

# **Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2019**

## **Porcupine Caribou Management Board Recommendations to the Parties March 2019**

### **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 12 and 13, 2019 in Inuvik, Northwest Territories. 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:** An estimate was not generated this year as there was 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 approximately 169,000 to 218,000. The average annual growth rate during this time period was 1.037 or 3.7%.

### 1.2 Harvest

**1.2.1 Total harvest:** Based on the reported and estimated information provided by all of the Parties prior to the AHM, the total minimum Canadian harvest for 2017-18 was estimated to be 845 caribou with a margin of error of 201. Estimated harvest this year, as in the past several years, is considered to be low due to low survey participation rates. Data collection in Inuvik continues to be challenging for both Inuvialuit and Gwich'in. Several communities continue to collect minimum-count data and are therefore unable to provide estimates of their harvest. For these reasons, the estimate of 845 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 primarily 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. This year, while submissions were received prior to the AHM, most Parties did not meet the timeline for submissions. 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 concern.

**1.2.2 The percentage of cows in the harvest:** The proportion of female caribou harvested within the reporting period was 19% and is near the average for harvest reporting since 2011 and at the low end of the range from recent years where estimates ranged up to 39%. The composition of the harvest this year was likely reflective of when the bulk of caribou were available for harvest (e.g. August and 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 Society (ABEKS) data indicated that overall less than 30% of respondents in Canada met their needs in between November 2017 and October 2018. This appears to be the lowest result since 2010 although it was challenging to interpret some of the data. The herd over this period was largely unavailable for most communities. Sixty percent of Aklavik Inuvialuit were able to meet their needs, largely through harvest along the coast in late summer, while only approximately 5% of Inuvik Gwich'in met their needs.

### 1.3 Population dynamics

**1.3.1 Adult cow survival:** Adult cow survival for 2017 was estimated to be 95.4%. This is higher than the 2012 to 2017 average of 87.9% and 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.

**1.3.2 Calf birth rate and calf survival:** The parturition rate was 88% for adult cows greater than or equal to four years of age. This is above the five-year average of 83% and the long-term average of 81%, and it is at the upper end of historic 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 conducted May 27 to June 7, 2018 found 21 of 39 collared parturient cows ( $\geq 3$  years) had a calf at heel. Peak of calving, when at least half of calves are born, took place on June 6. The peak of calving was five days later than average (June 1) but poor weather during the survey may have biased the estimate. Most calving occurred in the foothills between Kavik River in Alaska and the Blow River in Yukon.

**1.3.4 Bull ratio:** No recent rut composition survey has been completed for the herd due to logistical challenges of carrying out the survey. The most recent and reliable survey was completed in 2010. Results then found 57 bulls per 100 cows. Attempts have been made in 2012, 2013 and 2017.

### 1.4 Body Condition

**1.4.1 Average backfat:** In 2017-18, backfat measurements were reported from a small sample of 15 bulls. Average male backfat was 1.8 cm; however, most of these caribou were measured in early winter, 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.

**1.4.2 Hunter assessment:** There were 15 bulls reported in the caribou sampling initiative (CSI) program this year. In 2017-18, hunters reported that all harvested caribou were generally in very good shape for the time of year (bulls averaged an index value of 3.2 out of 4). This is above the five-year average index value of 2.9.

**1.4.3 Health:** ABEKS data from November 2017 to October 2018 indicates winter and spring body condition were higher than the 2010 to 2017 average, and summer and fall body condition were slightly lower than the 2010 to 2017 average. Overall body condition appears to be good. Some abnormalities were reported in 2017-18; however, overall prevalence is low.

## **1.5 Habitat**

**1.5.1 Snow conditions:** In 2017-18, snow depth was above average in the Eagle region but near average in the Ogilvie and Old Crow regions. Most data do not show significant trends or large deviations from long-term averages; however, the Eagle region does appear to have an increasing trend toward a deeper snow pack over the past decade as compared to the previous decade. Anecdotally, caribou were observed wintering in areas with relatively shallow snow packs with many caribou using wind-blown mountain ridges in Alaska. Snowfall on the Yukon North Slope came late in the season with reports of between one to two feet on the coastal plain in May-June.

**1.5.2 Major fires:** On the PCH range, 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 the summer of 2017. Mapped fire data for the 2018 season are not yet publicly available although we are aware that there were no significant fire events.

**1.5.3 Weather and Climate:** No data were available from ABEKS this year. IGC noted there was rain in January, it was a cold summer with not a lot of bugs, and there was ice until the May long weekend and snow all summer.

**1.5.4 Human activity:** There were no additional detectable increases in human footprint in 2017-18. Legislative changes in the United States could result in seismic exploration followed by other oil and gas activities in 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. This year, while submissions were received prior to the AHM, most Parties did not meet the timeline for submissions. The Board once again reminds 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 about 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 help in facilitating the development of these agreements and recommends that Parties complete these agreements.
- 2. 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 encourages the Parties to have PCH harvesters identified separately from their overall harvester list to improve the accuracy of the harvest data collection. The Board is willing to extend further support upon request.
- 3. 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. The Board recommends building upon existing successes (e.g. First Hunt) where possible, with a focus on youth engagement.