

Porcupine Caribou Harvest Management Plan Annual Harvest Meeting

Porcupine Caribou Management Board Recommendations to the Parties February 2020

A. PREAMBLE

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the ninth Annual Harvest Meeting (AHM) on February 11 and 12, 2020, in Dawson City, Yukon. 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 that:

- 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 before 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: We did not generate an estimate this year as there is a 2017 estimate of herd size and all other indicators seem to be indicating the herd has not decreased. In the absence of a photocensus, this information is one of the best science-based tools to help understand how the herd is doing as it combines many of the measures that the Porcupine Caribou Technical Committee (PCTC) monitors and helps the PCTC understand whether or not the herd had a good year. The harvest data is not being provided in time to generate a population estimate for the AHM.

1.1.3 Population trend: An increasing trend is 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%.

1.2 Harvest

1.2.1 Total harvest: The PCTC was able to provide a total harvest for the herd in Canada with data submitted by all Parties except Vuntut Gwitchin. Based on the reported and estimated information provided by the Parties, the total minimum Canadian harvest for 2018-19 was estimated to be 928 caribou with a margin of error of 192 (90% CI 736-1,120). Data this year, as in the past several years, is considered to be a minimum estimated harvest. The Gwich'in Renewable Resources Board continues to work on implementing their harvest data collection and have attempted a few new approaches recently to improve the level of engagement with mixed results. The Inuvialuit Community-Based Monitoring Program continues to collect harvest data in all Inuvialuit communities and this year provided an estimate of harvest along with a variance. Tr'ondek Hwech'in and Na-cho Nyak Dun are using a voluntary survey approach to harvest data collection and continue to work toward improving their collection. To date, we have not received harvest data from Vuntut Gwitchin although we are aware that harvest did occur during the reporting period. For these reasons, we believe the estimate of 928 is low compared to what was actually harvested by all Parties in Canada.

This total estimated harvest has fluctuated since 2010 when the HMP was implemented. Annual variation in harvest is mostly 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, although data submissions to the PCMB continue to be late. Harvester participation in these programs varies by community and in some communities is known to be low. The minimum Canadian harvest is <1% of the 2017 population estimate. It is not anticipated that the actual harvest exceeded 1% of the 2017 population estimate this year. Based on the information provided, current Canadian harvest is well within sustainable harvest limits.

1.2.2 The percentage of cows in the harvest: Cows made up 19% (172 of 928) of the harvest, which is a decrease over the previous three years which ranged between 33 and 38% of the total harvest. The composition of the harvest this year was likely reflective of when the bulk of caribou were available for harvest (e.g. June-September). This level of cow harvest is not concerning when the herd is in the Green zone and in particular when the herd has increased and likely exceeded recent historic population highs.

1.2.3 Hunters' needs met: Arctic Borderlands Ecological Knowledge Co-op (ABEKC) data reported from fall 2018 to fall 2019, which is inconsistent with the HMP's reporting window. ABEKC data indicated that half of all harvesters met their needs; however, this varied considerably by community. Aklavik (Inuvialuit) largely met their needs, which was confirmed during the AHM. Old Crow also largely met its needs. Just over half of Tsiigehtchic interviewees largely met their needs while less than half of individuals in the remaining communities, including Aklavik (Gwich'in), met theirs. Data was not available for communities in Alaska; however, caribou were readily available there while most communities did not have caribou nearby.

1.3 Population dynamics

1.3.1 Adult cow survival: Adult survival was only available up to 2017 although the PCTC indicated updates are pending. Survival from 2012 to 2017 was generally high (87% or higher) with the exception of poor survival in 2016 (80%). These results are consistent with the increases we have measured during photocensuses 2013 and 2017. Adult bull survival ranged between 70% and 79%, with 2017 survival equalling 78.5%. We also looked at yearling female survival for 2017 and found 94%, which mirrors the high survival of adult cows in that year. It should be noted that our confidence in the adult bull and yearling female survival is lower than that of adult females due to the much smaller sample size.

