvesters on the western coast (McKinley Bay area) because of highway access to Husky Lakes. Members noticed fewer people going out due to weather and other reasons, such as berry picking along the highway. Harvests leading to	Total harvest uncertain. Sex of harvest is not always reported. ENR believes the 80% bull target is not being met.	TAH tag returns in Beaufort Delta region 2018/2019: Inuvialuit: 345 quota, 311 harvested Gwich'in: 22 quota, up to 11 harvested (1–11 estimated) Sahtú harvest: 300 (estimated)

	the rut season are mostly bulls. After freeze-up/rut season, harvesting consists of young bulls and dry cows. Members shared there is caribou drymeat for sale. **Inuvik (WMAC-NWT):** Members stated this year not all tags were used. They had a successful community harvest and noticed people are too busy to hunt. Caribou are not in the areas where people usually hunt; they were at Miner River instead of Old Make Lake area. Harvesters have to travel further, and most people are not comfortable travelling into areas where the caribou are due to quick changes in weather (above Sitigi Lake, South Storm Hills). All harvests are being reported. **GRRB:** The main time of harvest was around late winter and early spring. A few harvesters went around Husky and Sitidgi Lakes for BNW. They didn't see any caribou and saw very few tracks. They went hunting again later around Caribou Lake for woodland caribou. They weren't successful. Only one harvester interviewed was successful for BNW. The Ehdiitat RRC (Aklavik) mentioned that the trip to go get Bluenose West caribou was too expensive for only 5 tags. The uncertainty of the caribou's location and where they could be harvested were also reasons mentioned for not having used the tags. A harvester mentioned that he was		

	fine with the increase in tag numbers because the population had increased. Another mentioned that he respects the GRRB and the tag system. Nowadays, people only hunt caribou, but it should be seasonal, he said. Harvest should change depending on the season, e.g., geese in the spring, rabbit in winter. Also, now there are fewer hunters because there are fewer caribou. **Délı̨nę (Sahtú):** As of November 2019, the community has agreed to ɔekwę́ gha máhsı ts'ı̨nı̨we (ceremonial harvest) of 50 Neregha ɔekwę́. The ʔehdzo Got'ı̨nę has curtailed financial support for community members to harvest ɔekwę́. **Colville Lake (Sahtú):** An estimated 300 harvested in 2019. For the second year in a row, the annual community harvest at ʔarakə Túé (Horton Lake) did not take place. The community has published their *Dehlá Got'ı̨nę ʔədə Plan and Tseduweh ʔədə ʔeɔa (Harvest Law)* and is partnering with the ʔehdzo Got'ı̨nę Gots'ę́ Nákedı (Sahtú Renewable Resources Board) in hosting a Public Listening (Hearing) Session on *Sahtú Ragóɔa (Hunting Law) and Approaches to Wildlife Harvesting* on January 21–23, 2020. In preparation for the Colville 2020 Public Listening Session, Colville delegates participated in two Community Conservation Planning workshops. Additionally, Colville reviewed the Sahtú Harvest Study and is preparing a plan to support		

	the Dehlá Got'ıné traditional food system which includes over 80 harvested species.		
Predator populations	**Paulatuk (WMAC-NWT):** Members observed wolves all over the place until early October. Grizzly bear populations are increasing. Members wonder whether an increase in salmon in streams would attract more bears. They didn't see a major pack of wolves that usually passes in the spring; most wolves taken were from around the community. Changing climate is creating weather conditions which prevent hunters from going out for wolves. Very large wolf packs are below the treeline. Harvested 9 wolves in April. There is no increase in wolf packs this year, but there is interest in incentives. **Tuktoyaktuk (WMAC-NWT):** Members stated there are more wolves and grizzly bears. There were grizzly bears spotted with 3 cubs. There are more and larger packs of wolves, more wolverines than usual, and increasing eagles. An eagle was observed taking calves. One observation noted a grizzly bear chasing a muskox until it aborted its young, and it was asked if this happens with caribou. There are fewer hunters in the younger generation so there is less pressure on predators. The cost of gas and equipment makes it difficult to go out on the land to hunt predators. If the price of fur is too low, people won't hunt predators as much, but some people are	Paulatuk submitted 0 wolves in the 2018/2019 season.	Changes in wolf harvest does not necessarily reflect changes in wolf abundance.

	opportunistic harvesters. There are changes in climatic conditions that will affect where harvesters go. Hunters with unethical harvesting practices are characterized as "human predators". **Inuvik (WMAC-NWT):** Members stated they didn't see too many wolves this year, but snow was too deep and if there were predators it would be hard to escape. Not many predators in general; the caribou were very tame. Some small packs of wolves (4–5) around Miner River and lots of wolverine and wolverine tracks heading north out of the treeline. No bears spotted in that area, indicating early emergence from their dens. **GRRB:** One harvester saw a lone wolf toward Sitidgi Lake. This harvester mentioned that too many wolves can affect the population. Wolves can affect the population a lot because they eat a lot of caribou. They should put a bounty on them. He also mentioned that there are more grizzly bears now. Another harvester mentioned that predators were about the same as last year around Miner River. **Colville Lake (Sahtú):** No significant changes noted.		
Range and movement patterns	**Paulatuk (WMAC-NWT):** Members observed the migration paths and locations changing slightly, about 40–50 km from previous harvesting locations. Caribou are to the east and west, all over, excellent range.	In 2019, 20 BNW collared cows were still active from 2017 and all returned to BNW calving ground.	

