

Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2022

Porcupine Caribou Management Board Recommendations to the Parties February 2022

A. PREAMBLE

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the 12th Annual Harvest Meeting virtually on February 8 and 9, 2022. 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 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.

1.1.2 Estimated population based on computer program: A range of population estimates were 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. A calf survival rate that was reflective of the trend associated with the survival of calves to three weeks old and based on community/field worker observations was selected. Harvest data was not available from all user groups when the population model was utilized. To ensure harvest was accounted for, the model used the best information from harvesters in those communities combined with past documented harvest levels to estimate harvest. Differences in the estimate of harvest relative to actual harvest are believed to be small and unlikely to have affected the outcome of the population model estimates significantly. Model runs found the herd was stable or more likely increasing. A very small proportion of the worst-case scenarios indicate that the herd had declined. Based on this outcome, it is extremely likely that the herd is still well within the Green Zone and not undergoing any significant declines at this time.

1.1.3 Population trend: An increasing trend was apparent from 2010 to 2017 when the population increased from 169,000 to about 218,000. The average annual growth rate during this time period was 1.035 or 3.5%. Since 2017, there is no photocensus information to describe the trend of the herd; however, adult female survival has been relatively high in most years. As a result, even with lower parturition in 2019 and 2020, the population model indicates that it is likely the population size has remained at least stable and probably increased since the 2017 photocensus.

1.2 Harvest

1.2.1 Total harvest: Harvest data collection processes were improved by some Parties this reporting period. Harvest data for 2020-21 was available from all users prior to the Annual Harvest Meeting, except for the First Nation of Na-Cho Nyäk Dun and the Inuvialuit. Based on the reported and estimated information provided by the Parties, the total minimum Canadian harvest for 2020-21 was estimated to be 2,333 caribou. Data this year, as in past several years, is considered to be a minimum estimated harvest. Although not available prior to the Annual Harvest Meeting, Inuvialuit harvest in 2020-21 was significant with caribou so close to Aklavik; therefore, significant harvest was missed in our data collection this year. For this reason, we believe the estimate of 2,333 is low compared to what was actually harvested by all Parties in Canada. The Inuvialuit are reviewing the community-based monitoring program that was suspended in 2020 and will be looking to once again implement harvest data collection in coming years.

This 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 success in harvest reporting each year. Overall, improvements are being made in community harvest-reporting programs. The reported Canadian harvest is between 1% and 2% 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 unknown.

1.2.2 The percentage of cows in the harvest: Cows made up 47% of the harvest based on information available during the Annual Harvest Meeting. Generally, when caribou are readily available over the winter period, we see an increase in the relative proportion of cows in the harvest. The composition of the harvest this year was likely reflective of when the bulk of caribou were available for harvest (e.g. following the rut). This level of cow harvest is not concerning when the herd is high in the Green Zone and in particular when it is stable or increasing near its recent historic high.

1.2.3 Hunters' needs met: Caribou were readily available to the Delta communities. Since a large number of caribou were available near Aklavik during the winter of 2020-21, other communities were able to benefit from Aklavik's strong harvest sharing networks. Caribou were available to the community of Old Crow during the winter. No information was available from Arctic Borderlands Ecological Knowledge Society as their program was not operational during the reporting period.

1.3 Population dynamics

1.3.1 Survival: With the switch to satellite GPS collars, the PCTC can now provide annual estimates of adult female survival in addition to yearling female and adult bull survival. In 2020-21, adult female survival was high, at 95%. In recent years, this survival rate has been relatively high, averaging 89% between 2012 and 2021. When the adult female survival is greater than 85%, the herd is generally either stable or increasing. When this survival rate drops below this value, it is typically indicative of a declining herd. Yearling females had good survival (81%) as did the adult bulls in 2020-21 (68%). These are both near the average for survival.

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 85%. This is above the long-term average of 82%. This is above the last several years when we saw rates decline. Calf survival to the third week was slightly above average at 90% 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 May 30, which is earlier than the long-term average of June 2. Most calving occurred on the coastal plain in Alaska, in or immediately adjacent to the 1002 Lands of the Arctic National Wildlife Refuge.

1.3.4 Bull ratio: No surveys to determine the ratio of bulls to adult cows have occurred in recent years. In 2010, the rut count results showed 57 bulls per 100 cows. Rut counts were planned for 2012, 2013, and 2017, but they were unsuccessful due to herd mixing with the Central Arctic caribou, adverse weather conditions, and herd movements. It is expected with the current harvest rate that the bull ratio is likely similar to the 2010 survey.

1.4 Body Condition

1.4.1 Average backfat: In 2020-21, we had backfat measurements reported for 26 cows and 116 bulls, for a total of 142 caribou. Most of these caribou were harvested from December to March. It is anticipated that bulls measured in December would have substantially less fat than prior to the October rut. Harvesters' reports indicated that caribou increased their backfat as winter progressed. Female backfat averaged 1.3 cm while male backfat average 2.6 cm.

