

Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2024

Porcupine Caribou Management Board Recommendations to the Parties February 2024

A. PREAMBLE

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the 14th Annual Harvest Meeting in person in Inuvik, NT February 13 and 14, 2024. The Board convened the meeting to gather input and to deliberate on the harvest management recommendations for the Porcupine Caribou Herd (PCH).

This report presents the Board's recommendations and rationale to the Parties regarding the harvest management zone and associated management actions that should apply to the herd over the coming year. Also included are other related concerns raised during the meeting and the recommendations from the Board regarding those concerns.

B. RECOMMENDED HARVEST MANAGEMENT ZONE AND HARVEST MANAGEMENT ACTIONS

The Board recommends that the PCH be considered in the Green Zone (above 115,000 caribou).

Consistent with the Green Zone harvest management actions (HMP, page 20), the Board recommends:

- Harvest only the amount needed;
- Licensed hunters receive a maximum of two bull tags;
- Shooting will be accurate and wounded animals will be retrieved; and
- Parties will collect rigorous and verifiable harvest data, to be provided for the Annual Harvest Meeting.

C. RATIONALE FOR BOARD RECOMMENDATIONS

The HMP identifies a suite of indicators that the Board should consider in determining the status of the herd (HMP, page 19). The following provides an overview of the information used in the Board's deliberations regarding the harvest management assessment, the determination of the Colour Zone, and the associated harvest management recommendations.

1. Harvest Management Assessment — Review of Indicators

1.1 Population Size and Trend

1.1.1 Population size by photocensus (survey): The primary consideration is the population estimate. A photocensus (survey) was last successfully conducted in 2017 and estimated a mean of 218,457 caribou (95% CI = 202,106 to 234,808) caribou. This is well above the threshold for the Green Zone. Although the herd did not aggregate, a photocensus was attempted in 2023. Photos are being evaluated to determine if a minimum count of the herd size is possible.

1.1.2 Estimated population based on computer program: A range of population estimates was developed using the best available data and an acknowledgement of the uncertainty associated with each value in a population model. No information was available for the number of calves surviving to one year so several different rates that have been observed in migratory caribou herds were used. Harvest data was not available from all user groups, including Alaskan harvesters. Instead, the model used harvest estimates based on the best available information from harvesters in communities combined with past documented harvest levels. Despite the growing period of time since the last photocensus in 2017 and lack of recruitment data for the herd, the model continues to be helpful in assessing the annual trends in the population. The majority of modelled population estimates indicate that the herd has increased since the photocensus in 2017, with a very low probability of a decline greater than 10%. Based on the most current model predictions from June 2023, we are very confident that the herd remains well within the Green Zone.

1.1.3 Population trend: From 2010 to 2017 the population increased from 169,000 to about 218,000 animals. The average annual growth rate during this time period was 1.035 or 3.5%. Since 2017, there has been no photocensus information to describe the trend of the herd; therefore, the population trend in the short term is unknown. Survival rates among yearling and adult caribou was high, particularly so for females since 2019 and above the minimum average expected for a stable herd. Calf survival rates in 2023 were lower than average to three weeks of age although the calf-to-cow ratio was near average.

1.2 Harvest

1.2.1 Total harvest: Harvest data for 2022-23 was received from all Parties; however, there were several challenges noted, including a lack of harvest data available for the communities of Inuvik and Tuktoyaktuk. Based on the reported and estimated information provided by the Parties, the total minimum Canadian harvest for 2022-23 was estimated to be 2,766 caribou. Data this year, as in the past several years, is incomplete and considered to be a minimum estimated harvest.

The total estimated harvest has fluctuated since 2010 when the HMP was implemented. Annual variation in harvest can be accounted for by changes in caribou availability along with some differences and variability in harvest reporting success each year.

Overall, improvements are being made in community harvest reporting programs. Available data, anecdotal information, and caribou availability suggest the Canadian harvest was likely low (i.e. 1% of the 2017 population estimate of approximately 218,000 caribou). Based on the information provided, current Canadian harvest is not a major concern. The Alaskan harvest numbers are incomplete.