	The caribou are accessible to the community while migrating. **Tuktoyaktuk (WMAC-NWT):** Members observed there are more caribou in the trees because of very low snow conditions. There are fewer bugs and the caribou don't have to go to the coast to escape them. There are lots of caribou in the east between Anderson and Horton/Mason River, where they are tamer due to less hunting pressure. Seeing many more caribou from Cape Bathurst to above Husky Bend on Anderson River, and all along the Eastern shore of Liverpool Bay during April/May. They have been seeing more over the past three years. **Inuvik (WMAC-NWT):** Members observed the distribution is a little different: caribou stayed around Miner River almost all winter, not in usual harvesting areas around Old Man Lake and Urquhart Lake. The caribou didn't come out of the trees until at least the end of April. There is a lot of deep snow. Caribou seemed to stay late into spring. **GRRB:** A few harvesters mentioned that the caribou used to come down in the GSA, around Caribou Lake. Another harvester mentioned that maybe they have moved away because the food they usually get was not there anymore. Another harvester doesn't think that movement patterns have changed since last year. **Colville Lake (Sahtú):** No changes	Between 2010 and 2019, 99% of collared BNW cows returned year after year to calving ground.	

	noted.		
Environment and habitat	**Paulatuk (WMAC-NWT):** Members noted the summers are longer but cooler, rainy, and with fewer bugs. A lot of stronger winds from all directions except from the south, which is more than usual. There was rain in October and November 2018, March/April 2019, and this past October. There are no concerns about species in Paulatuk region; there is an abundance of caribou, beluga, char, seals, and geese. The community noted members can't predict storms anymore. There were storms in February and October, which was unusual. A member shared they got a reindeer in late August and wondered if it's a mixed breed. The reindeer was hanging out with 15 other bulls, its fur had white spots, and it had short legs and big antlers without velvet. If this reindeer was all the way here, they must be everywhere. **Tuktoyaktuk (WMAC-NWT):** Members noted an icing event in January with about a half-inch ice layer. The icing events cause caribou and other animals to lose hair on their legs. Summer weather is cooler with fewer bugs. Ice isn't thick enough, which limits caribou movement across water bodies. There are more slumps and slides. **Inuvik (WMAC-NWT):** Members noted there is deep snow until late spring, a bit of icing earlier, more noticeable in the tundra than in	There were very few fires in the 2019 season.	Forage map is still in production. Consultant hired to write up results by March 2020.

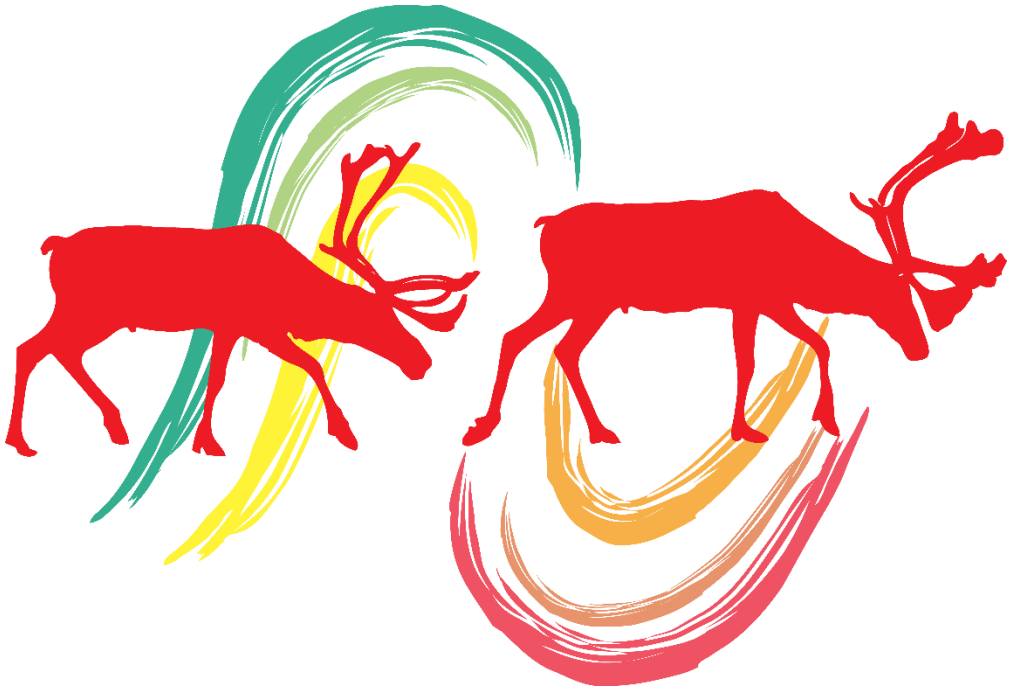
	treeline. At the end of February, some hills were glazed, making it hard for the skidoos to climb. Lots of slumping in places there never used to be, which is dangerous for traveling. A lot more landslides too, further south around Caribou Hills area. There are many rivers getting silty and shallower, which is starting to affect travelling routes. Shallow Bay has areas you can't even go through due to low waters. **GRRB:** A harvester mentioned that during springtime, it was fairly warm. He mentioned that the lakes were slushy, but that there was lots of snow in the forest, around 3–4 feet. Two harvesters mentioned that the snow was the same as usual, both for forested and barren areas. **Délı̨nę (Sahtú):** See information above for Neregha ɔekwę́. No other sightings noted. **Colville Lake (Sahtú):** Nothing unusual noted.		
Human disturbance	**Paulatuk (WMAC-NWT):** Members stated the industry are not following community guidelines and flying low. There are tourists and visitors in the Park without community knowledge while the caribou are there. The members also shared that research activities have cumulative effects on species and on communities. **Inuvik (WMAC-NWT):** Members stated the caribou are very tame. It was hard to travel because of icing	Minimal human disturbance. TNNPMB/Parks Canada agreement to minimize overflights during calving and post-calving continues.	

