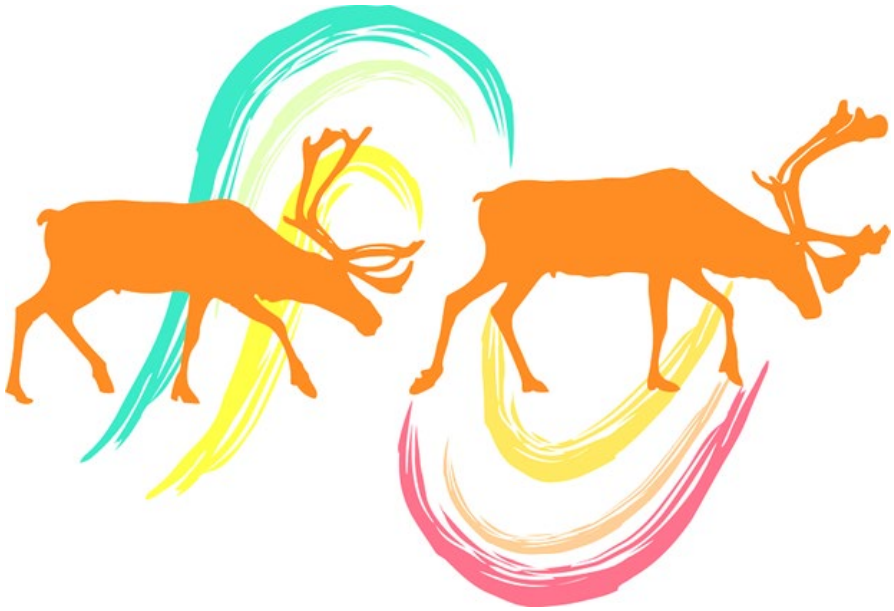
ACCWM Annual Status Meeting Summary
November 15-17, 2022

CAPE BATHURST CARIBOU
BLUENOSE-WEST CARIBOU
BLUENOSE-EAST CARIBOU



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About the ACCWM
The Advisory Committee for Cooperation on Wildlife Management was established to exchange information, help develop cooperation and consensus, and make recommendations regarding wildlife and wildlife habitat issues that cross land-claim and treaty boundaries. The committee consists of Chairpersons (or alternate appointees) of the Wildlife Management Advisory Council (NWT), Gwich'in Renewable Resources Board, ʔehdzo Got'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.

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Acronyms Used in This Plan

ACCWM (WG)	Advisory Committee for Cooperation on Wildlife Management (Working Group)
CI	Confidence Interval
DGG	Délı̨nę Got'ı̨nę Government
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
KAA	Kugluktuk Angoniatit Association
NWMB	Nunavut Wildlife Management Board
NWT	Northwest Territories
PCA	Parks Canada Agency
RRC	Renewable Resource Council
SE	Standard Error
SRRB	Sahtú Renewable Resources 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)
WRRB	Wek'èezhìı Renewable Resources Board
WWHPP	Wildlife and Wildlife Habitat Protection Plan

In memory of Deborah Simmons

Born in 1962 in the US, Deb lived with her family and went to school in Fort Smith and Yellowknife. She spent time with her family in the Mackenzie Mountains while her father did his field work with the assistance of local people from the community of Tulít'a. Deb loved spending time with her family, Dad – Norman, Mom – Hilah, Brothers – David and Daniel, and Sister – Sarah and she loved being an Auntie to her nieces and nephews.
In the 1980s, she was a Masters Student at Trent University and a PhD student at York University. Her Ph.D. thesis was on the political economy of indigenous oppression in Canada. It remains a landmark piece of historical materialist research. She was an adjunct professor and advisor at the University of Manitoba.

Deb returned to the north in the late 1990s, working with the Sahtu Land Use Planning Board, the Délı̨nę Uranium team, the Délı̨nę Knowledge Centre, and the ʔehdzo Got’ı̨nę Gots’ę́ Nákedı (Sahtú Renewable Resources Board).

She started with the SRRB in 2012 as the Executive Director, following in her dad’s footsteps doing ground-breaking work to help realize their shared goal of genuine Indigenous sovereignty over wildlife and resources in the Northwest Territories. She was a leader in Indigenous-led conservation planning. She assisted with the development of *Belare wíle Gots'ę́ ʔekwę́ - Carıbou for All Tıme, also known as the Délı̨nę Caribou Plan, and* Nıo Nę P’ęń ę́ Begháré Shúhta ʔepę́ Narehɔ́á – Trails of the Mountain Caribou Management Plan. She had a love of the Mackenzie Mountains and worked tirelessly to bring the Shúhtaot'ı̨nę people together to support the caribou plan people constructed for the mountain caribou on both sides of the Yukon/NWT border.

She was a passionate and constant advocate for the resurgence and revitalization of Dene Kedə (language) and Dene Ts’ı̨lı̨ (ways of life) and their connection to community wellbeing, as well as an understanding that many concepts and much meaning can only come through Dene language.

Deb was deeply committed to Indigenous governance and *self*-determination. Recognizing that Indigenous knowledges and practices are regenerated on and in relation to the land and that barriers exist to Indigenous peoples spending time on the land, including financial barriers, Deb created the Dene Ts'įlį - Dene Way of Life Fund[1]. The fund will support Sahtú Dene and Métis youth to spend time living with, and learning from, elders and knowledge holders on the land.

Deb could inspire and frustrate at precisely the same moment, but she always managed to get one to stop, think, and, by working together, come up with ways to improve co-management.

This Annual Status Meeting Summary Report is dedicated to Deb's memory and goal to have true Indigenous authority over wildlife management in the NWT.

1

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.[2] It is part of a collaborative management planning process that has involved 17 communities in six land-claim areas over the past 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 2022 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) in 2014. The intent is for the Plan to address management activities and caribou stewardship over the long term. The plan describes the consensus-based approach, herd definitions, principles, and goals that guided the process. It provides a framework for ***Monitoring*** the herds,

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)

[2] 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.

making decisions, and taking action. Five different categories of management actions are outlined in the Plan, including ***Education***, ***Habitat***, ***Land Use Activities***, ***Predators***, and ***Harvest Management***.

Separate Action Plans 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.

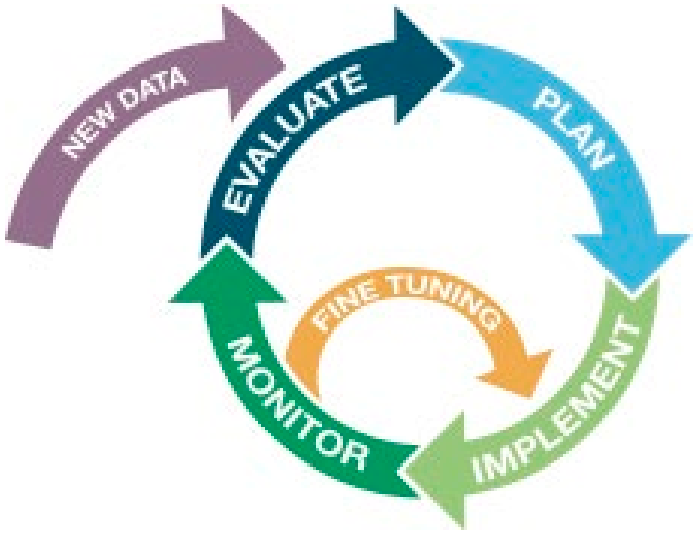


Figure 1: Diagram showing the process of an adaptive management cycle (figure from Weeks, R., and S. Jupiter. 2013. Adaptive Comanagement of a Marine Protected Area Network in Fiji. Conservation Biology, Vol. 27, No. 6: 1234-1244.)

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. 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

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, Dél̨ınę Got'ı̨nę, and Tł̨ı̨chǫ 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, Dél̨ınę has suggested ʔehdaı̨la Goɔekwę́ as an appropriate Dél̨ınę Got'ı̨nę term for barren-ground caribou within the Bluenose-East range. Similarly, the Tł̨ı̨chǫ 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.

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, and are effective only with community input and support.

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 **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)

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. 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**.

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.

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

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.

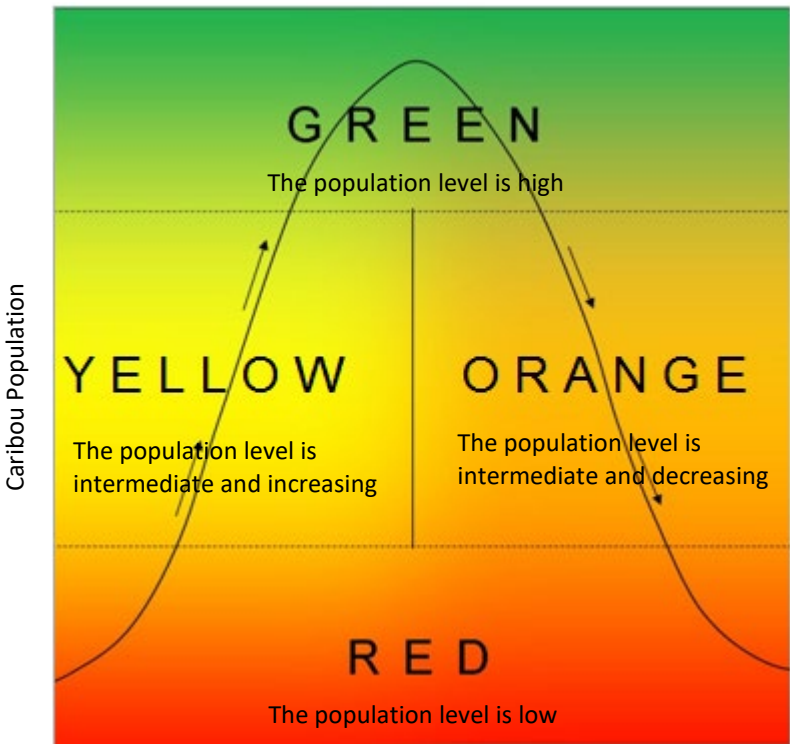


Figure 2: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans.

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.

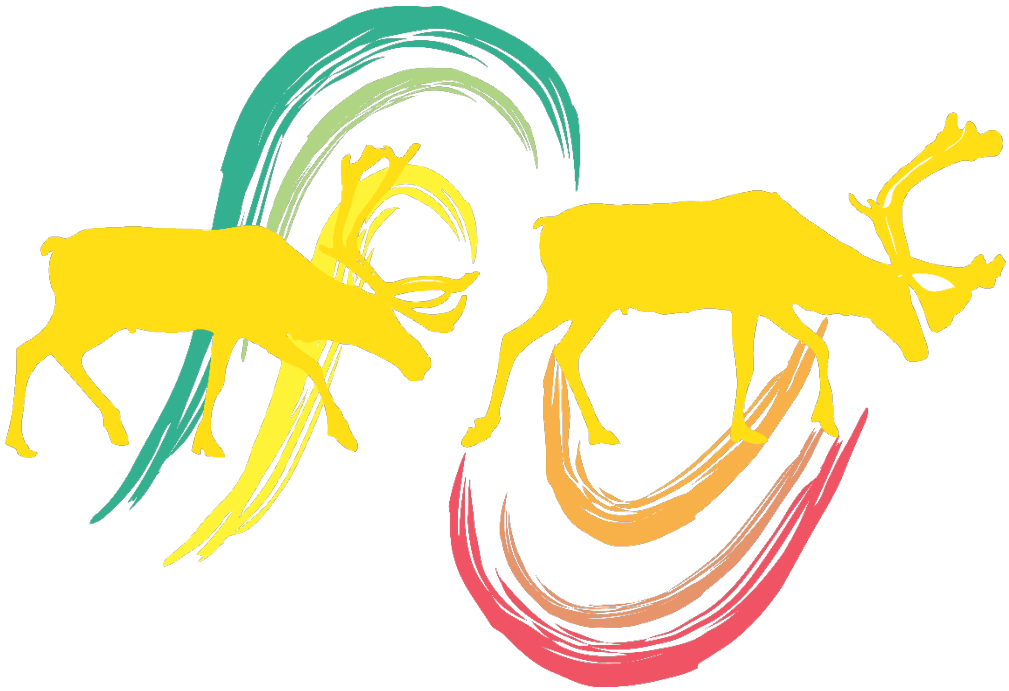
Communications

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

– YELLOW STATUS –



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

Understanding Current Cape Bathurst Herd Status

The ACCWM met on November 15th, 2022, 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 2022 Management Setting

At the start of the 2022 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 past year.

Within the range of the Cape Bathurst caribou, people shared positive comments from community members with respect to the weather and conditions for the caribou. The summer of 2021 was a wetter, cooler season, limiting insect harassment. 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 the listings, work on recovery planning and identification of critical habitat may need to happen.
- **Caribou Recovery Strategy:** The NWT Barren-ground Caribou recovery strategy recommends objectives for the conservation and recovery of caribou. It also recommends approaches to achieve those objectives. It includes a description of threats and positive influences on the species and its habitat.[3]
- **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.

Status Decision 2022

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

[3] https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/barren-ground_caribou_recovery_strategy_final_8april2020.pdf

cycles is shown in Figure 3 along with the approximate thresholds for the Cape Bathurst (CB) herd.

