

Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2018

Porcupine Caribou Management Board Recommendations to the Parties February 2018

A. PREAMBLE

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the eighth Annual Harvest Meeting (AHM) on February 13 and 14, 2018 in Dawson City, Yukon. The Board convened the meeting to gather input and 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 a computer estimate this year as there is a 2017 estimate of herd size. 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 of the Parties; however, there is still some data missing. Based on the reported and estimated information provided by the Parties, the total minimum Canadian harvest for 2016-17 was estimated to be 1,083 caribou, with a margin of error of 1,367. Data this year, as in the past several years, are considered to be a minimum estimated harvest. Inuvialuit continue to implement their Community-Based Monitoring Project to collect harvest data for Aklavik, Inuvik and Tuktoyaktuk; however, participation rates and sampling methodology require further development to provide an estimate rather than a minimum harvest. Data collection in Inuvik continues to be challenging for both Inuvialuit and Gwich'in. For these reasons, we believe the estimate of 1,083 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 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, 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 not a major concern.

1.2.2 The percentage of cows in the harvest: Cows made up 33% (354 cows of 1,083) of the harvest, which is a small decrease over the previous two years of harvest, which were both ~38%. The composition of the harvest this year was likely reflective of when the bulk of caribou were available for harvest (e.g. November-December). 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 indicated 34% of respondents range-wide met their needs between November 2016 and October 2017. This is the lowest result since 2010. The herd over this period was largely unavailable for most communities. For example, Arctic Village had large numbers of caribou available throughout winter, and as a result, 89% of those respondents met their needs. Conversely, only 5% of Fort McPherson respondents met their needs.

1.3 Population dynamics

1.3.1 Adult cow survival: The PCTC reported that no estimate of adult survival was readily available for the meeting, although preliminary analyses indicated survival generally at or exceeding 85%. This is comparable to data from 2011-12, which found 87.9% of cows survived, and higher than the 2003 to 2006 period when survival was as low as 82.5%. The herd's population trend is sensitive to small changes in cow survival. Detection of significant statistical trends will only occur with large changes in survival; however, identification of changes in this estimate should be possible. The PCTC is anticipating the addition of annual adult female survival estimates starting next year, including estimates for the past several years.

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 88%. This is above the five-year average of 83% and the long-term average of 81%, and it is at the upper end of historically observed values for this measure. This rate will continue to be monitored, and if consecutive years of low ratios are observed, concern may be warranted.

1.3.3 Peak of calving: Surveys were conducted May 26 to June 7, and 32 of 37 collared cows had a calf at heel. Surveys indicated a peak of calving took place on June 3. The long-term average peak of calving date is June 1. Most calving occurred on the coastal plain in Alaska on the 1002 Lands of the Arctic National Wildlife Refuge or immediately adjacent to the 1002 Lands.

1.3.4 Bull ratio: A survey was attempted by Alaska Department of Fish and Game staff in mid-October 2017. The majority of the herd was located between Arctic Village, AK and the Dalton Highway, AK. The survey was unsuccessful due to poor weather. In 2010, the rut count results showed 57 bulls per 100 cows. Another rut count was conducted in 2012 but results were biased and unreliable. The survey was cancelled in 2013 due to PCH mixing with the Central Arctic caribou herd.

1.4 Body Condition

1.4.1 Average backfat: In 2016-17, backfat measurements were reported for 78 cows and 31 bulls. Average male backfat was 0.3 cm; however, most of those caribou were measured in early November, which is not directly comparable to previous measures taken in August and September. It is anticipated that bulls measured in November would have substantially less fat than prior to the October rut. Female backfat, as measured in November, averaged 1.4 cm. Differences in male and female backfat are attributed to the different times of year the samples were taken.

1.4.2 Hunter assessment: There were 71 cows and 30 bulls reported in the caribou sampling initiative (CSI) program this year. In 2016-17, hunters reported that all harvested caribou were generally in very good shape for the time of year (cows averaged 3.1 and bulls averaged 2.9). The increase in samples from NT describing cow condition continues to increase our understanding of caribou condition.

1.4.3 Health: ABEKC data from November 2016 to October 2017 indicates winter and spring body condition was fair to good while summer and fall body condition were good. Only the past three years of data were presented in ABEKC data, making long-term trends difficult to interpret. More abnormalities were reported in 2016-17; however, it is unclear what the trends are based on information presented.

1.5 Habitat

1.5.1 Snow conditions: In 2016-17, snow depth was above average in the Eagle region but slightly below average in Ogilvie and Old Crow, with snow densities being average through all regions. Recent data do not show any significant trends or large deviations from long-term averages. Most caribou spent the winter in areas with slightly below-average snowfall. In addition, a large proportion of caribou wintered in Alaska where data was not available. However, indications from field crews were that snow was average or possibly less than average. Ice crusts were not detected from field crews.

1.5.2 Major fires: In 2016, only nine fires occurred and only one fire was larger than 10,000 acres. 2017 had the largest number of fires recorded in a single year. However, most of those burns were <10,000 ha in size, and the total area burned was the third largest after 2004 and 2005. Fires in 2017 increased the total area burned in the herd's range since 1960 to 17% of the range, which is an overall increase of 2% of range burned that had not been burned since before 1960. Several large fires occurred in proximity to harvest areas along the Dempster Highway and Old Crow during summer 2017.

1.5.3 Weather and Climate: Based on ABEKC data, 56% of Arctic Village respondents indicated less snow than normal, while Old Crow was split between more or less snow. Icing events did not vary greatly between communities and was relatively low. Data since 2013 appear to be indicating less snow on average across the range.

1.5.4 Human activity: There were no additional detectable increases in human footprint in 2016-17. Legislative changes in the United States could result in seismic exploration followed by other oil and gas activities in the 1002 Lands in the near future. Gwich'in

Renewable Resources Board surveys indicated that seismic lines are being used by caribou and predators, and there is some concern about easier access for hunters. Newer seismic lines appear to be used more readily than older grown-over seismic lines.

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, it 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. **Native User Agreements:** The Board is encouraged by progress toward the development of the Native User Agreements. The Board confirms its commitment to continue its assist in facilitating the development of these agreements and recommends that Parties complete these agreements as a priority.
2. **Sale, Trade and Barter Guidelines:** The Board developed PCH Sale, Trade and Barter Guidelines in 2011 based on consultation with the Parties and stakeholders. The Board has requested feedback from First Nation and Inuvialuit Parties regarding their implementation in PCH user communities. The Board recognizes this issue remains

outstanding and recommends that Parties report back to the PCMB prior to the 2019 AHM.

- 3. 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.
- 4. Education initiatives:** The Board recommends that Parties continue with education initiatives such as sight-in-your-rifle events, cultural education camps, harvester workshops, and educating hunters on harvesting during the rut. The Board recommends building upon existing successes (e.g., First Hunt programs) where possible.