	and thick trees. There was less hunting pressure this year. Aircraft are not a concern as they fly really high. Perhaps more caribou spotted from road this year than previous years; quite a few around Jimmy Lake and toward Husky Lakes. Members were not concerned around ITH. The caribou around the road are very tame. Lots of dust on southside of ITH, covering the land. **Tuktoyaktuk (WMAC-NWT):** Members stated the caribou get really skittish when they are hunted and chased with fast skidoos (instead of hunters being patient). Enforcement presence needs to increase; an ENR officer should be based in Tuktoyaktuk all year for regular patrols. Should increase enforcement in no-harvest areas and when tags are finished. Asked if there is more funding for investigations than patrols. **GRRB:** A harvester mentioned that when the oil and gas industries started, the caribou population declined. A harvester mentioned that he doesn't think harvesters are having a big impact on the caribou now. He believes that the harvest is sustainable and attributes the low numbers to predation. **Colville Lake (Sahtú):** People noted that the winter road has had an impact since it was first laid by increasing access for visiting harvesters.		
Competitors	**Colville Lake (Sahtú):** Members plan to promote harvest of moose		

	and muskox which are newly coming into the area. **Tuktoyaktuk (WMAC-NWT):** Members noted there are stray reindeer and that the muskox are moving south and west. Tuktoyaktuk wants to deal with invasive species and/or competitors before they get out hand. Asking if harvesting by hunters from other communities could be tracked, possibly increase communication.		

BLUENOSE-EAST CARIBOU

– RED STATUS –



Tuktuvialuk (Inuvialuktun, Siglitun dialect)
Tuktut (Inuinnaqtun, Kugluktuk, Western Kitikmeot)
ʔedə (K’áhsho Got’ı̨ne, Dela Got'ı̨nę)
ʔehdaı̨la Goʔekwę́ (Délı̨ne Got’ı̨ne)
Sahtı ʔekwǫ̀ (Tłı̨chǫ, Wek'èezhìı)

Understanding Current Bluenose-East Herd Status

The ACCWM met on November 19th, 2019 to review information pertaining to the status of the Bluenose-East caribou herd. Prior to that, Member Boards reviewed information available and held 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 and Government of Nunavut Department of Environment (GN-DOE) biologists, and community knowledge was provided primarily by representatives from three regions: Wek'èezhìı (Tłı̨chǫ), the Sahtú Settlement Area, and the Western Kitikmeot region of Nunavut.

The 2019 Management Setting

At the start of the 2019 status meeting, a roundtable was held to give participants an opportunity to provide a brief update on some of the management actions and developments that arose in their region over the course of the last year. During the roundtable, a number of management topics were raised that could have implications for Bluenose-East caribou and their habitat, including:

- **Species at Risk Assessments:** COSEWIC has assessed barren-ground caribou as Threatened. The federal SARA listing has not been undertaken yet. Depending on listings, work on recovery planning and identification of critical habitat may need to happen.
- **Draft Caribou Management Strategy (2018–2022):** GNWT-ENR awaiting Cabinet review and approval; will then be submitted for public/broader review and approval.
- **Increase in predator population:** Representatives from all of the regions mentioned that there is increasing concern about the level of predation.
- **Kugluktuk HTO initiatives:** Between 2007 and 2018, the KHTO led initiatives to reduce harvest pressure on the Bluenose-East caribou herd, such as:
    - Education (public meetings, workshops, posters)
    - Stopping organized community hunts on caribou
    - Promoting harvesting of alternate species (e.g., muskox)
    - Stopping caribou sport hunts
    - Active involvement in interjurisdictional meetings
- **Community-led conservation planning:** The KHTO Integrated Community Caribou Management Plan includes a local plan for managing the harvest allocation. Additional changes in Nunavut regulations that could influence caribou include: increased moose hunts, no beneficiary tag requirement for grizzly bears, no tags or season requirement for wolf harvesting, and an increased muskox TAH to offset caribou harvesting restrictions.[5] In 2017 a community conservation plan was put into effect in Dél̨ı̨nę to

[5] The Kugluktuk management plan is available from the Kugluktuk Angoniatit Association (Hunters and Trappers Organization), kugluktuk@kitikmeothto.ca.

guide peoples' actions toward Bluenose-East caribou,[6] and a community conservation plan for caribou was being developed for Colville Lake at the time of the meeting.

Status Decision 2019

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 2019decision is presented below and summarized in Table 14 at the end of this section. Additional historic information can be found in two companion reports available from ACCWM members and on the ENR website.[7]

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**.

Based on the information provided, the ACCWM determined the Bluenose-East herd status colour zone to be **red (low)** in November 2019. This decision recognizes that although there are some positive community and scientific observations, the recent extreme decline in the population numbers merit a high degree of caution. The forthcoming 2020/2021 actions will be based on this determination. The herd size continues to be low and there are concerns about the recent steep decline in the population, although there are some indications of improvement in indicators such as the fall cow:calf ratio. There was limited community data on the status of the herd as a result of the herd remaining far from each of the communities throughout the year. As such, it was felt that it was best to use the maintain the status of the herd at the same level as last year.

[6] The Belare Wíle Gots'ę ʔekwę plan is available from the Lands, Resources and Environment Department of the Délı̨nę Got'ı̨nę Government.

[7] 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. 81 pp.

Advisory Committee for Cooperation on Wildlife Management. 2014. We Have Been Living with the Caribou All Our Lives: A report on information recorded during community meetings for 'Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East Barren-ground Caribou Herds Management Plan'. Yellowknife, NT. 196 pp.

In 2020/21

the Bluenose-East caribou population status is

RED: low

Presentations Given at the 2019 Annual Status Meeting

Both scientific and community knowledge helped to inform the 2019 status decision; further details on some of the relevant survey methods are included in **Appendix D**. ENR provided current scientific information at the status meeting; the data included here were presented at the meeting.

Community information was provided on each of the ten monitoring criteria. The following groups presented their community data to the gathering:

Western Kitikmeot Region, NU – Kugluktuk information was documented and shared by Larry Adjun and Amanda Dumond of the KHTO during the meeting.

Sahtú Settlement Area, NWT – Sahtú information was provided by Deb Simmons and George Barnaby of the SRRB.

Wek'èezhìı (Tłı̨chǫ), NWT – Joseph Judas of the WRRB and Stephanie Behrens of the TG presented on data collected in the Tłı̨chǫ region.