1.4.2 Hunter assessment: A total of 166 caribou, 30 cows and 136 bulls were reported in the caribou sampling initiative (CSI) program this year. In 2020-21, hunters reported that, on average, harvested caribou were in good shape for the time of year (cows averaged 2.8 and bulls averaged 3.0 out of a possible rank score of 4). Most samples came from Aklavik.

1.4.3 Health: There was no dedicated effort to collect information on the health of Porcupine Caribou this year, although information collected on the condition of caribou indicated harvested animals were in good shape. Other health screening, such as disease screening, continues and no major changes have been noted. Of the significant harvest of caribou near Aklavik, it was reported that only one harvested caribou appeared sick.

1.5 Habitat

1.5.1 Snow conditions: Caribou were distributed mostly in areas with deeper than average snow depths. In 2020-21, snow depth was above average in the Old Crow, Ogilvie, and Eagle region, whereas snow densities were below average throughout all regions. There appears to be a trend toward an increasing snow depth in the Eagle region in particular. GNWT reported drought conditions on the east side of the Richardson Mountains and on the entire coastal plain in Yukon. No major crust layers were detected throughout the range where March captures occurred.

1.5.2 Major fires: In 2020, there were six fires in Alaska and four in Yukon. Fires that did occur tended to be relatively small, meaning limited habitat was burned. Although 2021 data was not available, only one fire occurred in the core of the winter range south of the Porcupine River while numerous fires occurred on the eastern periphery of the herd's range within the Peel watershed. A new lichen data layer describing the percentage of cover of lichen in five-year increments starting in 1985 through to present is now available. This data layer will tell us more about the influence of fires on the herd's habitat.

1.5.3 Weather and Climate: The Gwich'in Renewable Resources Board reported that there was mixed weather throughout the year, with a warm winter and a cold spring. Weather and climate information specifically based on ABEKS data was not available.

1.5.4 Human activity: There were no additional detectable increases in human footprint in 2020-21. Potential projects in the range include oil and gas developments in the 1002 Lands and also in the Eagle Plains area, in addition to some mineral exploration at the southern edge of the herd's range in Yukon.

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, Aboriginal 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 Aboriginal 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 PCMB continue to be late. The Board would like to remind the Parties of the milestone dates and deliverables for harvest data submission provided in the HMP IP (Appendix 8). As a reminder, 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 is known to be low. The Board continues to express concern on its ability to effectively recommend management options in the absence of complete harvest data from all communities.

D. RECOMMENDATIONS REGARDING OTHER CONCERNS

1. Parties' technical staff meet this year to discuss harvest reporting programs.

Action item 3.2.3 of the HMP Implementation Plan (IP) requires a formal review the effectiveness of harvest reporting methods and programs. As discussed and acknowledged this year and at previous Annual Harvest Meetings, a number of

Parties continue to experience challenges with consistent and timely harvest data collection and reporting. It was therefore recommended at the 2021 Annual Harvest Meeting that PCMB coordinate a workshop-style meeting with subject-matter experts to discuss PCMA Parties' harvest reporting-related challenges, concerns, and successes. Recommendations regarding action item 3.2.2 in the HMP IP would be an anticipated outcome of the proposed workshop. This recommendation was initially made in 2021; however, it was not practical to hold a workshop due to community limitations and health concerns surrounding COVID-19.

2. Parties and stakeholders ensure staff are aware of HMP and IP commitments.

Parties and stakeholders have committed to various actions each year adhering to the Harvest Management Plan and Implementation Plan responsibilities. Staff changeovers and competing priorities in the communities make it challenging for key people to stay apprised of their respective organization's commitments. In addition, the Board recognizes that the COVID-19 pandemic continues to strain community capacity. The Board recommends that each Party and stakeholder routinely review the Milestones Calendar of Recurring Annual Activities in Appendix 8 of the IP in order to continue to make best efforts to meeting the commitments.

3. Promote public awareness of harvest-related issues.

Several comments were made at the Annual Harvest Meeting regarding the need for education, communication, and outreach on a number of topics. These include hunting practices; perceptions of community hunting; human/grizzly interactions; environmental and ethical impacts of high-powered vehicles; and collaboration of YG and GNWT enforcement officers. The Board recommends that Parties and stakeholders continue to work with the Board to collaborate on the development of appropriate materials and programs with the user communities.

4. Parties review the HMP and IP with respect to whether an evaluation should be completed.

An administrative review of the IP was completed in 2015-16 and a full review was initially scheduled for 2021 to evaluate the effectiveness and need for any revisions of the HMP and IP, in accordance with IP action item 3.3.1.

The Board recommends that Parties discuss this topic at a future Annual Harvest Meeting. While it may not be necessary to make any adjustments to the HMP and/or IP, careful consideration should be given by the Parties whether the HMP and IP are meeting the needs of individual Parties and user groups and whether any adjustments may be required.