

# **Porcupine Caribou Harvest Management Plan Annual Harvest Meeting 2013**

## **Porcupine Caribou Management Board Recommendations to the Parties February 2013**

### **A. PREAMBLE**

In accordance with the Harvest Management Plan (HMP), the Porcupine Caribou Management Board (Board) held the third Annual Harvest Meeting (AHM) February 12 and 13, 2013 in Inuvik, Northwest Territories. The Board convened a two-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. 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 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 (survey):** The primary consideration is the population estimate. A photocensus (survey) was successfully conducted in 2010, the estimate being 169,000 – well above the lower threshold for the Green Zone.

A photocensus (survey) was attempted in 2012; however, it was unsuccessful due to lack of herd aggregation. It is very unlikely that the herd size has dropped below the threshold of 115,000 caribou since 2010. The next photocensus (survey) is scheduled for summer 2013.

**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:** 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 able to estimate a total harvest for the herd in Canada with data submitted by the Parties; however, there is still some data missing. Based on the information provided by the Parties, Canadian harvest for 2011-12 was estimated by communities to be 1,850 caribou, not including Inuvik or Tuktoyatuk Inuvialuit data. Low participation in a number of community harvest-reporting programs affects the confidence of the harvest estimate. This estimated harvest is approximately one percent of the 2010 population estimate.

Low winter hunting activity was primarily due to caribou distribution, with the majority of the herd overwintering in the Alaska portion of the range. Based on the information provided 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. Cows made up 5.6 percent of the estimated harvest.

**1.2.3 Hunters' needs met:** Arctic Borderlands Ecological Knowledge Co-op data indicates the majority of respondents met their needs in 2010 and 2011. Data from 2012 interviews was not available prior to the AHM; however, 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 there was no estimate of adult survival estimates in 2012. 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 best indicator.

**1.3.2 Calf birth rate and early calf survival:** 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). No birth-rate or early calf survival estimate was available in 2012 as a result of field crews being unable to complete the survey due to poor weather conditions and poor visibility of calves during the survey.

**1.3.3 Calf survival to nine months:** Survival of calves born in 2011 was not calculated due to mixing of the herds in March 2012. Survival of calves born in 2012 will be calculated in March 2013.

**1.3.4 Peak of calving:** The PCTC reported that 2012 peak of calving was not obtained (calf birth rate and early survival surveys were not possible). The majority of cows made it to the Yukon coastal plain for calving in 2012 (Ivvavik National Park and east of the Babbage) which usually means that calving was not significantly delayed; however that is an assumption.

**1.3.5 Bull ratio:** In 2010 the rut count results showed 57 bulls per 100 cows. Another rut count was conducted in 2012 but results are not yet available. Another rut count is planned for 2013 [a rut count is scheduled for years which a photo census (survey) is scheduled].

### **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 an average of 3.4 cm of backfat in bulls over the year (samples are not separated into seasons; most samples are from the fall). This is slightly higher than the five-year average, which is 3.1 cm.

**1.4.2 Hunter assessment:** Hunters participating in the CSI program reported that harvested caribou are generally in good shape. The condition of harvested animals was quite variable, depending on the season of the harvest. The sample size continues to be low, and therefore harvester participation should be encouraged.

**1.4.3 Health:** Arctic Borderlands Ecological Knowledge Co-op data from 2010 and 2011 indicate a slight increase in body condition (more caribou reported by hunters as good shape) and slight increase in abnormalities. The small sample size and limited dataset available make it difficult to identify a trend. Data from 2012 was not available yet.

## **1.5 Habitat**

**1.5.1 Snow conditions:** Recent data don't show any trends or large deviations from long-term averages.

**1.5.2 Major fires:** No major fires were reported in the range in 2011. Mapped data from 2012 were not available yet; however, communities indicate there were no large fires.

**1.5.3 Weather and Climate:** Based on ABEKC data, 2010 had more icing and snow events compared to 2011. Interviews from 2012 are not yet available.

CircumArctic Rangifer Monitoring and Assessment Network (CARMA) assessed the patterns of climate from 1970 to 2010 to look at the role of climate in herd productivity. Results indicate climate indicators were good during the increase phase in the 1980s, least favourable in the 1990s when the herd declined, and improved again in the 2000s when the herd numbers recovered.

For future AHM meetings, the PCTC intends to incorporate all historic data from the Arctic Borderlands Ecological Knowledge Co-op as well as recent information compiled by the CARMA Network.

**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; research and tourism activity). As part of the Cumulative Effects (CE) project, a Resource Selection Function analysis done with winter range satellite collar data from 1985 to 2012 indicates a strong avoidance of the Dempster and weak avoidance of low-use human features (i.e. seismic lines, winter road, well sites). PCMB will further discuss the monitoring of human activity in the future based on the results of CE project.

## **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. 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 and hunter education initiatives including promoting the use of rifle scopes while hunting.

**2.4 Parties will collect rigorous and verifiable harvest data, to be provided for the Annual Harvest Meeting:** The Board was 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 relatively new activity for some Parties, 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 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 hunter and traditional knowledge into process:** The Board values both scientific and local hunter and traditional knowledge to inform its deliberations. The Board notes a lack of local hunter and traditional knowledge available for consideration during this process; therefore, user communities and appropriate Parties are urged to provide more local hunter and traditional knowledge for the Board to consider in its recommendations (see Appendix B to AHM Operating Procedures). The Board encourages Parties to use the suggested outline forwarded by the Board to provide local hunter and traditional

knowledge to be considered at the AHM. The Board appreciates that some Parties have brought a small delegation of community members to the AHMs who provide traditional knowledge.

**2. Coordinate workshop on computer modelling:** The Board considers computer models (population estimator, and risk-management analyzer) to be among the 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 its input data. The workshop will discuss the applications and limitations of computer models, as well as the need for accurate harvest data. The computer models will be made available following the workshop. The Board anticipated holding the workshop in 2012; however, the models were not available.

Once the computer models are complete, the Board will work on developing information materials clarifying the role of computer models in decision making.

**3. Finalize summary of historical harvest data collection efforts:** The Board recommends that work continues to complete the report that includes all known historic harvest data within the range of the Porcupine Caribou Herd. This information will be a key component for the Native User Agreements and discussions related to Total Allowable Harvest.

**4. Develop Native User Agreements:** Following completion of the historical harvest data report, the Board recommends that relevant Parties work toward the timely development of Native User Agreements, pursuant to the HMP Implementation Plan. The Board has been requested to assist with the coordination of a meeting of the appropriate Parties to discuss the development of the Native User Agreements.

**5. 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.

**6. Monitoring human activities in range of the herd:** The Board recommends that the responsible Parties provide measures of human disturbance annually to include in our status report (e.g. linear disturbance, number of new well sites, number of new kilometres of road, volume of Dempster Highway traffic, changes in mineral leases or claims, statistics related to fuel hauls to Old Crow).

**7. Address safety concerns related to increased grizzly bear/hunter interactions:** The Board continues to hear concerns regarding an increase in human/bear interactions, resulting in hunter safety issues. Studies may be required to better understand this grizzly bear population and how it may affect Porcupine Caribou harvesting. The Board recommends that the Parties continue to discuss how to address this matter.

**8. Clarify Yukon outfitting and special guiding license provisions:** Several questions were raised around non-resident harvest of Porcupine Caribou in Yukon. The Board recommends that YG provide a summary of information to explain how non-resident harvest of the herd is managed.