The 2019 status meeting was documented in notes that were as close to verbatim as possible. As a result, we have been able to include representative quotations from community members as well as from the status meetings; these are indented from the main text and presented in an italicized, gray font. They have been edited for clarity or brevity as necessary.

Sahtú Community Knowledge Presentation

Deb Simmons (SRRB)

As the Bluenose-East herd did not come near most of the Sahtú communities, this presentation focused on the community of Délı̨nę, as that was the only community providing explicit information on the herd.

Deb noted that although the sample size is small, the community has important information to share about what they did see. Community members noted they have not seen many caribou at the Caribou Point area, one of the main areas for hunting Bluenose-East.

Community members have been seeing a few Neregha ɔekwę́ (caribou) on the north side of the lake. They are generally seen alone or in pairs rather than in larger groups. Community members are very concerned about the population of the barren-ground herds.

Productivity and Recruitment

During the harvest at Caribou Point, some data was collected on productivity and recruitment. Of 12 ts'ída (female) ʔehdáɻla ɔekwę́ (Bluenose-East caribou) harvested on April 21, 2019, 8 were pregnant. These animals were in fair condition, although Chris Yukon observed it must have been tough for them to get food.

Harvest

The April harvest included 8 yárégo (bulls), 12 ts'ída (cows), and 5 calves for a total of 25 ʔehdáɻla ɔekwę́ harvested. As of November 2019, the community has agreed to ɔekwę́ gha máhsı ts'ɻnɻwe (ceremonial harvest) of 30, with maximum ts'ída (cow) harvest of 6 of ʔehdaɻla ɔekwę́ for the next three years, and 50 Neregha ɔekwę́. The ʔehdzo Got'ɻnę has curtailed financial support for community members to harvest ɔekwę́.

The community has done a lot of work to rethink their ceremonial harvest. Earlier, they had planned to limit the harvest to 150, but now they say they would like to keep it down to 30, with a maximum of 6 ts'ída (females).

Disturbances and monitoring

No one had anything new to say about development impacting habitat. There is concern that there is less opportunity to monitor caribou because they are far away. They are concerned about the cost to monitor due to inaccessibility.

Collaboration

In response to a question about hunting in the Hottah Lake area, Deb responded that Sahtú residents don't really go there. Talking about the area that borders with the Tłı̨chǫ Region led to the acknowledgement that the Tłı̨chǫ Government would be participating in the upcoming meetings in the Sahtú, such as the one in Colville Lake. The SRRB enthusiastically supports this as Tłı̨chǫ participation, and information sharing will lead to a stronger understanding of shared goals and values in both regions.

Tłı̨chǫ Community Knowledge Presentation

Joseph Judas (WRRB), Stephanie Behrens (Tłı̨chǫ Government)

Harvest

Stephanie Behrens started off the Tłı̨chǫ community knowledge presentation by discussing some initial impressions from the harvester interviews which were conducted during a tour of Whatì, Wekweètì, and Gamètì. She noted that while the data is still very raw, there were some points that could already be drawn from the data.

A “sight in your rifle” event was part of the community tour. Behchokǫ̀ was not included in the community tour as members of that community mostly harvested near Mackay Lake. The majority of the Bluenose-East harvest was undertaken by residents of Wekweètì.

While much of the data still needs to be processed, it appears that 40 Bluenose-East caribou were harvested. This is well below the 295 total allowed harvest.

The consensus is that there are fewer animals than have been seen in the past. However, it is difficult to compare current and past observations, as the current observations have only come from Wekweètì, and people might be comparing what they see now to a time when the Bathurst herd used to be near Wekweètì.

> *Out by Gahcho Kue – that’s where I got my caribou. I know a few people did that and used their tag for the BNE hanging around that area. I know that people don’t agree with the low numbers. And this year they might get less than last year. But that’s how they come to view that. Wekweètì is a smaller little group in the Tlicho. But if the leaders or anybody talked about it as a freezer hunt – that our directors have a bunch of freezers they have to fill again, and they should be sharing with others. But if 28 buildings share, then it will last a week and not the whole year. Right now, the animals – we can’t shoot 5 out of BNE to make drymeat; it won’t work that way. They should be sharing it amongst themselves. They should eat fresh meat. That’s how I see it. But no one told them yet.*
>
> *So I try to [figure out] how we can work out something for Wekweètì people for caribou, because the caribou is low. You can’t fight others for tags. It doesn’t work. The other community want tags too, right to the last moment. Then the give the tags back to the government and ENR… The tags are too low, I don’t know how they are going to do it, but they will have to figure it out. – Joseph Judas*

Adult composition

Some community members say there are more bulls, some say there are more cows, some say the numbers are the same.

Body condition and health

Community members report that caribou are skinnier than before and that they are seeing a lot of warbles.

Environment and habitat

There was a lot of concern over previously burned areas and forest fires. Caribou are avoiding these areas.

> *The forest fires are all over. People are upset. They are all over. So all the animals can’t go over there. So 3 to 5 years ago I went across, and 6 animals went from west*

to north–south. Then 6 animals came back out the next day. Nothing to eat. That's why fire damages all the area for caribou. Same time we talk about climate change, warmer. Caribou, that's what we are talking about. They are smart. They can smell the fire. They can't get anything to eat. – Joseph Judas

Warmer winters are leading to less snow, which makes it easier for caribou to find forage but also makes it easier for predators to hunt. There are also a lot more areas with thin ice now, and caribou are falling through the ice.

Predator populations

The Tłı̨chǫ Government is developing a wolf harvest program. Currently, hunters in Wekweètì are set to be trained as part of the program.

During the harvester surveys, it was noted that more wolves are being observed.

Kugluktuk Community Knowledge Presentation

Amanda Dumond (KHTO), Larry Adjun (KHTO)

Amanda Dumond was the main presenter of the Kugluktuk community knowledge presentation. She stated that the herd remained far from the town for most of the year, but some harvesters were able to make observations of the herd. Most of these observations were from the mid- to late summer. Community members noted the high number of calves, with almost every cow having a calf. During the hunt, 105 caribou were harvested, and most of these were very healthy with lots of fat.