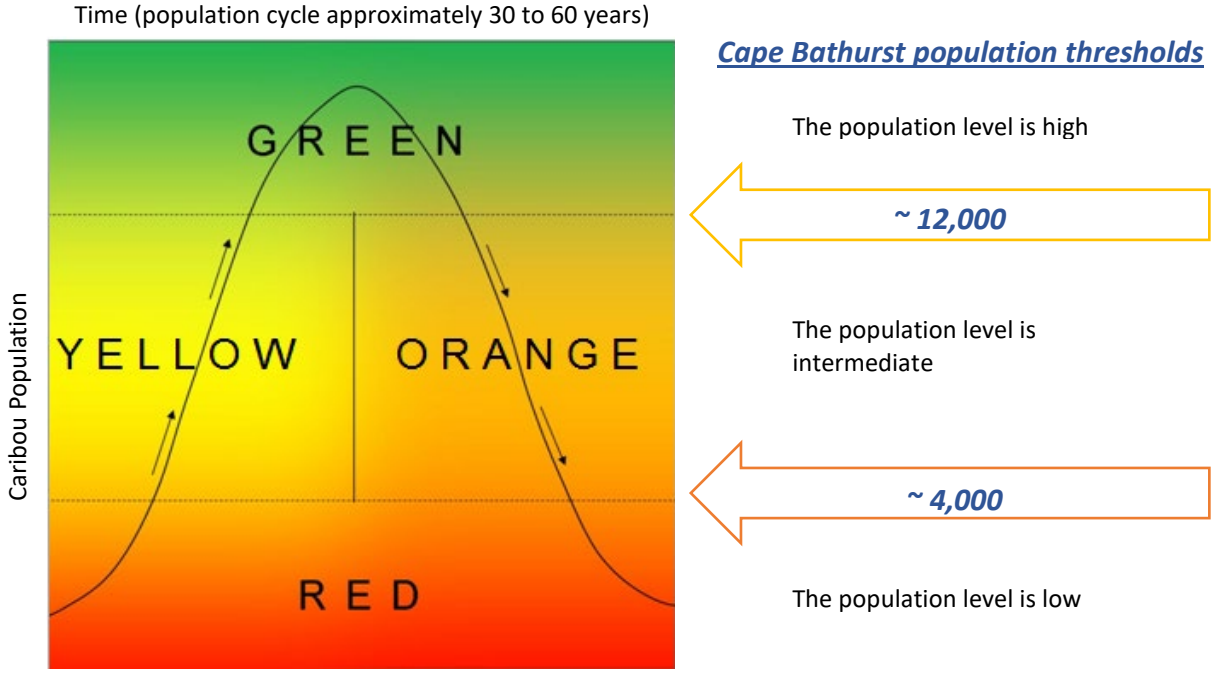


Figure 3: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans with defined Cape Bathurst population thresholds.

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 2022 decision is summarized in Table 6 below.

Based on the information provided, the ACCWM determined the Cape Bathurst herd status colour zone to be **Yellow (intermediate and increasing)** in November 2022. The ACCWM noted that the population continues to be slowly recovering based on the community observations presented. Based on the available information, the ACCWM felt that there was sufficient evidence for the status of the herd to be maintained at **Yellow (intermediate and increasing)**.

In 2023/24

the Cape Bathurst caribou population status is

Yellow: intermediate and increasing

Presentations Given at the 2022 Annual Status Meeting

Both scientific and community knowledge helped to inform the 2022 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 only from the public meeting held in Tuktoyaktuk and Inuvik during a community tour with representatives from WMAC (NWT)

Gwich'in Settlement Area, NWT – The Gwich'in Renewable Resources Board conducted interviews with harvesters. Few Gwich'in participants harvest from this herd, so the Gwich'in Renewable Resources Board's (GRRB) 2022 community-based information is sourced from interviews with only four hunters.

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.

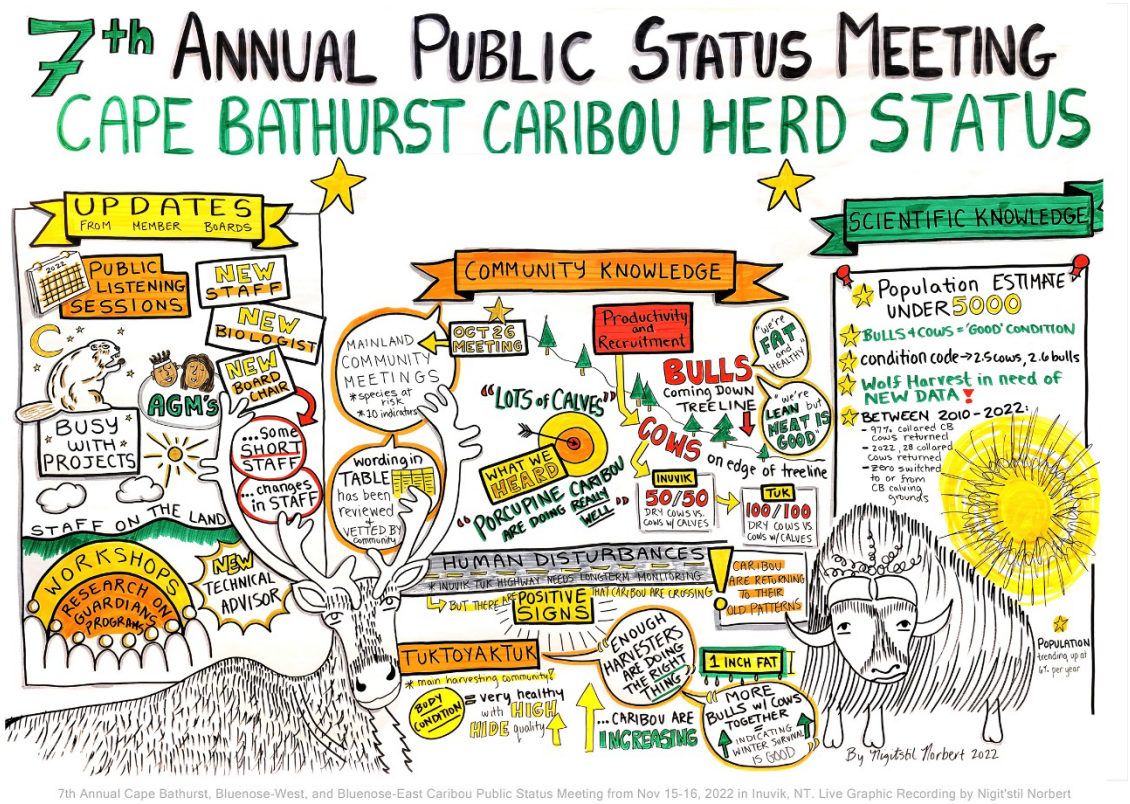


Figure 4: Graphic recording of the Cape Bathurst Knowledge presentations. Credit: Nigit'stil Norbert

Inuvialuit Community Knowledge Presentation

Rosemin Nathoo (WMAC-NWT)

Rosemin's portion of this presentation focused mainly on the data presented in the monitoring criteria table (see Table 6 below). This data came from the WMAC community tour meetings held in Inuvik and Tuktoyaktuk. During the discussion of this presentation, Hans Lennie noted that the level of grizzlies being harvested was down and that the quota was not being fully used. He noted that there would be an attempt to work on a plan to address this.

Gwich'in Community Knowledge Presentation

Steve Andersen (GRRB)

This presentation focused mainly on the data presented in the monitoring criteria table (see Table 6 below). Community data was limited as the GRRB spoke to four harvesters with only one completing the survey to provide data. GRRB staff had trouble finding people with observations of the Cape Bathurst Herd since the vast majority of Gwich'in harvest from the Porcupine Herd, which is currently doing very well and has been relatively easy to access in recent years.

Overall, harvesters are indicating that the population size, productivity and recruitment, and the number of calves are similar to last year. Harvest numbers were very low, and there were lots of signs of predators. It was noted that the information should be used with caution as it comes from a single harvester's observation.

Presentation on Scientific Information

Tracy Davison (ENR Inuvik)

No new population estimates were provided in this year's presentation. ENR's most recent post-calving ground survey was conducted in 2021[4]. The next survey is currently planned for 2024. No new information was presented this year on population size, the following information was presented in 2021.

The estimate for the previous survey, done in 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 one

Table 1: CB Rivest population estimates (2000–2021).

Year	Rivest Estimate
2021	4,912 ± 562
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

[4] 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 method. 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.

influence the statistics. This year, there was a lot higher rate of aggregation happening. One group had over 3000 caribou.

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

Adult Population Estimate: 4,912 ± 562 (95% CI)

ENR tested an alternate survey method that came about through discussions with community members. A fall transect survey does not utilize data from collars like the post-calving survey does. ENR's pilot project was based on the methods used to count muskoxen and Peary caribou. One of the issues with this method is that there is mixing with Bluenose West Caribou at this time. Additionally, the Bluenose West Caribou in this survey area were moving at the time of the survey and this may impact the survey results.

The results of the fall transect survey were 3,324 ± 930 (95% CI).

This survey method does not result in as reliable of an estimate as the post-calving survey. It was noted that at the time of the survey, while the Cape Bathurst caribou are relatively stationary and less likely to be double-counted, they are also likely to blend into the landscape. As such, ENR does not advise using this survey method for estimating the population.

Population trend and rate of change

No new information on population size was presented in 2022. Tracy Davison noted during this year's meeting that there appears to be a small recovery happening. The following information on population trends and rate of change was presented in 2021.

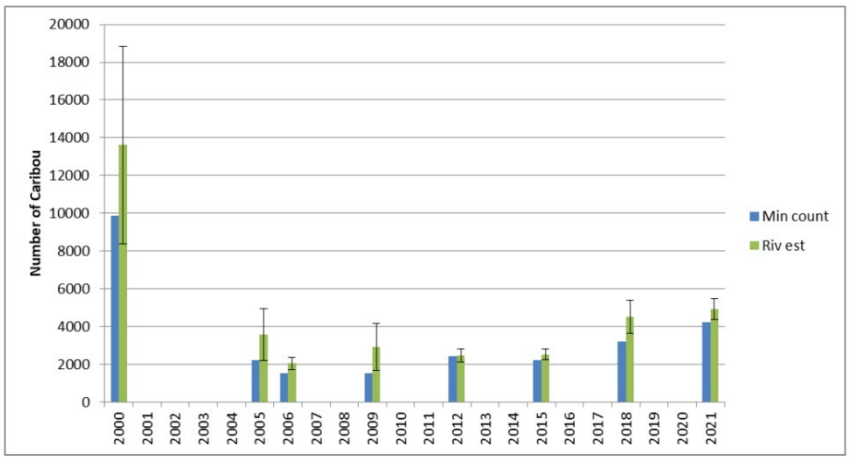


Figure 5: Cape Bathurst herd Rivest population estimates from post-calving surveys since 2000. Minimum counts are included for comparison purposes.

The 2021 Rivest population estimate of 4,912 ± 562 caribou (95% CI) is higher than the previous 2018 estimate. A trend analysis of the 2005-2018 counts shows a 6% increase in population per year. 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 2021 are shown in Table 1 and Figure 5.

Productivity and recruitment

Due to poor weather during the available time window, no new surveys were conducted in 2022. The following information was presented in 2021.

During collaring, biologists collect blood samples. They were able to collect samples from 24 caribou and found that 96% were considered pregnant based on the level of progesterone found in the blood. This is considered a good pregnancy rate for this herd.

A recruitment survey was completed in 2019. This data was presented at the 2019 ACCWM meeting. The 2020 survey was cancelled due to COVID-19.

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.

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 Figure 6. In the years 1983–1994, "Bluenose" includes Cape Bathurst, Bluenose-West, and Bluenose-East.

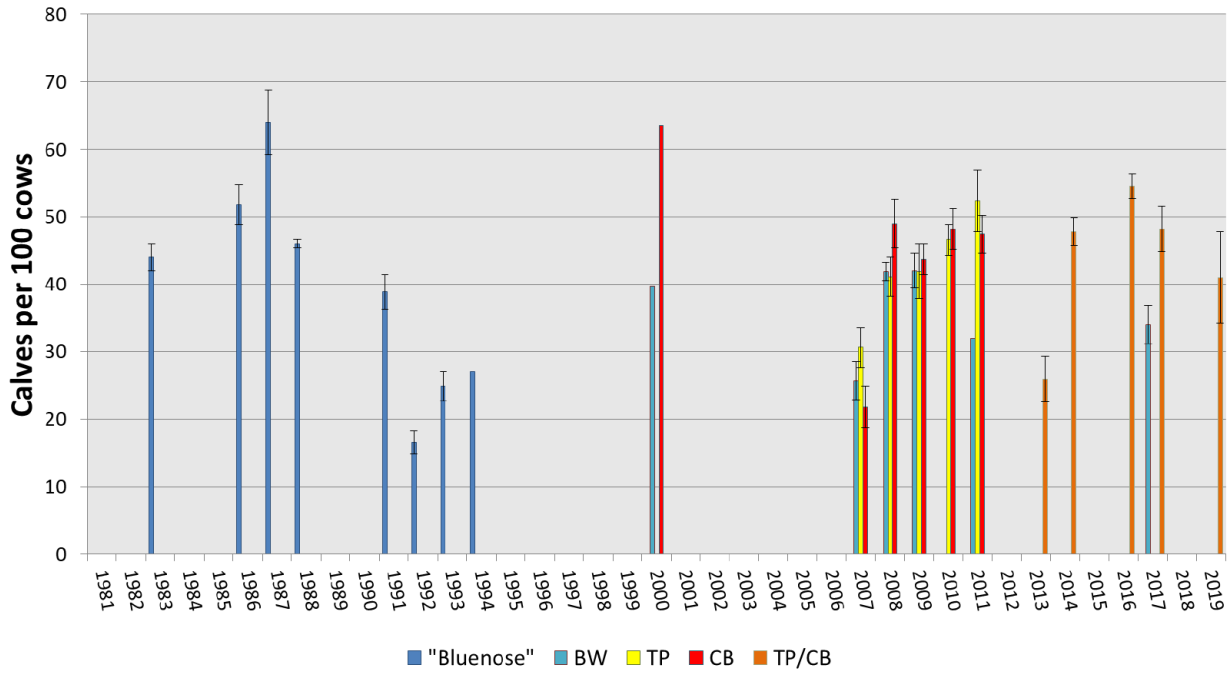


Figure 6: Recruitment estimates (calves per 100 cows) for the Tuktoyaktuk Peninsula (TP), Cape Bathurst (CB), and "Bluenose" barren-ground caribou herds, 1983–2019.