1.2.2 The percentage of cows in the harvest: Cows made up 39% of the harvest based on information available during the Annual Harvest Meeting. Caribou became accessible following the rut in many places, so harvest numbers were likely reflective of cow and bull availability and the timing of that availability to harvesters.

1.2.3 Hunters' needs met: Caribou were available at times near Aklavik and Old Crow and harvesters were able to access caribou throughout that period. No information was available to formally address this specific indicator.

1.3 Population dynamics

1.3.1 Survival: Estimated survival rates among all cohorts (adult females, adult males, and yearling females) remained high in 2022-23. In particular, adult female survival (90% in 2023) has been relatively high since 2019 and has averaged 89% between 2012 and 2023.

When the adult female survival is greater than 84-85%, the herd is generally either stable or increasing. When the female survival rate drops below this value, it is typically indicative of a declining herd. Yearling females had good survival (83%; near average) as did the adult bulls in 2022-23 (76%; above average).

1.3.2 Calf birth rate and calf survival: The parturition rate for adult cows greater than or equal to four years of age was 83%. This is consistent with the long-term average of 82%. Three-year-old cow parturition was 55%, which is lower than the five-year average of 59%. Late-June calf survival in 2023 was one of the lowest measured at 77% compared to the long-term average of 87%.

1.3.3 Peak of calving: The Alaska Department of Fish and Game has been undertaking a greater number of calving surveys in recent years to identify which collared caribou are pregnant and where they give birth. As a result, calving data in recent years has been relatively high quality. This year's peak of calving was June 6, which was four days later than both the long-term and recent averages for the herd (June 2).

Calving was widespread, although it occurred mostly in Alaska from the Canada and US border to the Canning River. Concentrated calving occurred from the Egaksrat River in the east to the Okpilak River in the west, mostly on the flats just north of the foothills.

1.3.4 Bull ratio: A rut count was attempted in October 2023. The results are still pending; however, early results show that there was significant spatial heterogeneity (i.e. some areas had more calves than others and some had more bulls than expected, often without a clear pattern), which will make interpreting results challenging. No other surveys to determine the ratio of adult bulls to cows have occurred in recent years. In 2010, the rut count results showed 57 bulls per 100 cows. Despite the lack of recent successful rut count results, there was no reason to believe there are too few bulls to breed the cows.

1.4 Body Condition

1.4.1 Average backfat: In 2022-23, 119 cows and 35 bulls, for a total of 154 caribou, were assessed for backfat depth. The majority of samples were collected post-rut, meaning caribou were likely leaner. Female backfat averaged 1.2 cm while male backfat average 1.0 cm. Most of the samples were collected near Aklavik.

1.4.2 Hunter assessment: A total of 157 caribou (128 cows and 29 bulls) were reported in the caribou sampling initiative program this year. As above, most body condition measurements were made post-rut when caribou tend to have lower body condition values than in September. However, in 2022-23, hunters reported that, on average, harvested caribou were in fair shape for the time of year.

1.4.3 Health: There was no dedicated effort to collect information on the health of Porcupine Caribou this year. Other health screening, such as disease and contaminants screening, continues and no major changes have been noted.

1.5 Habitat

1.5.1 Snow conditions: In 2022-23, snow depth was above average throughout the Yukon, although anecdotal observations in the Richardson Mountains reported low snow where caribou were distributed. Snow in the Delta region was lower than average but trended toward slightly higher than average near the Northwest Territories/Yukon border along the Dempster Highway. Most parts of the herd's winter range in the Yukon appear to be trending toward a deeper snowpack. In 2022-23, caribou were spread widely across their winter range from the Dalton Highway to west of Aklavik.

1.5.2 Major fires: In 2022, there were 35 fires in Alaska, 37 in Yukon, and none in the NWT within the range of the PCH. These fires burned a total of ~1405 km², which was above the five-year average of 982 km². Only three fires were considered large (>10,000 ha), including two at the extreme western edge of the PCH winter range.