During August, the herd did an odd thing: they came to the east side of Coppermine River. In previous years, not even a single caribou was seen in this area, but this year lots were found throughout the area. There were lots of hunters out, but within a week the herd had moved to the west. The weather was perfect, but as the caribou were gone, the harvest was ended.

Larry Adjun explained that the KHTO had developed a Bluenose-East management plan in which a no-hunting zone begins on July 1; this lets the cows go by with no harassment. With ongoing community outreach, more harvesters are aware of the management plan and are getting more involved in the use of sampling kits provided by the HTO and the GN Department of the Environment. The KHTO is also participating in the GN community-based monitoring network, which provides lots of information revolving around caribou.

Currently, the harvest is limited to 340, and most years the actual harvest is nowhere near this number (174, 93, and 105 for 2017, 2018, and 2019 respectively). The GN is going to push for a TAH of 107, but the KTHO is concerned this won't work, as it will limit the community's ability to hunt to only one time of year. The KHTO is hoping to negotiate a middle ground on the TAH and have a 1:1 ratio for the bulls and cows harvested.

The community saw a lot of smaller groups, so the hunters are saying it is harder to provide information. People hope that numbers will go up with all the good conditions. Their TAH is 340. GN will push for 107 bulls only in the new meeting. This won't work, as it will limit harvest to one time of year only. The community said they would be happy with 250 of any sex.

Predator populations

Throughout the region there have been numerous sightings of grizzlies and wolves. Grizzly sows are being seen with twins, triplets, and even quadruplets. Amanda saw a sow with four healthy cubs which were almost as big the sow. The number of grizzlies is alarming.

Larry Adjun mentioned that they get a grant from the Government of Nunavut to help support hunters harvesting wolves. KHTO members harvested 101 wolves in just four months. KHTO is currently planning go to Point Lake for an organized wolf hunt.

In response to a question about eagles in the region, Larry noted that they are conducting a raptor study with a researcher from the University of Alberta. He has pictures of a calf leg in a nest, confirming that eagles are preying on calves.

Presentation on Scientific Information

Jan Adamczewski (ENR)

Population size and rate of change

ENR's most recent calving ground survey was conducted last year. ENR switched from post-calving ground surveys (still used for Bluenose-West and Cape Bathurst herds) to calving ground surveys for the Bluenose-East herd in 2010. Jan noted that the ENR is increasing the frequency of surveys to every two years for the Bluenose-East and Cape Bathurst herds.

Table 13: BNE population estimates (2000–2018).

Year	Estimate
2018	19,294 ± 4,729
2015	38,592 ± 4,733
2013	68,295 ± 18,041
2010	102,704 ± 39,965

The 2018 population estimate of 19,294 ± 4,729 caribou (95% CI) represents that between 2015 and 2018 the herd experienced a statistically significant decrease of 50%. Survey results from earlier years are available in ***Taking Care of Caribou*** and in the ENR technical report.

In 2019 the proportion of breeding females is high at 87.5% of the 5,347 caribou spotted during the June composition survey.

In a stable herd, cow survival rates are in the 82–85% range. In 2013–2015 the rate was at 71%, and it is likely that the survival rate in 2015–2018 is similar. Similarly, calf survival rates in a stable herd are 30–40:100. In 2019, ENR reported that while the average survival rate is in this range, at 37.9 ± 3.9:100, this may still not be high enough when coupled with the poor rates of survival for adults.

Adult composition

In November 2019, ENR found that there were 35.3 ± 5.5 bulls:100 cows, slightly less than in previous surveys. Bull:cow ratios of 60–70:100 cows were reported in the early 1980s when NWT herds were last increasing rapidly; lower ratios are more typical of stable or declining herds. 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.

Harvest levels

According to ENR, harvest levels were very low in the North Slave Region. Previously, 15 bulls were taken in the winter of 2016–2017 and 10 bulls in 2017–2018. As the herd generally stayed away from areas that are easily accessed by hunters, people tended to focus their hunt on the Beverly herd, which can be accessed via the winter roads to the mines.

Predator populations

ENR had very little new information on predators, although it was noted that they are recording many more grizzly bears than wolves (14 grizzly bears and 3 wolves), which is similar to what was recorded the previous year. Bald and golden eagles were also sighted but in very limited numbers. At the moment, predation by grizzlies on the calving grounds appears to be the most pressing concern.

- A wolf hunter can get $900 for a dead unskinned wolf.
- If the wolf is skinned using traditional methods, the pelt will be worth an extra $400. If the wolf pelt is skinned to taxidermy standards and sells for at least $200, an additional $350 is available.
- The maximum that a hunter may get for a dead wolf and a high-quality pelt is $1,650.

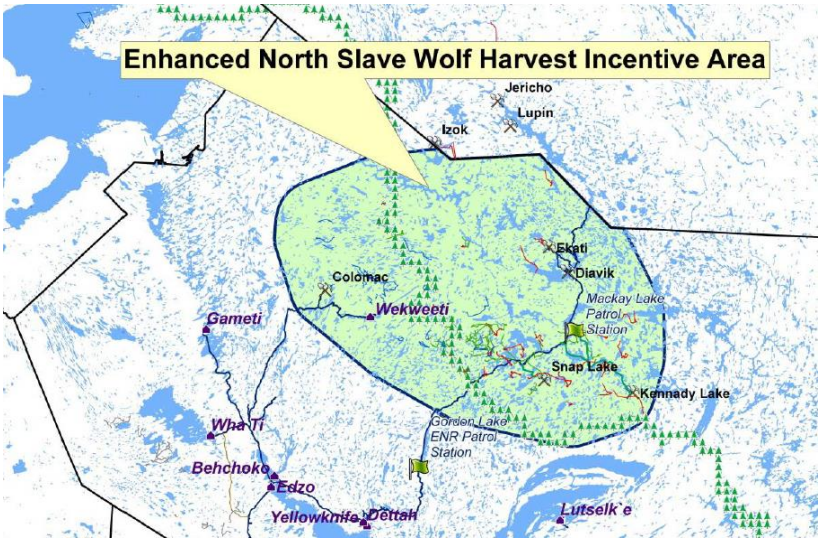


Figure 14: Wolf harvest incentive area. (Source: GNWT-ENR)

Due to low herd populations, ENR assessed options for reducing impacts from predation. Such incentives were increased in the North Slave Regions (See Figure 14). This area was created using location data for the Bathurst and Bluenose-East caribou. Hunters check into and out of the area and are given a receipt for each wolf carcass or pelt. Each wolf is tattooed to ensure it is only counted once.