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 are 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.

Adult composition

No new data on adult composition was provided during the 2022 status meeting. The following information was provided at the 2021 annual status meeting.

A survey was attempted in the fall of 2021 but was cancelled due to weather and the lack of available helicopters. 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.

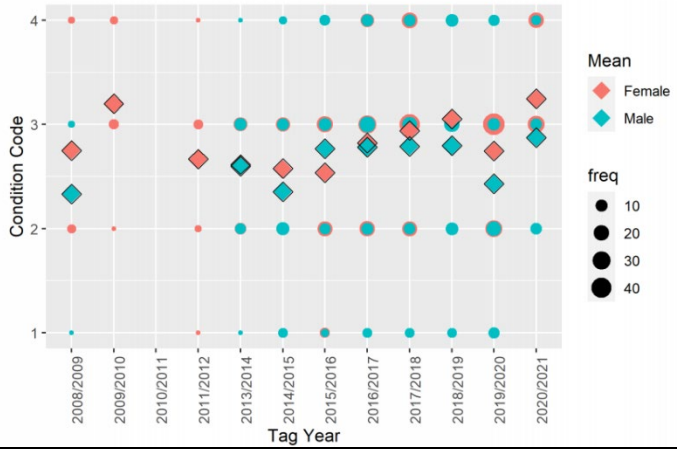
The number of bulls per 100 cows was 43 ± 4.6 (SE) for the Cape Bathurst and Tuktoyaktuk Peninsula herds combined in 2015. There are no fall composition data from these herds to use for comparison. The 2009 results for the Bluenose-West and Bluenose-East herds showed bull-to-cow ratios of 70 and 42.9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

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.

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**
2021/22*	2.5 (ND)	**2.6** (ND)
2020/21*	**3.2** (55)	**2.9** (19)
2019/20*	**2.7** (83)	**2.4** (44)
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: Average condition codes for the Tuk Peninsula/Cape Bathurst herds, assessed by hunters on a scale of 1–4 with the number of samples noted at the top of the bar.

** 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.*

In 2022 condition was reported near the score for Good (Average 2022 condition codes: 2.5 female, 2.6 males). Back fat and bone marrow measurements were in the range of what has been seen over the last several years.

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

Season	**Back Fat in cm (number of samples)** Female	Male
	1.2	**1.31**
2020/21	2.13 (55)	1.90(19)
2019/20	1.42(68)	0.95(56)
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)

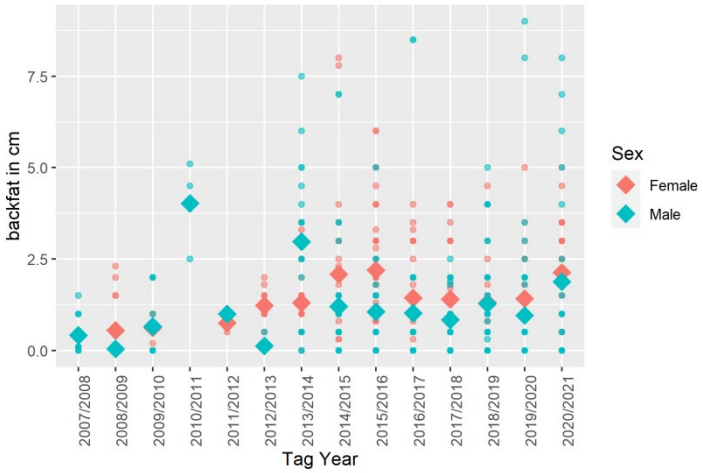


Figure 8: Reported back fat measurement (in centimetres) and average (diamond). Includes: I/BC/08 harvests plus from 14/15 to present harvest by Inuvik and Tuktoyaktuk harvesters

** 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.*

Table 4: Results from marrow fat sampling for the Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined.

	Marrow Fat % (Number of samples)	
Season	**Female**	**Male**
2021/22	**80.5**	**84.6**
2020/21	90.2(55)	89.9 (19)
2019/20	90 (68)	82 (56)
2018/19*	88.8 (32)	89.7 (34)
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)

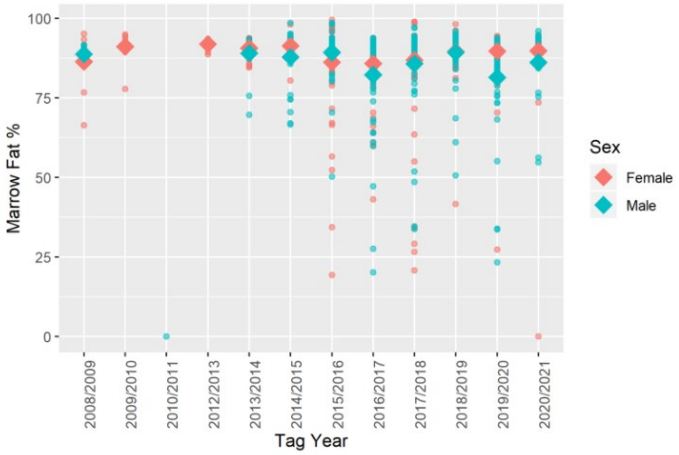


Figure 9: Marrow fat percent and average (diamond). Includes: I/BC/08 harvests plus from 14/15 to present harvest by Inuvik and Tuktoyaktuk harvesters.

Results for average body condition ratings for Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined are presented in Table 2 and Figure 7.

Back fat measurements for Tuktoyaktuk Peninsula and Cape Bathurst caribou herds combined are presented in Table 3 and Figure 8. Marrow fat measurements are shown in Table 4 and Figure 9. Marrow fat observations for 2021/22 showed that the females were lower than males.

Harvest levels

Determining harvest levels for the Cape Bathurst herd is complicated due to changes in management zone boundaries. Before 2005 the harvest between Tuktoyaktuk and Inuvik was estimated at 1,600 caribou, with the majority being 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 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.

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, which 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 the 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.

Data reported to ENR for 2021/22 showed 170 tags possibly used in Tuktoyaktuk Peninsula/ Cape Bathurst area. Sex was reported for 74 of the caribou harvested (55 females and 19 males)

Predator populations

ENR collects samples from wolves harvested by hunters in the Inuvik Region (Table 5); samples are mostly from the winter season when wolves tend to be hunted. It should be noted that the harvest numbers are only based on what was submitted to ENR and can vary a lot from the actual wolf harvest. In the past, stomach contents were sampled, and of all the Inuvik region mainland wolf samples submitted at that time, 68% of the stomach contents were 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

- Summer range – cows and bulls tend to be more mixed and found in the same areas.
- During fall migration, there is little difference in the movements of cows and bulls, although bulls will go further south.
- Cape Bathurst caribou have tended to winter together with the Tuktoyaktuk Peninsula herd in recent years. In 2020, 14 Cape Bathurst collared cows were still active from the 2018 deployment and 12 returned to Cape Bathurst calving ground while two went to Tuktoyaktuk Peninsula calving ground, and one Tuktoyaktuk Peninsula collared cows moved to Cape Bathurst calving ground.
- Historically, 97% of collared Cape Bathurst cows (206/212) have returned to the same calving grounds year after year between 2010 and 2022. This year all 28 collared individuals returned to the Cape Bathurst calving grounds.
- The largest habitat disturbance is the new highway. Now that it has been open for a couple of years, ENR is using the collars and monitoring data to assess any impacts. This will be presented when complete. Wildfire is a very small disturbance to the range of CB, in 2021 only 0.1% of the range was burned.
- The Cumulative Effects project is ongoing; initial steps to map all current disturbances in the range show that there is a low human footprint on the range (less than 0.4% of the range)
- 2021 was a very quiet year for fire disturbance.
- Competitors – A muskox survey was done in 2021, with more of them in the western part of the CB range, and on the Tuk Pen. More muskoxen are being seen in the region.

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
2019/2020	14	9
2020/2021	15	6
2021/2022	19	6

Table 6: Criteria used to assess Cape Bathurst herd status in 2022[5]

Criteria	Community-Based Information[6]	Scientific Information[7]	Comments
Population size	**GRRB:** • About the same as last year.	Estimated number of adult caribou at least 1.5 year old in 2021 Rivest: 4,912 ± 562 (95%CI)	Estimated based on July post-calving ground survey
Population trend and rate of change	**Inuvik (WMAC-NWT):** • Hunters that went up were successful in getting caribou in their regular area. Meeting their needs. • About the same amount of caribou as last year. Lots of old tracks were observed later in the spring – caribou had been there earlier. **Tuktoyaktuk (WMAC-NWT):** • Seeing positive signs based on the number of calves and body condition. • Past Horton River, near the farther DEW Line site, seeing 1000-1500 caribou in the same area for the past 4 years, never seen that before. It's an area where there used to be muskox; the muskox moved down above Andersen River. End of March through until May, there are a lot	Between 2005 and 2021 the herd shows an increasing trend of 6% per year (95%CI of 2% to 9%)	Trend analysis is based on Rivest estimates 2021 4,912 ± 562 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

[5] This table is populated with information presented to the ACCWM to assess herd status in 2021 and is adapted from the monitoring criteria table included in ***Taking Care of Caribou***.

[6] Bluenose-West caribou usually migrate through two settlement areas/regions and are typically harvested by four communities: Aklavik, Inuvik, Tsiigehtchic and Tuktoyaktuk. Community-based information was documented in the following ways:
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.
Few Gwich'in participants harvest from this herd at this time, so the Gwich'in Renewable Resources Board's (GRRB) 2022 community-based information is sourced from conversations with only four hunters, one of which filled out their survey.

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

	more caribou in that area now.		
Productivity and recruitment	**Inuvik (WMAC-NWT):** • Don't often observe cows in the Inuvik area or Miner River within the treeline, because mostly bulls come into the treeline. Cows are usually on the edge of the treeline or just north of it, toward Old Man Lake or Uruqhart Lake. Cows also come into Bonnieville area. • When harvesters observe cows, about 50/50 dry cows vs cows with calves-of-the-year. **Tuktoyaktuk (WMAC-NWT):** • A lot of calves now, really comforting to see. • Had to look hard to see which cow didn't have calves – most of them did. Especially during the past winter. **GRRB:** • Not many calves this year.	Pregnancy rate of captured cows 2021: 23/24 (96%). Last recruitment survey was in 2019 so no current information available.	Pregnancy based on serum progesterone. 2019 recruitment survey included both CB and Tuktoyaktuk Peninsula herds Estimated number of calves per 100 cows in 2019: 41 ± 6.7 (95% CI). Last year GRRB also had reports that there were few calves.
Adult composition	**Inuvik (WMAC-NWT):** • Mostly bulls are observed in Inuvik's harvest areas in treeline. • Mixed age of bulls, young as a year-old right up to the old leaders. • Male:female ratio depends on area of observation (see	There is only one bull to cow ratio for CB (2015) so trend is unknown but the 2015 results is considered normal.	