1.5.3 Weather and Climate: There was no concerted monitoring for weather and climate in 2022-23.

1.5.4 Human activity: There were no additional detectable increases in human footprint in 2022-23. Potential projects in the range include oil and gas developments in the 1002 Lands and in the Eagle Plains area in addition to some mineral exploration at the southern edge of the herd's range in Yukon. A winter road was constructed into Old Crow in winter 2022-23.

2. MANAGEMENT ACTIONS

The Board recommends management actions consistent with the Green Zone, as outlined in the HMP (page 20) as follows:

- Harvest only the amount needed;
- Licensed hunters receive a maximum of two bull tags;
- Shooting will be accurate and wounded animals will be retrieved; and
- Parties will collect rigorous and verifiable harvest data, to be provided for the Annual Harvest Meeting.

2.1 Harvest only the amount needed: In the Green Zone, Indigenous harvest is not restricted. Cows and bulls may be harvested (HMP, page 13). Consistent with the HMP, the Board recommends no restrictions be placed on caribou harvesting by Indigenous hunters.

2.2 Licensed hunters receive a maximum of two bull tags: Management of licensed harvest is clearly laid out in the HMP. The Board, therefore, recommends no changes.

2.3 Shooting will be accurate and wounded animals will be retrieved: The Board recommends the continuation of hunter education and awareness programs conducted by the Parties as outlined in Essential Requirements of the Plan on pages 27 and 32 of the HMP. To this end, the Board intends to continue to coordinate with the Parties on communication and hunter education initiatives such as sight-in-your-rifle events.

2.4 Parties will collect rigorous and verifiable harvest data, to be provided for the Annual Harvest Meeting: Overall improvements are being made in community harvest reporting programs, although data submissions to the Board continue to be late. The Board reminds the Parties of the Milestones Calendar outlining dates and deliverables for harvest data submissions which were agreed to in the HMP IP (Appendix 8). Harvest data is due from YG and GNWT by June 1 and from First Nation and Inuvialuit Parties by July 15 each year. Harvester participation in these programs varies by community, and in some communities, it is known to be low. The Board continues to express concern regarding its ability to effectively recommend management actions in the absence of complete harvest data from all communities.

D. RECOMMENDATIONS REGARDING OTHER CONCERNS

1. **Continue to use the precautionary principle to manage for the many stressors affecting the herd, including changes in the herd's habitat caused by land use and climate change.**

During the 2024 Annual Harvest Meeting, most Parties and some members of the public highlighted the need to continue to manage the herd using a precautionary approach. Several other species and many other caribou herds are in dire condition across the north. The PCH is at a record high population size but faces threats from oil and gas development on the calving and post-calving grounds in addition to a rapidly changing environment. The Board recognizes the importance of ensuring we are prepared for all eventualities. If the status of the herd changes, the Board and communities may require additional information from Parties and the PCTC to effectively implement the HMP. The PCTC should begin to consider technical information needed to assist in stewarding the herd responsibly.

2. **Advise the Board of PCH outreach priorities for the development of communication materials.**

This recommendation was made in 2023; however, it continues to be outstanding. Previous comments have identified the need for education, communication, and outreach on a number of topics, with a particular focus on engaging youth. The Board will be reviewing its communication plan and prioritizing associated actions in the coming fiscal year. Parties and stakeholders are requested to advise the Board of their PCH outreach priorities and preferred methods of communication for the development of communication materials by **May 31, 2024**.

3. **Address identified gaps in harvest data collection.**

It is important that all user communities are represented in the harvest data collected. Accurate harvest data ensures rights are protected and community needs are considered during proposed development activities (e.g., oil and gas development in the Arctic National Wildlife Refuge). Gaps in harvest data continue to exist. While we recognize that there are capacity issues that have affected Parties' abilities to collect data, we recommend Parties continue to diligently prioritize addressing these gaps.