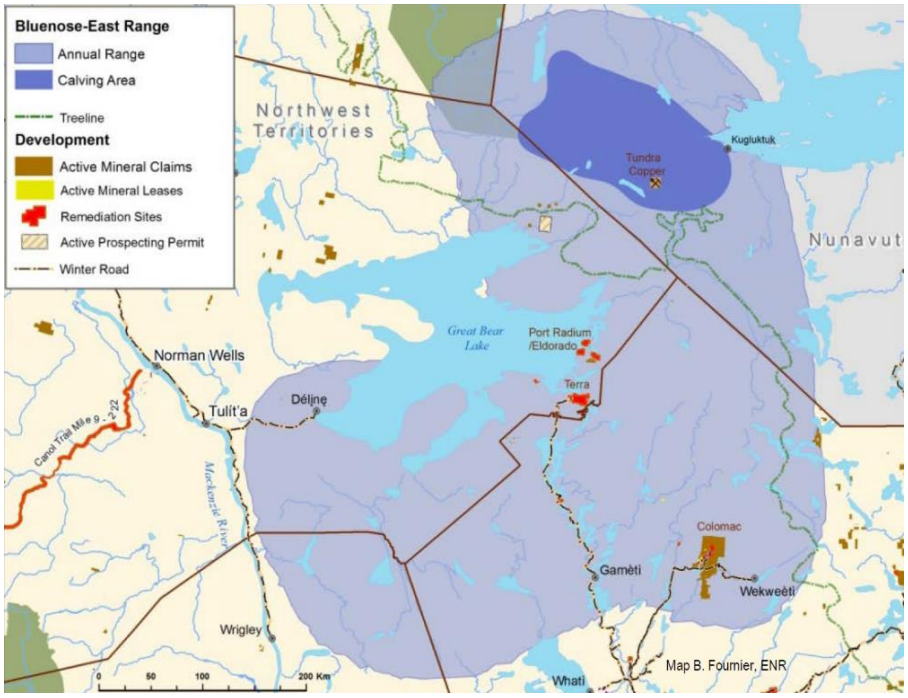


Figure 15: Disturbance in the Bluenose-East range. Source: ENR

Jan noted that there had been a fair amount of discussion with the KHTO regarding the wolf incentive program and that hunters from Kugluktuk have access to the NWT's $900 incentive on top of the $300 paid for wolf skulls by the Nunavut Government.

As of the November meeting, 60 wolves had been harvested. Most of these were reported by hunters using the winter roads to harvest the Beverly herd.

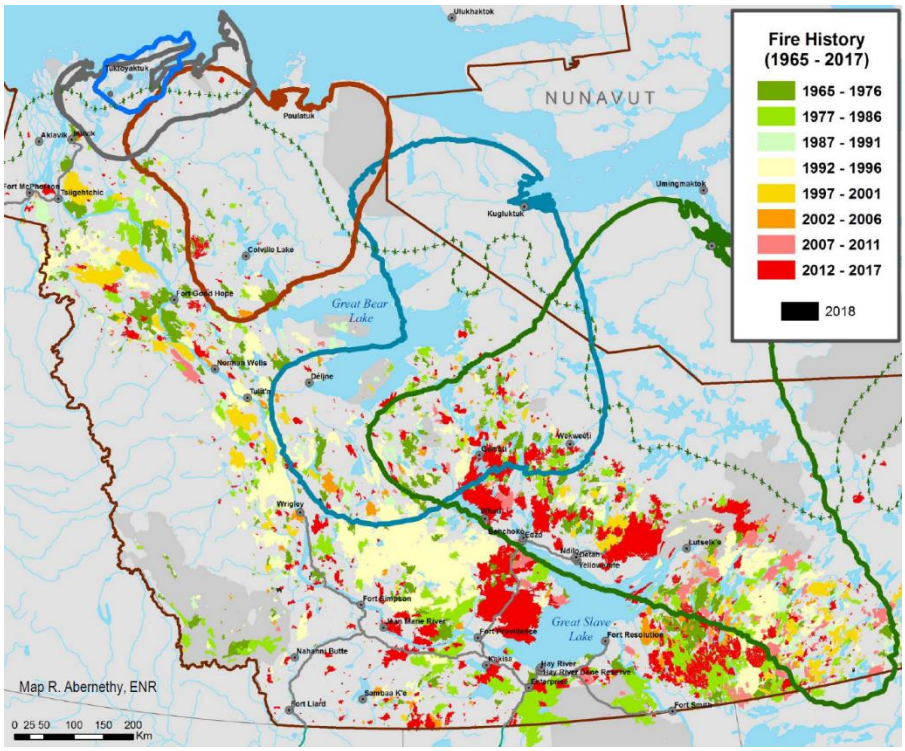


Figure 15: NWT fires (1965–2018) and barren-ground caribou ranges. Source: ENR

Disturbance

Overall, the scale of disturbance has been limited when compared to the Bathurst range to the east and many areas in the adjacent regions (see Figure 15).

Active mineral claims are currently 1.9% of the herd's range; active mineral leases are currently 0.4% of the herd's range; and remediation sites are 0.1% of the herd's range.