	above). Harvester observations usually agree with ENR composition survey reports. **Tuktoyaktuk (WMAC-NWT):** • Seeing more bulls with the cows now, even in February – don't seem to see groups of only cows anymore – means there are more caribou in that area. Good sign when seeing bulls and cows together because lots of bulls tend to die over the winter – means good winter survival. • Seeing many bulls and cows, but also seeing a lot more calves with the cows. • Ratio is the most important indicator for the herd – ratio of bulls, cows, and calves. **GRRB:** • Mostly bulls		
Body condition and health	**Inuvik (WMAC-NWT):** • Post-rut caribou are not typically very fat. Lean, but still good meat. • Some caribou harvested this fall were very fat and healthy. • Some observations of brucellosis over the years, and/or injury scars from fighting each other **Tuktoyaktuk (WMAC-NWT):** • Caribou look very healthy. • Can tell overall condition based on the quality of the hides – seeing really nice hides, thick and not matted. • Fat content depends on the season. Bulls are fat in the	Condition of bulls and cows was on average 'good' in the 2021/22 harvest season. Average back fat in 2020/21 was 1.28 cm (range 0-3.5 cm) for cows and 1.31cm (range 0-6 cm) for bulls.	Scientific information based on harvester reported samples harvested in range of the Tuk Peninsula and CB herds. In 2020/2021 season, condition information was reported for 57 cows and 22 bulls, back fat information

	fall. • Haven't seen any brucellosis or signs of parasites or disease for a few years. **GRRB:** • Healthy, about 1" of fat, no parasites or disease seen.	Average Condition code was 2.5 for cows and 2.6 for bulls (range 1-4). Average % marrow fat for cows was 88.5% (range 67 - 94%) for cows and 84.6% (Range 56 to 94%) for bulls	was collected for 58 cows and 20 bulls, and Marrow fat information collected for 43 cows and 19 bulls.
Harvest levels	**Inuvik (WMAC-NWT):** • No concerns – reporting is mandatory. • Community mostly harvested from Porcupine herd because they were abundant and available. Takes pressure off Cape Bathurst and Bluenose-West. Limited observations this winter because not many harvesters went that way. • Community harvest was also from Porcupine herd last 2 years. **Tuktoyaktuk (WMAC-NWT):** • Enough harvesters are doing the right thing, so the caribou are on an increasing trend. Keep up the status quo and things will go back to the level that we want to see. • People have sacrificed, made changes, changed to alternative species, even though there are always a handful that don't follow the system. Seeing the	I /BC/07 and G/BC/02 are closed zone for CB. Total of 179 I/BC/06 tags were possibly used in the wintering area of the CB herd in 2021/22 (58 of those have reported sex: 20 males, 38 females)	TAH tag returns in Inuvik Region 2021/2022 Inuvialuit: 403 Quota, 382 harvested Gwich'in: 34 quota, harvest unknown Sahtu: harvest unknown

	results of that effort in the state of the herds.		
Predator populations	**Inuvik (WMAC-NWT):** • Incentive program is going well. • Many wolf and wolverine observations in Inuvik region • Many grizzly bears **Tuktoyaktuk (WMAC-NWT):** • Seeing more grizzlies with 3 cubs, never saw that for years. More grizzlies than we used to have - harvest restrictions on grizzly bears doesn't help. • Wolverine – many are being harvested because so much more wolverine over the last few years. People are getting them everywhere now, even close to town. • Eagles – eat newborn calves. Seen a lot of eagles in Horton River area, even in March. Expanding their range. Coming into this area, it's not their homelands. Considered an invasive species. They come earlier and stay longer too. May contribute to slow recovery for caribou. **GRRB:** • Lots of wolves	Tuktoyaktuk submitted 6 wolves and Inuvik submitted 19 wolves in the 21/22 season.	A change in wolf harvest does not necessarily reflect changes in wolf abundance.

Range and movement patterns	**Inuvik (WMAC-NWT):** • Caribou are beginning to return to their old patterns, coming before freeze-up and leaving before breakup. Seem to be getting back to normal – the warm weather 10 years ago may have confused them for a long time. • Late March to early April, some caribou crossed ITH toward Parsons Lake. Some reindeer were mixed into that herd. **Tuktoyaktuk (WMAC-NWT):** • Still hunting caribou in the same places as last year. • Because of climate change, we're able to access those areas less than in the past. Human patterns have changed, rather than caribou patterns.	In 2022, 28 CB collared cows were still active from the 2018 deployment and all returned to CB calving ground. Between 2010 and 2021, 97% of collared CB cows (212 records) returned year after year to calving ground.	
Environment and habitat	**Inuvik (WMAC-NWT):** • Shrubs are a lot taller than they used to be. Used to be barren land, now willows 6-7ft tall – makes it harder to travel, have to stay on trails because can't travel through all the bush. It impacts snow accumulation – deeper snow. Caribou avoid thick willowy areas, they like the spruce, not thick underbrush. Willows are moving north. That might be why caribou are avoiding the Eastern part of the Delta, near the East branch, because of all the shrubbery. • More moose in the area now – seeing more moose in barren-lands where harvesters used to get caribou.	There were very few fires in the 2021 season on the CB Range – Only 1.9 km2 which is 1% of their annual range	

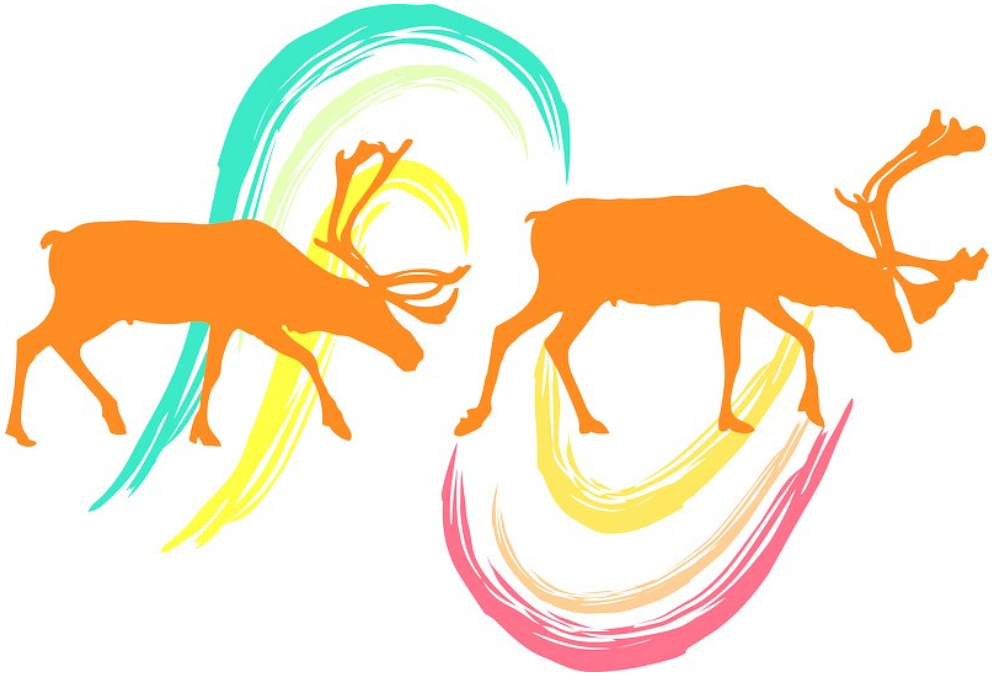
	• Climate change is happening really fast in this region. Animals and humans are having to adapt. • Fall 2022 - slumps affecting water quality. Erosion into streams. Many beavers in the Delta, affects where people get their drinking water – can't take it right out of rivers anymore because of Giardia. Rivers are changing, water is shallower in the fall, channels are changing, can't use old routes of passage. • Very low water in fall 2022, to the point that people couldn't access some places. Much lower this fall than it has been for a long time. Slow current, river froze as soon as it got cold. **Tuktoyaktuk (WMAC-NWT):** • Can tell the quality for caribou based on growth of berries – cranberries – what the season will be like for the caribou. You can also tell by the overall growth on the ground during the summer growth season. • Freeze-up about two weeks later than normal, and break-up two weeks earlier. Extra month of open water season in Tuk now compared to the past. • Warmer falls are better for caribou calf survival. • Really hot weather this summer. No bad icing events this past season. **GRRB:** • Very little snow this fall.		

Human disturbance	**Inuvik (WMAC-NWT):** • Unsure whether caribou will cross the ITH again and go back to Parsons Lake and the hills and toward the Delta. Need to monitor for a longer period of time to see the effect of the road on caribou. • Noticing a lot of low-flying aircraft – people see it so much they hardly notice anymore. EISC flight guidelines are not being followed. • Very concerned about tourism via cruise ships – they land and many tourists walk up onto the land or come closer with Zodiacs, disturbing caribou and harvest activities. **Tuktoyaktuk (WMAC-NWT):** • Poaching harms the herd, but regardless of the handful of poachers, the caribou are doing better because enough harvesters are doing the right thing. • Harvest patterns – first harvesters on the peninsula get them really fast and they start crossing by the arms (Husky Lakes) – if you're not the first harvester out, you'll miss them. • Less poachers than a few years ago. People turn to alternative harvest when certain species are scarce – part of the culture and oral history as shared by an elder.	The Cumulative Effects project is ongoing, initial steps to map all current disturbance in the range show that there is a low human footprint on the range (less than 0.4% of the range)	
Competitors	**Tuktoyaktuk (WMAC-NWT):** • No concerns. • Muskox, moose, and caribou are known to coexist.	Muskox survey in March 2021 shows changes in muskox distribution from	

	GRRB: • Nothing to report.	past surveys. This includes movement into range of the Cape Bathurst Population in the ISR as a whole appears stable.	

BLUENOSE-WEST CARIBOU

– ORANGE STATUS –



Tuktuvialuk (Inuvialuktun, (Inuvialuktun, Sallirmiutun 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 19th, 2021, to review information pertaining to the status of the Bluenose-West caribou herd. Prior to that, Member Boards reviewed the 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 2022 Management Setting

At the start of the 2022 status meeting, a roundtable was held to allow participants to provide a brief update on some of the management actions and developments that arose in their region over the past year. During the roundtable, several 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 habitats may need to happen.
- **Caribou Recovery Strategy:** The NWT Barren-ground Caribou recovery strategy recommends objectives for the conservation and recovery of caribou. It also recommends approaches to achieve those objectives. It includes a description of threats and positive influences on the species and its habitat.[8]
- **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 2022

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**

[8] https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/barren-ground_caribou_recovery_strategy_final_8april2020.pdf

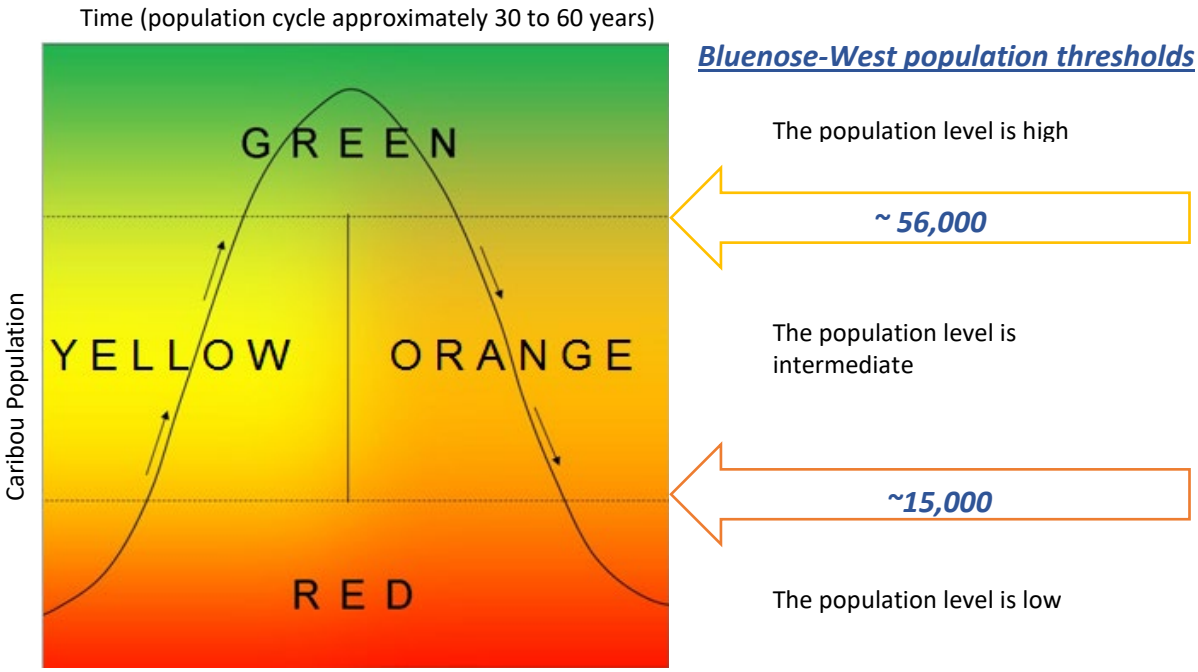


Figure 10: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans.

available information. The traffic light approach to understanding risk in caribou population cycles is shown in Figure 10 along with the approximate thresholds for the Bluenose-West (BNW) herd.

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 2022 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 2022. Member Boards noted that while there are some positive factors described by both the community and scientific presentations, there remains a lack of indicators of population growth. This led the ACCWM members to maintain the previous years' status designation. This decision recognizes that ongoing conservation actions are needed to help the Bluenose-West herd recover.

In 2023/24

the Bluenose-West caribou population status is

ORANGE: intermediate and decreasing

Presentations Given at the 2022 Status Meeting

Both scientific and community knowledge helped to inform the 2022 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 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 gathering information:

Inuvialuit Settlement Region, NWT – 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.

Gwich'in Settlement Area, NWT – Few Gwich'in participants harvest from this herd at this time. With the help of the Renewable Resource Councils, GRRB staff identified 15 harvesters that may have harvested from the Bluenose West herd. Of these 15 harvesters, four responded to the inquiries made by the GRRB staff and only one completed a survey. All the data collected from that survey was only relevant to the Cape Bathurst herd. As such, there is no new community data from the Gwich'in Settlement Area this year.

