

# **Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2012**

## **Porcupine Caribou Management Board Recommendations to the Parties February 21, 2012**

### **A. PREAMBLE**

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the second Annual Harvest Meeting (AHM) from February 7 to 9, 2012 in Dawson City, Yukon. The Board convened a three-day 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. Included are other related concerns raised during the meeting and the recommendations from the Board regarding those concerns. Also included is a table of activities under the HMP Implementation Plan and the Board's current understanding of the status of those activities.

### **B. RECOMMENDED HARVEST MANAGEMENT ZONE AND HARVEST MANAGEMENT ACTIONS**

The Board recommends that the Porcupine Caribou Herd 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 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 (see HMP, page 19). The following provides an overview of the available information used to support the Board's deliberations regarding the harvest management assessment, and 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:** The primary consideration is the population estimate. A photocensus was successfully conducted in 2010, the estimate being 169,000 – well above the lower threshold for the Green Zone.

The next photocensus is scheduled for summer 2012.

**1.1.2 Estimated population based on computer program:** The Caribou Estimator has not been completed, so a computer-generated population estimate was not considered in this year's analysis.

**1.1.3 Population trend:** Based on the Alaskans' report, the herd size has increased since the last photocensus in 2001. While the recent photocensus is higher than the one completed in 2001, there is insufficient information to determine the current trend in the population.

### **1.2 Harvest**

**1.2.1 Total harvest:** The Porcupine Caribou Technical Committee (PCTC) was unable to estimate a total harvest for the herd in Canada with data submitted by the Parties; however, significant progress was made toward this goal again this year. Based on the information provided by the all the Parties at the AHM, harvest for 2010-11 was roughly calculated to be 1,720 (see attached Harvest Data Summary). This is a lower harvest than what was historically believed to be the total harvest. It is understood that low participation in a number of community harvest-reporting programs affects the confidence of the harvest estimate.

Lower hunting activity was primarily due to caribou distribution, with the majority of the herd overwintering in the Alaska portion of the range. It was not possible to calculate an accurate harvest rate as the Board does not have an estimate of herd size for 2011 or an accurate estimate of total harvest. However, based on the information provided and the percentage of cows in the harvest (see IP Activity 1.2.2), it was felt current Canadian harvest is not a major concern.

**1.2.2 The percentage of cows in the harvest:** Results from harvest data reporting indicate harvesters are reducing their cow harvest and are selecting primarily bulls. The percentage of cows in the reported harvest is approximately 9.5 percent. This is much lower than historical estimates (>50% HMP pg. 24).

**1.2.3 Hunters' needs met:** For future AHMs, the PCTC intends to use data from the Arctic Borderlands Ecological Knowledge Co-op to determine whether or not hunters' needs were met. However, this information was not available for consideration by the Board prior to this year's AHM.

The Parties indicate that many hunters have not met their needs for caribou over the past year. Lack of caribou availability lowered harvest opportunities; many hunters shifted to harvesting other species.

### **1.3 Population dynamics**

**1.3.1 Adult cow survival:** The PCTC reported that the survival estimate between 2003 and 2009, based on collared caribou, was similar to the estimate that was done when the herd began to decline, which was lower than when the herd was increasing. Because the herd is so sensitive to small changes in cow survival and our current monitoring program will detect only large changes, this may not be the most sensitive indicator.

**1.3.2 Calf birth rate:** The PCTC reported a slightly higher than average calf birth rate in 2011 (0.86 in 2011, compared to the five-year average of 0.83).

**1.3.3 Calf survival:** Early calf survival (July calf-to-cow ratio) in 2010 was 65 calves per 100 cows, higher than the long-term average of 58. In July 2011, this ratio was the lowest on record (41 calves per 100 cows). Interestingly, the Aklavik Hunters and Trappers Committee noted they saw a lot of calves in the fall of 2011, but there was minimal caribou seen overall.

Survival of calves to nine months of age (born in 2009, counted in March 2010) was the lowest on record (19 calves per 100 cows compared to the long-term average of 36). For calves born in 2010, the composition count to measure calf survival to nine months was not possible due to overlaps of Porcupine caribou with other herds on the winter range. Survival of calves born in 2011 will be calculated in March 2012 if the caribou distribution permits.

**1.3.4 Peak of calving:** The PCTC reported that 2011 peak of calving was slightly early (May 30 compared to five-year mean of June 1), with the majority of cows calving in Ivvavik National Park again this year.

**1.3.5 Bull ratio:** In 2010 the rut count results showed 57 bulls per 100 cows. The PCTC plans to conduct a composition count to provide a bull-to-cow ratio in each year a population estimate by photocensus is done (2012).

### **1.4 Body Condition**

**1.4.1 Average backfat:** The analysis of data from the Caribou Sampling Initiative (CSI), based on a low sample size, showed 3.2 cm of backfat in bulls over the year (all samples were from the fall).

**1.4.2 Hunter assessment:** In the CSI program, the hunter assessment of the condition of male caribou was very good (averaged 3.5 on a scale of 1 to 4). All samples were from fall 2010. The sample size is low, therefore lowering confidence in the results.