Winter road access is limited to the roads to Délı̨nę, Gametì, and Wekweètì, and the trail to Hottah Lake and the south end of Great Bear Lake.

Tundra Copper was active at the south end of the calving ground a few years ago, but there has been no activity for 4 years.

Disturbance from fires on the Bluenose-East range is shown in Figure 16. While 3.5 million hectares burned in 2014, subsequent fire years have been substantially smaller. In 2018, 15,000 hectares burned. It is likely that close to 100,000 hectares burned in 2019, but this is only an estimate. This is well below the average of 500,000 hectares burned per year.

Table 14: Criteria used to assess Bluenose-East herd status in 2019 [8]

Criteria	Community-Based Information	Scientific Information	Comments
Population size	**Kugluktuk:** This year the migration kept the herd far from the community again, so observations were limited. Lots of small groups and many calves. Many sets of twins were sighted. **Délı̨nę (Sahtú):** Community members have not been seeing much ʔehdaı̨la ɔekwę́ over the past year. **Wekweètì (Tłı̨chǫ):** There are fewer animals than before, and they are seen in smaller groups than before.	Estimated number of adult caribou 19,294 ± 4,729. Estimated number of breeding cows 11,675 ± 2,040.	Estimated based on June 2018 calving ground survey and October composition survey to estimate sex ratio.

[8] This table is populated with information presented to the ACCWM to assess herd status in 2019 and is adapted from the monitoring criteria table included in ***Taking Care of Caribou***.

Population trend and rate of change	**Kugluktuk:** This year the migration kept the herd far from the community again, so observations were limited. Lots of small groups and many calves. Many sets of twins were sighted. **Délı̨nę (Sahtú):** The community continues to be concerned about lack of availability. **Wekweètì (Tłı̨chǫ):** There are fewer animals than before, and they are seen in smaller groups than before.	Estimated 19–20% annual rate of decrease from 2015 to 2018; same rate of decline 2010–2013 and 2013–2015.	Herd declined by half from 2015 to 2018.
Productivity and recruitment	**Kugluktuk:** Lots of calves and twins observed. Almost every female had at least one calf and many had twins. **Délı̨nę (Sahtú):** Of 12 ts'ída (female) ʔehdáı̨la ɔekwę́ (Bluenose East caribou) harvested on April 21, 2019, 8 were pregnant. **Wekweètì (Tłı̨chǫ):** Not many yearlings were observed, and no cows were harvested.	Percent breeding females June 2019 on calving ground: 87.5% (83.0% in June 2018). Pregnancy rate of captured cows 2019: 7/10 (70%). 2014–2018: 46/49 (94%). Calf to cow ratios: Nov. 2019: 37.8 ± 3.9 No survey in spring 2019. Oct. 2018: 25.7 ± 3.4 April 2018: 37.5 ± 2.5	Average March calf-to-cow ratio 2014–2018: 30.1. 2019 results suggest good initial productivity (June), and fair-to-good calf survival in first 4–5 months (October).

Adult composition	**Kugluktuk:** This year the migration kept the herd far from the community again, so observations were limited. Many young bulls were observed in the small groups that were sighted. **Délı̨nę (Sahtú):** 8 yárégo (male), 12 ts'ída (female) ʔehdáı̨la ɔekwę́ observed on April 21, 2019. **Wekweètì (Tłı̨chǫ):** Equal amount of bulls and cows.	Fall bull-to-cow ratio: Nov. 2019: 35.3 ± 5.5 Oct. 2018: 38.0 ± 5.7	Slightly lower than bull-to-cow ratios in 2009, 2013, 2015: 42–43. Increasing herds in NWT in the early 1980s had sex ratios of about 65 bulls:100 cows.
Body condition and health	**Kugluktuk:** Very healthy caribou harvested; lots of fat. **Délı̨nę (Sahtú):** Group of ʔehdáı̨la ɔekwę́ observed on April 21 were in fair condition with some chafing on legs from ice crust on snow. **Wekweètì (Tłı̨chǫ):** Most animals that were harvested are healthy, but they are skinnier than before. Some have reported white spots on meat, puss on meat and legs, white stuff on legs and arms.	No new information – minimal harvest in the North Slave region during the last two winters.	

Harvest levels	**Kugluktuk:** July 1 to October 21, 2019: Total: 105 (Females: 53, Males: 52). 93 harvested in 2018. **Délı̨nę (Sahtú):** Harvest of a group of 25, including 8 yárégo, 12 ts'ída, and 5 calves for a total of 25 ʔehdáı̨la ɔekwę́ harvested on April 21, 2019. As of November 2019, the community has agreed to ɔekwę́ gha máhsı ts'ı̨nı̨we (ceremonial harvest) of 30, with maximum ts'ída (female) harvest of 6 of ʔehdaı̨la ɔekwę́ for the next three years, and 50 Neregha ɔekwę́. The ʔehdzo Got'ı̨nę has curtailed financial support for community members to harvest ɔekwę́. **Wekweètì (Tłı̨chǫ):** Harvest data has not been compiled yet. Not all 295 authorization cards were filled. Wekweètì residents were main harvesters of BNE. Other Tłı̨chǫ communities harvested on Gahcho Kue winter road.	Harvest very low in North Slave region 2018–2019. Total reported winter harvest, North Slave region NWT: 2017–2018: 10 bulls 2016–2017: 15 bulls	BNE caribou have been mostly in remote areas last 3 winters while in the NWT (in North Slave region); most North Slave hunters have harvested Beverly caribou in east on winter roads.