Sahtú Settlement Area, NWT – Délı̨nę is the Sahtú community that primarily harvests ʔehdaı̨la ʔekwę́. Colville Lake is the Sahtú community that primarily harvests ɔədə. As such, the SRRB annually invites Délı̨nę and Colville Lake to provide direct presentations of community knowledge to the ACCWM. As part of the SRRB's ongoing Public Listening Session series (2020-2024), publicly available community and scientific information about the status of ʔehdaı̨la ʔekwę́ (Caribou Point or Bluenose East caribou, ɔədə (barren-ground caribou in the K'áhsho Got'ı̨nę District or Bluenose West caribou), people, and planning for 2021 can be found in Délı̨nę and Colville responses to Information Requests, as well as Indigenous knowledge and science literature reviews. These are posted on the Délı̨nę 2021 PLS Public Registry at www.srrb.nt.ca.
Of note are the following planning updates from Délı̨nę and Colville Lake: As of October 2021, the Délı̨nę Got'ı̨nę Government has approved a revised version of the Belare Wíle Gots'ę́ ʔekwę́ - Caribou for All Time plan that accounts for increased conservation concerns about ʔehdaı̨la ʔekwę́. Colville Lake has developed the Dehlá Got'ı̨nę ʔədə Plan and Ts'ı̨duweh ʔədə ʔeɔa (Ancient Caribou Plan).

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.

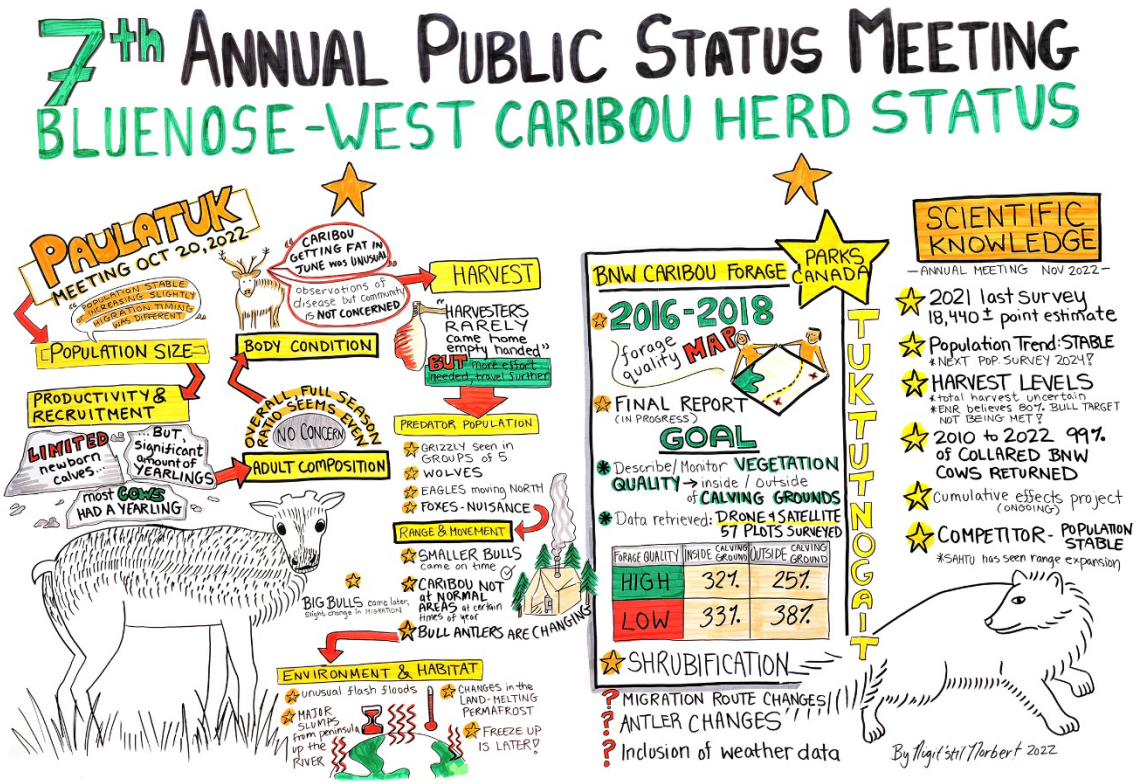


Figure 11: Graphic recording of the Bluenose-West Knowledge presentations. Credit: Nigit'stil Norbert

Inuvialuit Community Knowledge Presentation

Rosemin Nathoo (WMAC-NWT) and Ray Ruben (TTNMB, PHTC)

Rosemin presented the data that is included in Table 12 below. This data came from the WMAC community meetings in Paulatuk.

Ray Ruben noted that there are a lot of good signs coming from the herd. For example, the bulls they are seeing are very healthy. Ray also commented that over the years the migration routes have changed; it had been decades since he had seen the herd coming just south of Paulatuk. This year the hills near town could be seen "rolling" with caribou.

Sahtú Community Knowledge Presentation

Ben Dosu (SRRB)

Ben Dosu presented community knowledge from the Sahtú. This data was collected during meetings in Colville Lake in April 2022.

Tuktut Nogait National Park Management Board Presentation

Laurence Carter (Parks Canada), Tom Nesbitt (TNNP management board member)

Laurence Carter presented one of the major projects the park is working on, the Bluenose-West caribou forage project which was started in 2016.

The goal is to accurately map habitat quality for caribou in the core calving grounds and Tuktut Nogait National Park using on-the-ground data, drone images, and satellites. This will allow Parks Canada to understand how habitat quality within the calving grounds compares to the rest of the Park. There are other factors to take into consideration such as bugs, temperature, precipitation, caribou movement patterns, and altitude, but now they are primarily looking at forage quality and availability. The next phase of the project will see the Park incorporating the vegetation models into their monitoring programs.

Presentation on Scientific Information

Tracy Davison (ENR)

ENR's most recent post-calving ground survey was conducted in 2021. 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 method. Of the two population-estimation methods, ENR and the boards agreed at the 2016 meeting that the Rivest is preferred as it takes into account group size along with data from collars and photo surveys.

The population survey results (the number of adult caribou) were: Total Adult Population Estimate: 18,440 ± 5211.

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.

Table 7: BNW Rivest population estimates (2000–2021).

Year	Rivest Estimate
2021	18,440 ± 5211
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

Population trend and rate of change

The 2021 Rivest population estimate of 18,440 ± 5,211 caribou (95% CI) represents that between 2005 and 2021 the herd experienced a non-statistically significant decrease of 2% per year (95%CI of stable to 4% decline).

Rivest population estimates (with 95% confidence intervals) as well as minimum counts for the period from 1986 to 2021 are shown in Table 7.

Productivity and recruitment

During the collaring process, a blood sample is taken. The level of progesterone in these blood samples is an indicator of pregnancy. Of the 33 samples ENR collected, 73% indicated that the cow was pregnant. This is a moderate rate. It is not as high as the biologist would like to see but it is a better pregnancy rate than has been observed in the past.

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.

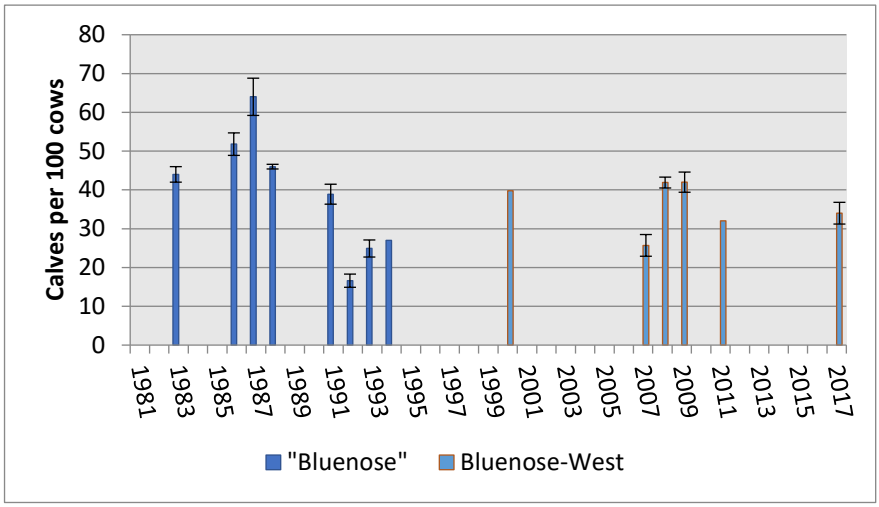


Figure 12: Recruitment estimates for Bluenose-West caribou, 1981–2017.

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 12. 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 summarized below.

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

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 Bluenose-West herd.

No new scientific information was presented on this topic. Data from previous years is presented below.

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

Season	Average Condition Code (number of samples) Female	Male
2019/20*	**2.4** (10)	3 (3)
2018/19*	**0**	**0**
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 13: Average condition codes for the Bluenose-West herd, assessed by hunters on a scale of 1–4 with the 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.

Results for average body condition ratings data from previous years were presented and are summarized for the Bluenose-West herd in Table 8 and Figure 13. 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.

Back fat measurements for the Bluenose-West caribou herd are presented in Table 9 and Figure 14 below. Marrow fat measurements are shown in Table 10 and Figure 15. Marrow Fat observations for 2019/20 were in the healthy range.

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
2019/20*	**2.04 (7)**	**2.55 (18)**
2018/19*	**0**	**0**
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)

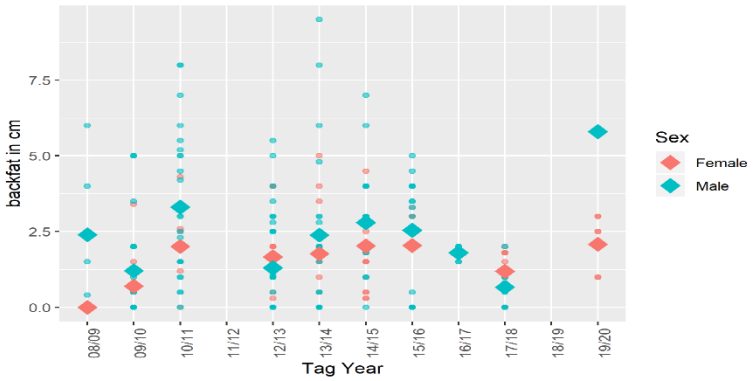


Figure 14: Average reported back fat measurement (in centimetres) for the Bluenose-West herd, with the number of samples noted at the top of the bar.

* 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.

Table 10: Results from marrow fat health sampling for the Bluenose-West herd combined.

Season	Marrow Fat % (number of samples) Female	Male
2019/20*	**88 (6)**	**91 (15)**
2018/19*	**0**	**0**
2017/18*	91 (9)	77 (12)
2016/17*	0	91 (7)
2015/16*	88 (6)	91 (15)
2014/15*	90 (26)	90 (23
2013/14	90 (10)	91 (20)
2012/13	90 (19)	91 (31)
2011/12	93 (3)	93 (1)
2010/11	92 (8)	87 (19)
2009/10	89 (12)	88 (19)
2008/09	90 (7)	90 (8)

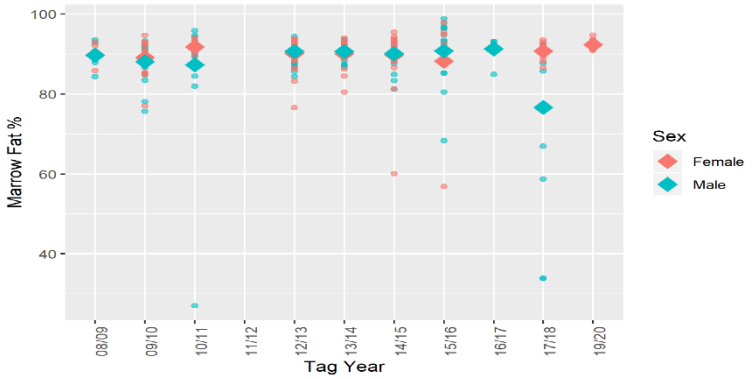


Figure 15: Marrow fat percent and average (diamond). Includes I/BC/08 harvests plus from 14/15 to present harvest by Inuvik and Tuktoyaktuk harvesters.

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* 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. The 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. ENR does not believe that the 80% target is being met.

The number of tags used for each region were: 254 Inuvialuit, and 34 Gwich'in. There were no harvest numbers reported for the Sahtú region and there are no observations of changing harvest levels from previous years in Sahtú communities.

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 were 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
2021/22	**0**	**0**	n/a	n/a
2020/21	**1**	**0**	n/a	n/a
2019/20	**0**	**0**	n/a	n/a
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	**96**	**98**	**16**	**15**

Other scientific information

- Collars are used to monitor whether the calves and cows return to the same calving grounds year after year. Between 2010 and 2021, 99% have gone back to the same place year after year, showing a very high-fidelity rate. This year 100% of the collared cows returned to the Bluenose-West calving grounds.
- 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 2022 [9]

Criteria	Community-Based Information[10]	Scientific Information[11]	Comments
Population size	**SRRB**: • Population in good shape, and no changes in the population. **Paulatuk (WMAC-NWT):** • Compared to last year, population appears either stable or a little bit higher, but migration timing was a little bit different and harvesting effort was a little bit greater. Needed to drive farther to get caribou. Harvest needs were met for community. • Need to re-evaluate population threshold levels in management plan – unlikely to reach 120,000	Estimated number of adult caribou at least 1.5 year old in 2021 Rivest: 18,440 ± 5211 (95%CI)	Estimated based on July post-calving ground survey

[9] This table is populated with information presented to the ACCWM to assess herd status in 2022 and is adapted from the monitoring criteria table included in ***Taking Care of Caribou***.