**1.4.3 Health:** For future AHMs, the PCTC intends to use data from the Arctic Borderlands Ecological Knowledge Co-op. However, this information was not available for consideration by the Board prior to this year's AHM. No abnormalities were reported by the Parties.

## **1.5 Habitat**

**1.5.1 Snow conditions:** In 2011, snow depth was slightly deeper than normal.

**1.5.2 Major fires:** No major fires were reported in the range in 2011.

**1.5.3 Weather events:** Some Parties reported observations of significant rainfall during the summer/fall months of 2011, resulting in higher-than-normal water levels.

For future AHMs, the PCTC intends to use data from the Arctic Borderlands Ecological Knowledge Co-op as well as information compiled by the CircumArctic Rangifer Monitoring and Assessment Network. However, this information was not available for consideration by the Board prior to this year's AHM.

**1.5.4 Human activity:** Numerous concerns were raised regarding human activity in the range of the herd (e.g. fall fuel haul to Old Crow; oil and gas activity; mining exploration; fall freight truck traffic on the Dempster; research and tourism activity). PCMB will further discuss the monitoring of human activity in the 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 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 12). Consistent with the HMP, the Board recommends no restrictions be placed on caribou harvesting by Aboriginal hunters.

Some Parties expressed concern regarding a continued bull-dominated harvest; namely, that this practice reduces the ratio of bulls to cows to a level where breeding is disrupted, and selectively removing the fittest bulls from the herd may affect the population. To address these concerns, the Board recommends that the PCTC continue to monitor the sex ratio of the herd. The Board heard

submissions that harvesters are not only selecting the oldest and fittest bulls, they are also selecting young bulls. The Board is, therefore, persuaded that there is currently minimal risk of removing the fittest bulls from the population. Although cows may be taken under the recommended management actions, the Board continues to encourage a bull-dominated harvest where possible for the following reasons:

- As noted above, the population trend of the herd is uncertain; and
- Harvesting bulls has less of an impact on the herd than harvesting cows (see HMP, page 24).

**2.2 Licensed hunters receive a maximum of two bull tags:** Management of licensed harvest is clearly laid out in the HMP and the Parties made the relevant changes to regulations last year, as recommended by the PCMB. 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 work in a coordinating role with the Parties on communication initiatives.

**2.4 Parties will collect rigorous and verifiable harvest data, to be provided for the Annual Harvest Meeting:** The Board was again encouraged with the significant progress in harvest data collection and reporting. All Parties submitted some harvest data to the Board. As collecting harvest data under the HMP is still a new activity, it is understandable that there will be challenges to overcome to ensure the data is rigorous, verifiable, analyzed and reported consistently. All Parties reiterated their commitment under the HMP (see IP Activity 1.1.2) to collect and report harvest data. The Board will coordinate another workshop for harvest data program administrators to facilitate consistent collection and timely reporting among user communities.

## **D. RECOMMENDATIONS REGARDING OTHER CONCERNS**

**1. Incorporate local and traditional knowledge into process:** The Board values both scientific and local and traditional knowledge to inform its deliberations. The Board notes a lack of local and traditional knowledge available for consideration during this process; therefore, user communities and appropriate Parties are urged to provide more local and traditional knowledge for the Board to consider in its recommendations (see Appendix B to AHM Operating Procedures). The Board developed a suggested outline for Parties to use to submit information prior to the AHM.

**2. Coordinate workshop on computer modelling:** The Board still considers computer models (herd size estimator, and risk estimator) to be two of many valuable risk-management and decision-support tools. Once the new computer models have been completed, the Board will coordinate a workshop with Parties

to review the models and their input data. The workshop will discuss the applications and limitations of computer models, as well as the need for accurate harvest and biological input data. The computer models will be made available following the workshop.

The Board will work on developing information materials clarifying the role of computer models.

**3. Research caribou immigration and emigration:** Traditional knowledge states that the exchange of caribou between herds and ranges can significantly affect the results of a herd's population estimate. Concern was raised about the PCH photocensus not adequately considering caribou immigration and emigration. The Board recommends research into caribou movement as it relates to estimating the PCH size either by photocensus or computer modelling.

**4. Undertake consistent enforcement efforts in key harvest areas:** Concern was raised regarding inconsistency in field monitoring efforts by enforcement personnel. The Board recommends that enforcement effort is consistent in key harvest areas throughout the Canadian range.

**5. Summarize historical harvest data collection efforts:** The Board recommends that a report be completed that includes all known historic harvest data within the range of the Porcupine Caribou Herd.

**6. Encourage hunter participation in programs:** To date, low hunter participation in some communities has resulted in decreased confidence in harvest estimates and trends in caribou body condition. The Board recommends that Parties encourage their hunters to participate in harvest-data collection and body-condition monitoring programs.

**7. Monitoring human activities in range of the herd:** The Board supports monitoring of indicators related to human activities. Further discussion is required on the potential indicators and where this data could come from.

**8. Address safety concerns related to increased grizzly bear/hunter interactions:** The Board heard concerns regarding an increase in human/bear interactions, resulting in hunter safety issues. The Board recommends that the Parties discuss how to address this matter.