Predator populations	**Kugluktuk:** There are lots of grizzly bears and many have twins, triplets, and even quadruplets. Many of the cubs are as big as their mothers. 101 wolves were harvested in 2018/19. **Délı̨nę (Sahtú):** No observations. **Wekweètì (Tłı̨chǫ):** There are more wolves.	Limited Information. June calving composition surveys: 2019: 14 grizzly bears, 3 wolves 2018: 21 grizzly bears, 1 wolf Four wolves were harvested near Wekweètì in Enhanced North Slave Wolf Harvest Incentive Area in winter 2018–2019.	Continuing trend of more grizzly bears than wolves seen on BNE calving grounds, 2010–2018.
Range and movement patterns	**Kugluktuk:** More east-westerly; not in range like usual. **Délı̨nę (Sahtú):** See information above for ʔehdáı̨la ɔekwę́. No other sightings noted. **Wekweètì (Tłı̨chǫ):** They are changing the way they move; they aren't around Gamètì and Whatì anymore. They used to go near the communities, but they aren't going around there now.	Fidelity of BNE collared cows to calving ground 2008–2018: 97-98%.	Some years BNE has mixed a lot with Bathurst caribou to west.

Environment and habitat	**Kugluktuk:** Cool summer; good vegetation; fewer insects. **Délı̨nę (Sahtú):** At ʔehdaı̨la, lots of snow (about 2 to 2.5 feet) with a hard crust on top on April 20–21. The food was hard to get at. ʔekwę́ were staying on the lake and in open areas. Chafing was reported on the legs of tǫdzı (boreal woodland caribou). **Wekweètì (Tłı̨chǫ):** There are lots of burned areas now that are changing the way the caribou move around; they are avoiding the burned areas. Berries and vegetation aren't as rich as before. There is less snow and the snow is softer than before, which makes it hard for the caribou to move around. Warmer winters are causing the ice to be thinner. There were lots of warble flies this year.	Overall, an average fire year in 2019. Very few fires on BNE range. July insect season not severe (Bathurst range – Tłı̨chǫ observations).	
Human disturbance	**Kugluktuk:** Minimal. **Délı̨nę (Sahtú):** Not applicable within Délı̨nę District.	Very limited, no active mines.	Tundra Copper exploration on calving grounds – not active last 3 years.

	Wekweètì (Tłı̨chǫ): No new disturbance with respect to exploration or development.		
Competitors	**Colville Lake (Sahtú):** They plan to promote harvest of moose and muskox which are newly coming into the area.		

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'ı̨nę Gots'ę́ Nákedı (Sahtú Renewable Resources Board)
- Dehcho First Nations[9]
- 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 Hunters and Trappers Organization (Kugluktuk Angoniatit Association)
- Nunavut Wildlife Management Board
- Parks Canada Agency
- Tłı̨chǫ Government
- Tuktut Nogait National Park Management Board
- Wek'èezhìı Renewable Resources Board
- Wildlife Management Advisory Council (NWT)

[9] 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 harvest year of July 1 to June 30.

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 the 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 the preceding year
   - Review and evaluate implementation of actions under communications strategy
   - Introduce and discuss actions that are proposed for the 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 for a decision (NWMB). 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 comments. Once approved by all the Member Boards, the amended Terms of Reference shall supersede any previous versions.

Appendix C: Communication Plan

This communication 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 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 great deal 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 information on how to participate
- Changes to policy or regulations
- Newly completed 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
- Encouraging 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 included 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
- Storytelling

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 communication 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: Background to Some Survey Information Used in the Action Plans

Scientific Knowledge: Background to post-calving survey methods

The post-calving ground survey method is used to obtain a population estimate for the Cape Bathurst herd. The first survey of this kind was done in 1986. Radio collars are deployed on caribou in March throughout the caribou range. These collars are then used to find groups of caribou in July during post-calving. On hot days with little wind when the bugs are harassing the caribou, the caribou will form large groups on the tundra. These groups are photographed from a small airplane and the number of 1+ year old caribou can be counted on the photographs.

There are two different methods to calculate a population estimate and the associated confidence interval using the information collected from the post-calving survey: Lincoln-Peterson and Rivest. Both methods use the number of collars and the number of caribou counted on the photographs in their estimate calculations. The Lincoln-Peterson method adjusts the number of caribou counted on the photographs by a ratio of collars deployed to collars located during the survey. If all collars are found, the population estimate remains the minimum count as it assumes all animals can be located near a collared caribou. The Rivest method takes into account the probability of finding a group based on group size and number of collars; this method will always result in an estimate higher than the minimum count.

Switching population estimates: from the Lincoln-Petersen to the Rivest method

Estimates from both population estimation methods have been included here for comparison purposes; however, ENR and the boards agreed at the 2016 meeting that the Rivest is the preferred estimation method. In the past, the Lincoln-Peterson method had consistently been used to estimate the population size of the Bluenose-West herd. In the future, the Lincoln-Peterson estimate will also be provided. There are several reasons for switching to the Rivest method, including:

- Other jurisdictions are using Rivest estimates to estimate population size
- The Rivest method always provides confidence intervals
- The Lincoln-Peterson method tends to have a bias toward low estimates
- Larger confidence intervals resulting from the Rivest method may be more realistic measures of uncertainty; the Lincoln-Peterson method may not represent actual uncertainty

It is important to note that under ideal survey conditions, where there is adequate grouping of animals and most or all collars are found, the two methods produce very similar estimates.

Traditional and Community Knowledge: 2018 community engagement or survey methods

Traditional knowledge and community knowledge (TKCK) make important contributions to the annual status assessment and decision. In order to compare this type of information from year to year and across different regions, it is important to have as much consistency as possible in how it is documented and compiled.

In 2017 the ACCWM Working Group developed a slide show and list of questions that could be used as a template for conducting community engagement at public meetings and documenting discussions about caribou. Some of the regions adopted this format for their engagement; others used different tools, such as surveys and targeted exercises, at smaller meetings or in expert focus groups. Details on how engagement was achieved in each region can be obtained from the individual Member Boards.

We hope to find ways to support methods and approaches that can be adapted to best suit each region, but to also ensure that we are using rigorous methods that produce reliable, accurate and comparable information and are appropriate for including/bridging Indigenous knowledge and science. In 2020 we plan to review current best practices in this field of research.

Appendix E: 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.