[10] Bluenose-West caribou usually migrate through two settlement areas/regions and are typically harvested by four communities: Aklavik, Inuvik, Tsiigehtchic and Tuktoyaktuk. In 2022, community-based information was documented in the following ways:

- 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.
- Few Gwich'in Participants harvest from this herd, so the Gwich'in Renewable Resources Board (GRRB) had no community-based information to present in 2022.
- Délı̨nę is the Sahtú community that primarily harvests ʔehdaı̨la ʔekwę́. Colville Lake is the Sahtú community that primarily harvests ɔədə. As such, the SRRB annually invites Délı̨nę and Colville Lake to provide direct presentations of community knowledge to the ACCWM. As part of the SRRB's ongoing Public Listening Session series (2020-2024), publicly available community and scientific information about status of ʔehdaı̨la ʔekwę́ (Caribou Point or Bluenose East caribou, ɔədə (barren-ground caribou in the K'áhsho Got'ı̨nę District or Bluenose West caribou), people, and planning for 2021 can be found in Délı̨nę and Colville responses to Information Requests, as well as Indigenous knowledge and science literature reviews. These are posted on the Délı̨nę 2021 PLS Public Registry at www.srrb.nt.ca.

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

	again		
Population trend and rate of change	**SRRB**: • No changes in population trends and rate of change to report. **Paulatuk (WMAC-NWT):** • See above	Between 2005 and 2021 the herd shows a non-statistically significant decrease of 2% per year (95%CI of stable to 4% decline)	Trend analysis is based on Rivest estimates 2021 18,440 ± 5211 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
Productivity and recruitment	**Paulatuk (WMAC-NWT):** • Saw limited newborn calves, but significant amount of yearlings. Most cows had a yearling, some had two.	Pregnancy rate of captured cows 2021: 24/33 (73%). Last recruitment survey was 2017 so no current information available.	Pregnancy based on serum progesterone. 2017 recruitment survey estimated was 34 + 2.8 (SE) calves per 100 cows.
Adult composition	**Paulatuk (WMAC-NWT):** • More cows earlier in the season; cows were there all season. Bulls came later. When the big heavy bulls started to come in, they were sporadic, seeing 1-2 bulls in a crew of cows, whereas last year there were a lot of young bulls. • Bulls and cows weren't there at the same time. • Late August-mid-September were seeing more cows. • Later September (Sept 19, 20, onwards) more bulls. More big-horned, mature bulls rather than	There is only one bull to cow ratio for BNW (2009) so trend is unknown; the 2009 result is considered high. Estimated number of bulls per 100 cows in 2009: 70	

	the young bucks seen last year. Early August seeing bulls without velvet already. • Overall if we think about the full season, ratio seems about even (more cows earlier, more bulls later). No concern about overall ratio.		
Body condition and health	**Paulatuk (WMAC-NWT):** • Observations of disease, but community is not alarmed yet by disease level. Harvesters continue to educate youth about what to look out for, what is normal and what's not – a certain amount of disease is expected. • Observations of Besnoitia and tapeworms. • Unusual observation: green slime under the fat and sometimes in the meat in edible portions, thick. Not sure what it is – reported in several caribou. • Unusual observation of lungs stuck to ribs – 2 caribou. • Unusual observation – someone got 3 caribou with big cysts all over body not just in joints – this is comparable to last year. Those caribou were healthy overall (didn't seem skinny etc.). • June caribou were very fat, unusual for them to be so fat in June. • Of the bulls that came initially in mid-September, some were thinner than expected for that time of year. • Bulls that came later in September were fat and healthy.	No new information available.	

Harvest levels	**Paulatuk (WMAC-NWT):** • Met needs for community, filled community harvest and an additional project. • Harvesters rarely came home empty-handed. • More effort was needed, needed to travel farther. More support was needed for gas etc. for community harvest.	Total harvest uncertain. Sex of harvest is not always reported ENR believes the 80% bull target is not being met.	TAH tag returns in Inuvik Region 2021/2022 Inuvialuit: 403 Quota, 382 harvested Gwich'in: 34 quota, Harvested level unknown There are no observations of changing harvest levels from previous years in Sahtú communities.
Predator populations	**Paulatuk (WMAC-NWT):** • Saw one group of five grizzly bears at Bennemie Lake – there were no caribou at that area when the bears were observed, but a couple days later the caribou were back to their normal hotspot. • Another female grizzly bear close to 8 foot, 3 very large cubs, was observed. It is common now to see a sow with 3 cubs – wasn't common before. • Seeing some wolves, hearing a lot at night. • Foxes are a nuisance now (not caribou predator) – seem less afraid of humans than usual – different behaviour. • Saw a bald eagle – lake before Bennemie – they're usually on the coast or river system, less inland.	Paulatuk submitted 0 wolves and Colville Lake submitted 0 wolves in the 21/22 season.	Changes in wolf harvest does not necessarily reflect changes in wolf abundance.

	Considered scavengers. Less eagles this year overall. • Caribou become more skittish when grizzly bears and wolves are in the area. .		
Range and movement patterns	**SRRB**: • Observation of caribou staying near the barren lands • Migration has changed in the past few years but just sticking closer to the barren land. • Seen less snow when you get close to the barren land and more snow in the trees. **Paulatuk (WMAC-NWT):** • Smaller bulls came on time (mid-September), but larger bulls came later (after September 20). Had to travel farther to harvest bulls. • Weren't seeing caribou where they normally saw them at certain times of year – bulls came later to Bennemie Lake • Cows came slightly later than usual. They were there throughout the season in numbers. Mixed bulls/cows came later. • Bull antlers are different lately – pointed more inwards or straight up, rather than wide outwards. • Harvester movements were limited this year. Couldn't travel east this season because of river system. Harvesters couldn't travel west during preferable harvest time because of flash flooding.	In 2022, 11 BNW collared cows were still active from the 2021 deployment and all returned to BNW calving ground. Between 2010 and 2022, 99% of collared BNW cows (258 records) returned year after year to calving ground.	

Environment and habitat	**Paulatuk (WMAC-NWT):** • Very unusual flash floods this year west of community, might have affected vegetation growth and species composition. Green-up seemed to be later – everything seemed about a month later. • Many major slumps from peninsula all the way up the river. • Changes in the land – melting permafrost etc – make travel routes on land unsafe. • Freeze-up is late (at the time of the meeting Oct 20), not much snow yet.	There were very few fires in the 2021 season on the BNW range – 0.08 km^2 burnt	
Human disturbance	**SRRB:** • Human-induced activities such as industrial development and mineral exploration have significant threats. **Paulatuk (WMAC-NWT):** • No concerns. • Reports of more aircraft in the TNNNP • No disturbance from flights etc. in harvesting areas	The Cumulative Effects project is ongoing, initial steps to map all current disturbance in the range show that there is a low human footprint on the range (less than .05% of the range)	
Competitors	**Paulatuk (WMAC-NWT):** • Didn't see reindeer, Peary, or DU caribou this year. More or less only Bluenose caribou. • No concerns about competition. Didn't really see muskox at flats, saw a handful at river. Didn't see any muskox herds around this year.	Muskox survey in March 2021 shows changes in muskox distribution from past surveys. Population in the ISR appears stable.	

BLUENOSE-EAST CARIBOU

– *YELLOW STATUS* –

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

Understanding Current Bluenose-East Herd Status

The ACCWM met on November 19th, 2022, to review information pertaining to the status of the Bluenose-East caribou herd. Before that, member boards reviewed the 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 2022 Management Setting

At the start of the 2022 status meeting, a roundtable was held to allow participants to provide a brief update on some of the management actions and developments that arose in their region over the last year. During the roundtable, several 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 habitats may need to happen.
- **Caribou Recovery Strategy:** The NWT Barren-ground Caribou recovery strategy recommends objectives for the conservation and recovery of caribou. It also recommends approaches to achieve those objectives. It includes a description of threats and positive influences on the species and its habitat.[12]
- **Increase in predator population:** Representatives from many regions mentioned that there is increasing concern about the level of predation.
- **Community-led conservation planning:** The KAA 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.[13] In 2017, a community conservation plan was put into effect in Délı̨nę to guide peoples' actions toward Bluenose-East caribou,[14] and a community caribou conservation plan for Colville Lake was in development at the time of the meeting.

[12] https://www.nwtspeciesatrisk.ca/sites/enr-species-at-risk/files/barren-ground_caribou_recovery_strategy_final_8april2020.pdf

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

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

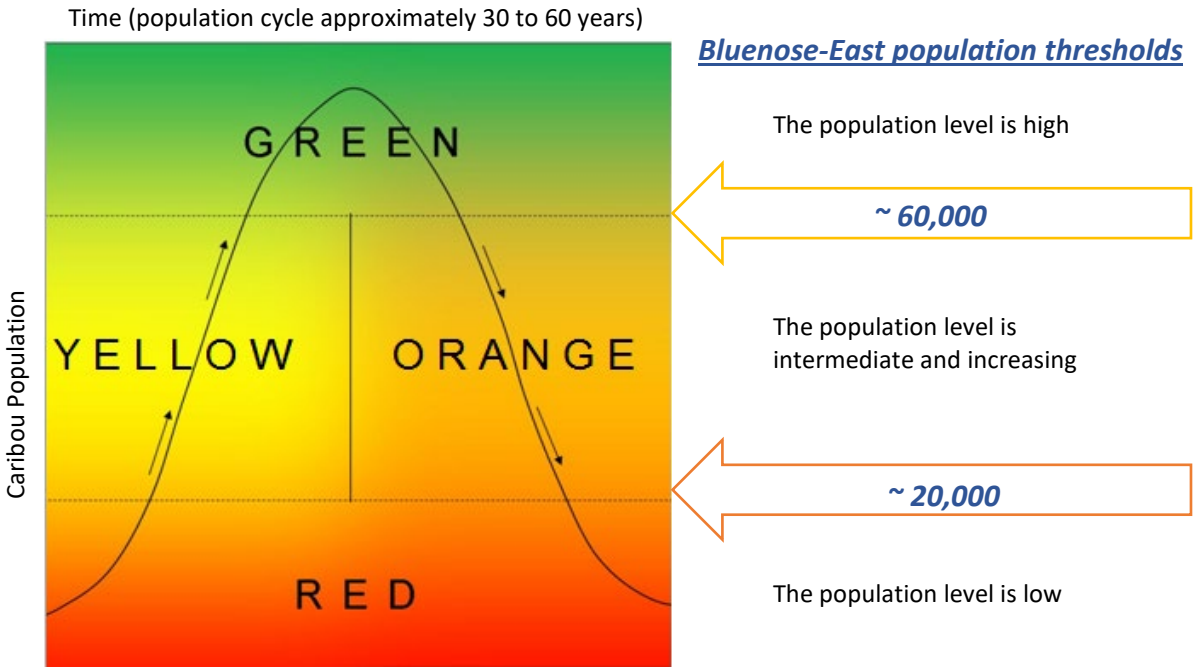


Figure 17: Phases of the population cycle with the colour-coded "traffic light" approach used in the Management Plan and associated Action Plans with Bluenose-East Population thresholds.

Status Decision 2022

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 2021 decision is presented below and summarized in Table 15 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.[15]

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 17 along with the approximate thresholds for the Bluenose-East herd.

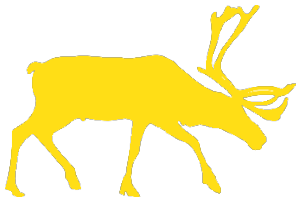
[15] Davison, T. 2016. Technical Report on the Cape Bathurst, Bluenose-West, and Bluenose-East Barren-ground Caribou Herds: Companion Report to 'Taking Care of Caribou: The Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground Caribou Herds Management Plan'. Department of Environment and Natural 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.

During the annual status meeting, stakeholders are encouraged to provide important local and Indigenous knowledge that helps to inform the status decision. This data is reported in the Annual Meeting Summary report when it doesn't fit into the monitoring criteria listed in Table 15.

The community data presented at the meeting indicated several positive observations such as the increased twinning of calves and a rise in the sub-adult population numbers in 2021. At the same time, the scientific data presented indicated that the change in population since 2018 was not statistically significant and there is no increase in the number of adult females. This was further complicated by the fact that the estimated population was right on the threshold (about 20,000) between the accepted ranges for the two statuses as described by the management plan. As previous experience with the Bathurst Herd had shown that there can be year-to-year increases in the population numbers while the long-term trend for the population continues downward, there was a strong sentiment that the ACCWM should err on the side of caution.

The ACCWM met in November 2022 to discuss community-based monitoring and scientific information for the Bluenose-East caribou herd. Based on the information provided and the subsequent discussions, the ACCWM determined the Bluenose-East herd status colour zone to be **Yellow (intermediate and increasing)** in November 2022. This decision recognizes that there are some positive community and scientific observations with the observed population-level above the ~20,000 threshold.



In 2023/24

the Bluenose-East caribou population status is

Yellow: intermediate and increasing

Presentations Given at the 2022 Annual Status Meeting

Both scientific and community knowledge helped to inform the 2022 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 Peggy Adjun from the KRWMB, as well as Amanda Dumond and Larry Adjun of the KAA during the meeting. This data was collected through workshops and interviews with hunters, KAA board members, and GN wildlife officers. The community of Kugluktuk has a no-hunting zone from June 1st to July 1st, when the caribou are close to town, the caribou harvest mainly takes place in the fall.