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 81%. This is near the five-year average of 84% and the long-term average of 82%. Recent rates have been relatively high. In the future, we will monitor this rate, and if consecutive years of low ratios are observed, concern may be warranted. Calf survival at three weeks was higher than average at 94% as compared to the long-term average of 87%.

1.3.3 Peak of calving: Surveys were conducted May 31 to June 8, and 32 of 37 collared cows had a calf at heel, and indicated a peak of calving took place on June 4. The long-term average peak of calving date is June 1. Concentrated calving occurred on the coastal plain in Alaska on the 1002 Lands of the Arctic National Wildlife Refuge or immediately adjacent to 1002 Lands. Calving was wide-spread throughout the region.

1.3.4 Bull ratio: Several attempts to complete this survey starting in 2010 have largely been unsuccessful as a result of fast herd movements in remote areas, difficult logistics, poor weather, and in one instance, mixing with the Central Arctic Herd. The best result was achieved in 2010, finding a healthy 57 bulls per 100 cows.

1.4 Body Condition

1.4.1 Average backfat: We were unable to acquire samples during 2018-19 due to the herd's location and limited harvest. As a result, we are unable to report on this measure. In 2019-20 we were able to acquire samples but we will endeavour to increase our work with harvesters to obtain more samples in future.

1.4.2 Hunter assessment: We were unable to acquire samples during 2018-19 due to the herd's location and limited harvest. As a result, we are unable to report on this measure. In 2019-20 we were able to acquire samples but we will endeavour to increase our work with harvesters to obtain more samples in future.

1.4.3 Health: ABEKC data indicate that across seasons caribou body condition was average, while fall body condition in 2019 was lower than average. Slightly more abnormalities were reported over the past year; however, the trends are unclear based on information presented.

1.5 Habitat

1.5.1 Snow conditions: In 2018-19, snow depth was low in the Ogilvie region where some groups of caribou were located most of the winter. Snow was deeper and denser than average in the Eagle and Old Crow regions. Most of the herd over-wintered in Alaska. Although no data for Alaska was available, field crews noted that ridges where most caribou were located were relatively snow-free although the valleys between those ridges had deep and variable snow.

1.5.2 Major fires: In 2018, eight fires occurred, with only one greater than 10,000 ha in size. Total area burned in the herd's range since 1960 is 17% of the range. No major fires occurred in 2019.

1.5.3 Weather and Climate: No additional information was provided.

1.5.4 Human activity: There were no additional detectable increases in human footprint in 2018-19. Legislative changes in the United States could result in seismic exploration followed by other oil and gas activities on the 1002 Lands in the near future.

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 before 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 as 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 for harvest data submission provided in the HMP IP (Appendix 8). 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. Encourage hunter participation in programs:** Low hunter participation in some communities reduces confidence in harvest estimates and trend in caribou body condition. The Board recommends that Parties encourage their hunters to participate in harvest data collection and body-condition monitoring programs. The Board is willing to extend further support upon request.
- 2. Education initiatives:** The Board recommends that Parties continue with education initiatives like sight-in-your-rifle events, cultural/education camps, harvester workshops, and educating hunters on harvesting during the rut. In addition, topics to focus on could include bear-awareness and off-road vehicle use. The Board recommends building upon existing successes (e.g. First Hunt programs) where possible. The Board recommends that Parties explore opportunities to translate educational materials into local First Nation and Inuvialuit languages, as appropriate.
- 3. Outstanding HMP Implementation Plan activities:** Since the *Porcupine Caribou Herd Canadian Range-Wide Native User Agreement* was finalized in March 2019, the Board recommends that the following outstanding HMP Implementation Plan activities be addressed:
 - a. Activity 2.2.3: Develop a Yukon First Nations Yukon Government Agreement that addresses, at minimum, the allocation of the Annual Allowable Harvest in the orange zone between licensed and native users; and
 - b. Activity 2.2.5: Develop an NWT/Yukon/PCA administrative arrangement to recognize a range-wide Porcupine Caribou Herd tag.