Sahtú Settlement Area, NWT – Délı̨nę is the Sahtú community that primarily harvests ʔehdaı̨la ʔekwę́. Colville Lake is the Sahtú community that primarily harvests ɔədə. As such, the SRRB annually invites Délı̨nę and Colville Lake to provide direct presentations of community knowledge to the ACCWM. At the 2022 annual status meeting neither community presented. The SRRB provided little information during the annual status meeting.

Wek'èezhìı (Tłı̨chǫ), NWT – Petter Jacobsen, and John Nishi of the TG presented data collected in the Tłı̨chǫ region. The data presented was collected through the 2022 Ekwǫ̀ Nàxoèhdee K'è program at Point Lake.

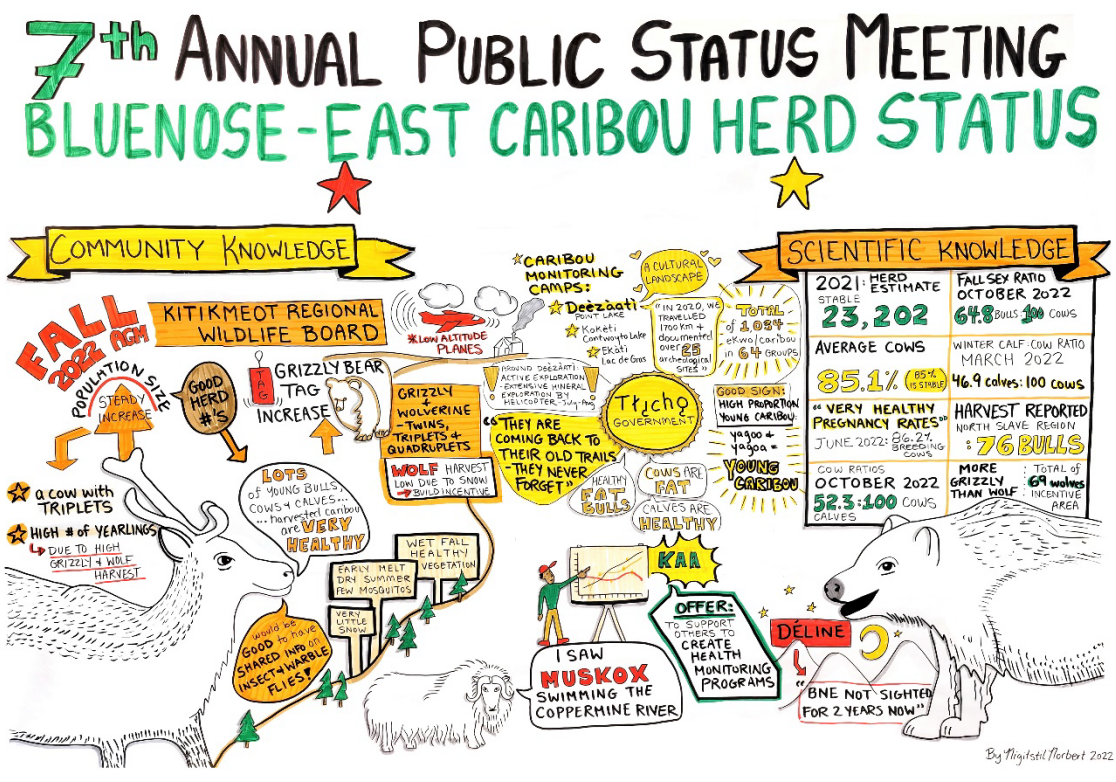


Figure 16: Graphic recording of the Bluenose-East Knowledge presentations. Credit: Nigit'stil Norbert

Kugluktuk Community Knowledge Presentation

Amanda Dumond (KAA), Larry Adjun (KAA), Peggy Adjun (KRWB)

Amanda Dumond was the main presenter of the Kugluktuk community knowledge presentation, the content of which was mostly covered in Table 14. Notably in 2022, the TAH for BNE was 170 (total harvest was 128, with 96 male, and 32 female)

Amanda commented that the BNE caribou population is steadily increasing in 2022.
Also, it was noted that lots of claves were seen. The increased number of calves was attributed to an increase in predator harvest.

Both the caribou and the grizzly bear populations appear to be doing well. In 2021 a study was done in collaboration with the GN on grizzlies. The population density of grizzly bears has increased from 5.6 bears/1000km in 2008, to 6.62 bears/1000km in 2021.

Weather-wise it was noted that it was a difficult snow year for hunting wolves and that green-up occurred early and it was a dry year with low numbers of mosquitos.

During the KRWMB presentation, Peggy Adjun noted that the TAH for BNE caribou is currently at 170 and that the number of grizzly tags for sport hunts has been increased by 5 (total of 15) to help with predator control (grizzly tags are not required for resident hunters).

Sahtú Community Knowledge Presentation

Ben Dosu (SRRB)

Ben was unable to attend the meeting and submitted the Sahtú community knowledge presentation via email. The information was presented by Steve Anderson of the GRRB and is found in Table 14.

Tłı̨chǫ Community Knowledge Presentation

Petter Jacobson (Tłı̨chǫ Government), John Nishi (Tłı̨chǫ Government)

Petter's and John's presentation focused on information gathered at the Deèzàatì (Point Lake) camp through the Ekwǫ̀ Nàxoèhdee K'è: Boots on the Ground program. The Deèzàatì camp runs throughout September and is now in its second year. It ran previously in 2020.

The 2022 camp was quite successful, lots of caribou were observed, this was a marked improvement over the 2020 season, where no caribou were seen. Elders in 2022 were quite confident that caribou were back in places where they haven't been for several years. For productivity and recruitment, half the groups were observed with calves. It was interpreted that this was due to the high number of very young caribou in the groups. This was seen as a good sign as young caribou were surviving their first winter. Calf-cow ratios in large groups were low for a similar reason; however small groups tended to have high ratios. Petter and John provided specific numbers for observations at the camp. These are provided in Table 14.

Animals were observed to be quite healthy in September. Most of the cows and bulls were seen to be quite fat. Calves were also seen to be healthy with signs of good amounts of fat. Insects

harassment was quite low this summer, and there were also few wolves as well. No grizzlies were observed at the camp either.

The vegetation in September was seen as quite good. The lichen was in good shape, moist, and of high quality. There were few mushrooms observed this fall.

Human disturbances in the area included an exploration camp by Golden Planet at Itchen Lake. They conducted a lot of exploration work this summer in July and August.

Presentation on Scientific Information

Jan Adamczewski (ENR)

Population size and rate of change

No surveys were conducted in 2022. ENR's most recent calving ground survey was conducted in June 2021. 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.

Table 13: BNE population estimates (2010–2021).

Year	Estimate
2021	23,202 ±4,362
2018	19,294 ± 4,729
2015	38,592 ± 4,733
2013	68,295 ± 18,041
2010	102,704 ± 39,965

The 2021 population estimate is 23,202 ±4,362 caribou (95% CI). Between 2015 and 2018 the herd experienced a statistically significant decrease of 20% and has been estimated to be stable from 2018 to 2021. Survey results from earlier years are available in ***Taking Care of Caribou*** and in the ENR technical report.

Productivity and recruitment

In June and October 2022 composition surveys were conducted with a calf-to-cow ratio of 52:100. In the October 2021 survey the calf-to-cow ratio was 49.6:100. There was a similar result in 2020 with a ratio of 51.7 calves to 100 cows observed. Jan stated that this is the third year in a row with good ratios.

Based on the number of collars still active, ENR estimates cow survival rates. Cow survival rates in 2022 were estimated to be around 89%, this is up slightly from 2021 (collared cow survival rate of 86%).

Surveys in March are flown to see how many calves are recruited. The survey observed 46.9 calves:100 cows, in 2021 the ratio was 46.7:100, which was up from 2020 (41.8:100).

Adult composition

This data was from the October 2022 survey.

The fall bull-to-cow ratio was still high (2022, 65 bulls:100 cows) for the third year running when compared to previous years (2021 68.7 ± 8.05 bulls: 100 cows, and 2020 63.3:100). The survey was timed to match the peak of the rut and a lot of prime bulls were sighted. Seeing the ratios this high may indicate a positive trend that is in line with what was observed during the big herds of the 1980s (ratios of 60-70 bulls:100 cows).

Harvest levels

According to ENR, harvest levels have been very low in the North Slave Region for several years. For example, 15 bulls were taken in the winter of 2016–2017 and 10 bulls in 2017–2018. Recently, the number of bulls harvested has remained stable (74 in 2018-2019, 76 in 2019-2020 and 63 in 2020-2021, and 76 in 2021-2022) but is still well below the current limit of 193 bulls for Wek'èezhìı. 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

As a response to the dramatic decline in caribou numbers and concerns for survival rates for both cows and calves, ENR has enacted some programs to help reduce pressure on the caribou. These include harvest restrictions, and habitat management (such as aggressive wildfire mitigation) and now they are working on reducing predation pressure. Community members and co-management partners have made strong calls to do something.

The first step was to review predator control programs in adjacent regions and then a technical feasibility study was completed in 2017. In 2019, the WRRB recommended increasing wolf management actions to the GNWT and TG. They submitted a joint proposal for 2020-2025 to enhance support for wolf harvesters and the traditional economy.

ENR did Tłı̨chǫ trapper training, with an ongoing community-based program to increase the predator harvest levels and maximize the value of pelts.

The best available information shows that wolf population numbers rebound quickly. So, a 60-80% reduction for 5 years is needed to have any significant effect on the wolf population.

As part of the wolf harvest incentive program In 2021-2022, 69 wolves were taken in the incentive area, 135 were taken in 2020-2021, and 85 in 2019-2020. Poor snow conditions made travel and harvest difficult. This is the second year Nunavut harvesters could also get the NWT harvest incentive in their traditional areas in the region.

During the 2022 June survey, there were very few predators sighted (1 wolf and 5 grizzlies). Sightings during these surveys are highly variable, making it difficult to discern a trend.

Other scientific information

- This year was above average for area burned in the NWT (2022, 687,000 ha), however little of the BNE range was impacted.

- Development within the range is very limited at 0.0152% of the range being directly impacted.
- There was a lot of mixing with the Bathurst and BNE in mid-November and December 2021.
- There was low snow accumulation in 2022.

Table 14: Criteria used to assess Bluenose-East herd status in 2021[16]

Criteria	Community-Based Information[17]	Scientific Information[18]	Comments
Population size	**KAA:** • Steadily increasing; observations of good group sizes **Délı̨nę (Sahtú):** • ʔehdaı̨la ɔekwę́ not around anymore • Most hunters have accepted that ɔekwę́ is not available.	Estimated number adult caribou at least 2 years old in 2021: 23,202 (95%CI 19,247-27,971). Estimated number of breeding cows 12,863 (95%CI 10,816-15,298).	Estimated based on June 2021 calving ground photo survey and October composition surveys 2020 & 2021 to estimate sex ratio.
Population trend and	**KAA:** • Steadily increasing **Tłı̨chǫ:**	Estimated 19-20% annual rate of decrease 2015 to 2018.	Herd declined by half 2015-2018. Herd estimate 2021 shows a small

[16] This table is populated with information presented to the ACCWM to assess herd status in 2021 and is adapted from the monitoring criteria table included in ***Taking Care of Caribou***.

[17] Bluenose-East caribou usually migrate through four settlement areas/regions in the Northwest Territories and into the western portion of the Kitikmeot Region, Nunavut. The herd may be harvested by nine communities: Wrigley, Norman Wells, Tulít'a, Délı̨nę, Whatì, Gamètì, Behchokǫ̀, Paulatuk, and Kugluktuk. Délı̨nę is the Sahtú community that primarily harvests ʔehdaı̨la ʔekwę́. Colville Lake is the Sahtú community that primarily harvests ɔədə. As such, the SRRB annually invites Délı̨nę and Colville Lake to provide direct presentations of community knowledge to the ACCWM. As part of the SRRB's ongoing Public Listening Session series (2020-2024), publicly available community and scientific information about status of ʔehdaı̨la ʔekwę́ (Caribou Point or Bluenose East caribou, ɔədə (barren-ground caribou in the K'áhsho Got'ı̨nę District or Bluenose West caribou), people, and planning for 2021 can be found in Délı̨nę and Colville responses to Information Requests, as well as Indigenous knowledge and science literature reviews. These are posted on the Délı̨nę 2021 PLS Public Registry at www.srrb.nt.ca.

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

rate of change	• After two weeks of watching caribou migration at Deèzàatì, the elder Joe Zoe described a level of confidence that the caribou are "coming back": *"It's looking good now, for a while they were gone, but it looks good now."* *They are coming back to their old trails - they never forget they ... They always come back".*	Considered stable 2018-2021 based on female estimates.	increase (not significant) over 2018 based on increased bull:cow ratios. **Tłı̨chǫ:** Elder Louis Zoe: As a hunter and a man that has mostly lived off the land his entire life it is hard for Louis to understand why he is restricted from his way of life. "***Our Creator put all living things on Earth for us to use, not to look at, and suffer from not having it***." At Dechili, a traditional trapping area at Deèzàatì, we interviewed Louis. He shared his family connection to the area. When the interview was over, we saw a small group of caribou walking towards us; Louis was amazed by this sighting. He took it as a good sign.
Productivity and recruitment	**KAA:** • Observations of twins and even a cow with triplets. Higher number of yearlings in the past two years. **Tłı̨chǫ:** • In the larger groups (20-50); less than half of all cows have a calf.	Percent breeding females June 2022 on calving grounds: 86.2% June 2021: 91.9%: June 2019 87.5%; June 2018 83.0%. Pregnancy rate of captured cows 2020:18/18 (100%).	High pregnancy rates 2019-2022.

	The elders explained the fewer calves because there are many young cows in herds observed. "*Not enough calves; because there are too many young caribou*" "*Too much yagoo (young bulls) and yagoa (young cows)"* Roy Judas • In a herd of 150 ekwo; we noticed that the calf to cow ratio was quite low (i.e., 4 calves and 20 cows). • Several times, we observed smaller groups (4-8 caribou) consisting of only cows and calf – in these small groups most cows have a calf. "*When it's a small herd, we see many calves. When it's a big herd, we see few calves*" - Roy Judas. • Overall, the observed calf to 100 cow ratio in September was 38.4 (+ 7.0 Standard Error) based on 31 groups in which at least 1 cow was seen. For these 31 groups in which 195 cows and 76 calves were counted, average and median group size were 13 and 8 respectively; minimum and	2021:26/30 (87%); 2022:5/9 (55%) Calf to cow ratios: Oct. 2022: 52.3 calves:100 cows March 2022: 46.9:100 Oct. 2021: 49.6:100 March 2021: 46.7:100	Very good calf:cow ratios 2020-2022 March and October. **Tłı̨chǫ:** *Woza* is Tłı̨chǫ term for: a cow with calf. "*The first caribou you'll see are woza, the cow and its calf...then the larger herd is coming*" - Joe Zoe. Elder Joe Zoe explained that when you see bulls, they are often by themselves, but when a cow with calf is seen they will be the first of the larger herds. Consequently, the term w*oza* means that the whole herd is coming; the cows, calves, everyone are following. Louis Zoe explained that when a calf is young, they crave the scent of the tree line. They are

	maximum group sizes were 1 and 44 respectively. • The observed calf–cow ratio falls in the middle of the range reported by ENR-GNWT who observed that fall (late October) calf to cow ratios for BNE caribou from 2009 to 2021 varied between 25 and 52 calves:100 cows. • For additional context, a stable caribou herd would need to have approximately 35 calves per 100 cows in late winter (March) combined with an average adult female survival rate of 85%. Because some calves will die through fall and winter, calf to cow ratios in March would most certainly be lower than calf counts in September.		eager and cry to their mothers to move into the tree line.
Adult composition	**KAA:** • lots of young bulls, adult bulls; cows and calves. **Tłı̨chǫ:** • A high proportion of younger 2-year-old caribou (young bull and young cows) in many groups. • In some herds, a high proportion of *yagoa* (young cows) were observed. • Once collars (and larger herds)	Fall bull to cow ratio: Oct. 2022: 64.8 bulls: 100 cows Oct. 2021: 68.7:100 Oct. 2020 63.3: 100	Large increase in bull:cow ratios in 2020-2022 over previous years. Increasing herds in NWT early 1980s had ratios of 65-70 bulls: 100 cows. Declining Bathurst herd early 2000s: 31-38 bulls: 100 cows. **Tłı̨chǫ:** Good sign to see high proportion of young caribou:

	moved a distance away from lake, we observed several smaller groups consisting only of bulls. • The bulls were mostly feeding and bedded down on hillsides; and consist of many *yagoo* (young bulls).		yagoo and yagoa. It means that most calves and yearlings survive overwinter. The elder Joe Zoe explained that: "*the hunters take too much bulls*". "*Caribou will go down if people only shoot bulls. The bulls will make more babies"*
Body condition and health	**KAA:** • Brucellosis cases were few; don't hear as much sick caribou being harvested. • No sample kits for 2 years. • Lots of very healthy caribou harvested in the last couple years. **Tłı̨chǫ:** • All the caribou were in very good shape; most adult bulls and cow are healthy and considered fat. • The bulls are really fat; the coat is new and looks clean. Most bulls have large antlers, white neck mane, and have rounded rumps and backs, due to thick fat layers on their backs.	Body condition of captured caribou (for collars) reported very good 2021-2022.	**Tłı̨chǫ:** During first week of September, our elder Louis Zoe shared concerns about the velvet still being on the Ekwo' antlers. He mentioned that when the velvet starts to peel we will get a period of days where the weather changes and it will warm up again. These days in September with warmth and sun is vital in healing the new antlers. Louis Zoe also mentioned that you should not use/burn the trees that ekwo break their antlers on. They

	• The cows are fat; visible by straight and rounded backs, and new clean coat. *"The caribou don't put the fat inside the body and in the meat - the fat goes outside their body, on their back"* - Joe Zoe • The calves are healthy and has grown larger body size at end of September. At times, its challenging to differentiate between a calf and yearling; the calf's antler has grown longer than what is considered a "normal" calf antler. • Most adult caribou have large bellies. The animals eat peacefully all day without any harassment from insects, wolves, or hunters. Elder Joe Zoe explained how this is different compared to earlier years: "*Before (until the 2000s) when we hunt on barrenlands around Rawalpindi Lake, the caribou did not have large bellies as we see now; before people hunters, outfitters] were bothering caribou, chasing them around, and they*		move into the tree line to break their antlers off. • Field teams noted condition of caribou as fat, good or thin. • They observed 136 bulls in 31 groups, and scored 76% as fat, and 24% as good; they did not observe any thin bulls. • The teams saw 143 cows in 24 different groups, and scored 73% as fat, and 27% in good condition; no thin cows were noted. • Teams scored 87% of 38 calves in good condition and 13% as fat. No thin calves were seen.

	could not settle down to relax in one area as now. Now we see them eating and resting all day; their belly get big." From second week of September, we started to observe the velvet peeling from the antlers. During third and fourth week of September, many caribou were observed with skin hanging from the antlers, and with red and bloody antlers. Some bulls were rubbing their antlers on trees and tall willows to remove the velvet. **Injuries:** out of all the 1,034 caribou observed two caribou were injured. One bull had an injured back right leg, he was limping after the herd. One cow had an injured front right leg.		
Harvest levels	**KAA:** • TAH 170 – 1:1 sex ratio • Harvest to Oct 13/22 • 128 harvested (96 males: 32 females) **Dél̨nę (Sahtú):**	Harvest low in N. Slave region 2018-2022 Reported BNE winter harvest N Slave region NWT: 2018-2019:74; 2019-2020:76 2020-2021:63; 2021-2022:76	BNE caribou have been mostly in remote areas last 3 winters while in the NWT (in N Slave region); most N Slave hunters have harvested Beverly caribou in east on winter roads.

	• No harvesting has been done for almost two years. • Reliance on other wildlife species and fish **Tłı̨chǫ:** • Total tags = 76 • Total harvest: 63 • The harvest occurred near Wekweètì and Gamètì. The animals harvested were all bulls.		
Predator populations	**KAA:** • lots of grizzly bears and wolves observed, as well as harvested. • Constantly finding predators when caribou around. • Still wolves around BNE habitat. **Délı̨nę (Sahtú):** • See lots of dìga (wolves). An indicator of a healthy ecosystem. Where there are lots of healthy dìga, there are also lots of other wildlife. • Other predators, like grizzly bears and wolverine, primarily hunt ɔekwę́ (caribou) at the calving grounds. **Tłı̨chǫ:** • Tlicho teams were at Deèzàatì from 2-28 Sept, numerous caribou herds	June calving composition surveys: 2022: 5 grizzly bears, 1 wolf seen 2021: 6 bears, 0 wolves seen 2019 14 bears, 3 wolves seen Wolves killed BNE/Bathurst winter ranges: 2021-2022: 69 wolves; 2020-2021: 135 wolves; 2019-2020: 85 wolves.	Continuing trend of more grizzly bears than wolves seen on BNE calving grounds 2010-2022. Incidental sightings of predators on caribou surveys tend to have high variability.

	were all around the lake and surrounding area. • No wolves were observed for the four weeks. • Elders noted that there are no wolves chasing the caribou, and the caribou can eat peacefully without anyone disturbing them. • **Wolf tracks** of three wolves were observed on 26th of September; likely a mother with two pups. The fresh tracks were on a beach on southwest side of Deèzàatì. • One **bald eagle** with a juvenile were observed on northeast side of Deèzàatì.		
Range and movement patterns	**KAA:** • spring/early summer: still migrating further west. • Fall: in areas consistent with previous years. • No Hunting Zone in place from June 1 to July 1 each year. **Tłı̨chǫ:** *"They are coming back to their old trails - they never forget them"*	Fidelity of BNE collared cows to calving ground 2008-2018: 97-98%. Fidelity 2018-2021: 98.5%.	BNE has mixed with Bathurst in winter in some years; even some mixing of BNE with Beverly in winter, e.g., 2020-2021. Strong BNE fidelity to calving & summer ranges. **Tłı̨chǫ:** *"We have been here for many years now watching and protecting caribou, looks like*

	"They always come back" - Joe Zoe. The elder Joe Zoe explained that the caribou are now coming back to their old trails at Deèzàatì, and that the herds are moving south to Rawalpindi Lake and Mesa Lake; the traditional caribou harvesting areas for the Tłı̨chǫ. Watching a group of caribou on north side of Deèzàatì, Joe Zoe explained that "*They are following their old trail, that they used many years ago*".		*they are coming back now*" - Joe Zoe. Joe Zoe's family lived 2 years at Deèzàatì and Red Rock Lake. His parents, grandparents, and brothers lived in the forested part of Red Rock and his sister was born there. They set snares for caribou among the trees in the fall time. They catch calves for the soft fur to make clothes with: *"If you have 3-4 kids, you need soft hide to make clothes for all your kids"* - Joe Zoe.
Environment and habitat	**KAA:** • Cool summer; very dry until early fall. Very dry vegetation, creeks and ponds dry. • Mosquitoes only bad for a short time; warble flies and horseflies not as bad as previous years. Lots of lemmings, voles, and shrews. • Freeze up: snow, cool off, rain, cool off, snow. **Tłı̨chǫ:**	Average Fire Year NWT: 500,000 Ha burned (total). 2019: 100,000 Ha 2020: 21,000 Ha 2021: 145,000 Ha 2022: 687,000 Ha (preliminary) 2014: 3,500,000 Ha	2022 above average area burned and very long season – into October. 2019-2021: below average total area burned in NWT.

	On the fall range around Deèzàatì: • Vegetation was overall good and the ekwo di (caribou food) described as good plentiful and good quality. • Caribou lichen adzìì is very good quality in September. It is moist and fluffy and growing in large amounts around the lake. Some places have carpets of moist, fluffy adzìì covering the ground. • Caribou mainly feed on lichen in September; they eat the lichen mixed with cranberry leaves; feeding in between the willow bushes. • Caribou do not feed much on **willows** at the end of September; the leaves have fallen off the willows and dwarf birch. ○ In August, we observed caribou eat mostly willows; now in September, they eat mainly lichen and cranberry leaves. • **Grasses and sedges** were described as average or poor condition in end of September; and had turned yellow/brown. But caribou were seen feeding on grasses in wet muskeg fields and on yellow grass by shorelines of lakes. • High amounts of **cranberries** on the		

	hills, all over the land. • There are few or no **mushrooms** this fall; there are no mushrooms and no insects. • During fall there were **no insect**s; no blackflies or mosquitos: it was cold, windy and dry this fall, additionally in early summer it was a lack of rain and ground conditions were too dry. • The **water level** has dropped extremely low. On September 5th, we hiked towards Whatì (small lake south of Deèzàatì) to find Louis Zoe's old trail. When the boat got closer to land, we could see how much the water level dropped; the GPS read that there should have been water still. We landed and walked on rocks that should have been under water.		
Human disturbance	**Kugluktuk:** • minimal other than aerial surveys (muskox; caribou) • Constant Outfitter float plane arctic coast and Coppermine River to Great Bear Lake. **Délı̨nę (Sahtú):** • Need to look at the impact of	Limited, no active mines.	Cumulative effects assessment project underway.

	human-created habitat disturbances on caribou (such as industrial development) **Tłı̨chǫ:** • Around Deèzàatì, there is on active exploration company (Golden Planet). • During summer 2021, the company did extensive mineral exploration by helicopter during July and August over the northeast side of Deèzàatì, around the river from Itchen Lake. • By the outflow of the river from Itchen Lake, there is an **old exploration camp** with garbage and debris from fall down camps scattered along the esker, on east side of the river. • Old fuel drums found at several locations around Deèzàatì; most likely left behind by mineral exploration companies.		
Competitors	**KAA:** • good moose and muskox numbers **Délı̨nę (Sahtú):** • More muskox sighting.		

	Tłı̨chǫ: • During September, 8 moose were observed around Deèzàatì. Two moose, a cow and a calf, were observed adjacent to a small group of caribou. • No behavioral changes or issues were noted between moose and caribou. • **No muskox** was observed around Deèzàatì.		

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[19]
- 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
- Sahtú Renewable Resources Board
- Tłı̨chǫ Government
- Tuktut Nogait National Park Management Board
- Wek'èezhìı Renewable Resources Board
- Wildlife Management Advisory Council (NWT)

[19] 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.