

Summary of 2011 – 2012 Porcupine Caribou harvest data reported to the PCMB

File report to the PCMB by D. Cooley and M. Branigan, 8 Feb 2013

Background

In the *Harvest Management Plan for the Porcupine Caribou Herd in Canada* (HMP) and the accompanying Implementation Plan (IP), all Parties committed to collecting rigorous and verifiable harvest data from their respective hunters. The IP presents the variables (specific data) that are required to record when conducting harvest data collections.

Appendix 9 of the IP details the data collection method to estimate a total harvest by all users in Canada. Briefly, the program is a stratified sampling design with the 7 User Groups being separate strata. There are 3 User Groups who will estimate their harvest based on interviewing a sample of their hunters. Because of their large numbers of hunters and potentially large harvest, Inuvialuit, NWT Gwich'in and Vuntut Gwitchin will estimate their harvest. The remainder of the User Groups will submit reported harvest numbers. For those User Groups who will estimate their harvest, within each community, hunters are further stratified by their relative hunting activities; very active hunters are classified as Key. For each stratum, the average harvest per hunter who is interviewed is applied to those hunters who were not interviewed. The sum of harvest and associated variance for all strata are considered to be the total estimated harvest and variance for that User Group.

The Parties are required to submit summary data (total estimated harvest by caribou sex and variance of those estimates, or total reported by caribou sex) to the Porcupine Caribou Management Board (PCMB) for the previous season by July 15 each year. The PCMB forwards the data to the Porcupine Caribou Technical Committee (PCTC) to summarize and include in their Annual Summary Report, due to be submitted to the PCMB by November 15 each year.

Activity 1.2.1 of the Implementation Plan (page 11) lists the following topics to summarize:

- the total reported harvest, by sex, by community
- the total estimated harvest by sex, by community and variability (variance)
- the distribution of the harvest over time (season/month)
- the total number of active Porcupine Caribou harvesters by community
- the total number of Porcupine Caribou harvesters who responded by community
- the spatial distribution of the harvest
- total estimated harvest in Canada
- the reliability (variance) of the estimate
- correction factor as required

Although most User Groups are collecting data, most data was not submitted in time to be part of the Annual Summary Report by the PCTC. This file report to the PCMB summarizes all available data as of January 8, 2013.

Data collection programs for the 2011-12 season

Inuvialuit

- There were 2 harvest data programs for Aklavik this season. The Aklavik HTC ran a program of drop-in, self-reporting by all harvesters. Hunters come into the office and report their harvest of a select number of species. There is no active hunter list developed, hunters are not stratified by Key or Active, and hunters who don't harvest don't report. Therefore reporting rates cannot be calculated and estimated harvest and variance cannot be calculated.
- There were also door-to-door interviews done to record reported harvest. Data from the door-to-door interviews were used for this report to the PCMB
- All Inuvialuit data still need to be compared to North Dempster check station data.
- Locations were recorded using only the NWT grid system therefore Yukon kill locations are not summarized by Game Management Subzone.

NWT Gwich'in

- Ongoing program of bi-annual, door-to-door interviews in all 4 Gwich'in communities. For most communities, active harvester lists are still being developed so these harvest estimates were stratified only by community.
- Data from the interviews were compared to data recorded at the check station.
- Locations were recorded using only the NWT grid system therefore Yukon kill locations are not summarized by Game Management Subzone.

Vuntut Gwitchin

- Interviews with VG citizens are done for numerous species, twice per year. Due to some staffing issues, the mid winter period (16 Oct 2011 to 8 Feb 2012) was missed however harvest during that time is typically low.
- There is no active hunter list developed and hunters are not stratified by Key or Active therefore reporting rates cannot be calculated and estimated harvest and variance cannot be calculated.
- Kill date and locations are not available.

Tr'ondëk Hwëch'in

- One-on-one interviews are done with TH citizens for numerous species. We assume the reporting rate is 100%.

First Nation of Na-cho Nyäk Dun

- Based on annual interviews, FN NND hunters report no caribou harvested this year. We assume the reporting rate is 100%.

NWT licensed

- Mandatory reporting by resident hunters (currently no non-resident hunting permitted). Harvest is estimated by three mail-out reporting forms. Each mail-out is treated as a separate stratum and the total harvest is the sum of the strata.
- The mail-out for the 2011-12 season is currently underway; therefore, no estimate is yet available. For the purposes of this report, we assumed all tags were filled, which is probably an over-estimate. Currently PCH range is the only area in the NWT where residents can harvest and because NWT residents are limited to bulls only,

- we used the total number of tags sold as the maximum possible number of Porcupine Caribou bulls harvested by NWT resident hunters.
- Because we need to use 'maximum possible', date and location information of actual harvests is not available.

Yukon licensed

- All hunters are required by law to report their harvest. We assume the reporting rate is 100%.

Caribou harvest

For this report, confidence intervals were not calculated pending further technical review of the method for those calculations; however for the first time ever, we calculated a total estimated harvest of Porcupine Caribou by Canadian Users based on data submitted by the Parties. Although this estimated harvest does not quite meet all aspects required in the HMP however it should be a fair indication of the harvest level in Canada.

It is estimated that Canadian Porcupine Caribou Users took 1,747 bulls and 103 cows between June 1, 2011 and May 31, 2012 (Table 1).

Date of harvest information was provided for 800 caribou. The fall continues to be the most common harvest season with almost two thirds of the caribou reported in August, September and October (Figure 1).

Location information was missing for 612 caribou (Figure 2). Because the data collection programs in the NWT and Yukon used different methods to record the location of harvests, data from NWT and data from Yukon are shown differently. The NWT data uses the smaller grid system while Yukon data is recorded by the larger Game Management Subzone. In this report, NWT grid and Yukon Game Management Subzone are overlain on the same map.

The proportion of females in the harvest is 5.6% of the total caribou, similar to last year. This low proportion of cows or caribou of unknown sex is substantially lower than what was previously believed (in the neighborhood of greater than 50% cows – HMP, page 24). Party representatives and communities have been telling the PCMB that in recent years, hunters have tried to take fewer caribou and tried to take bulls. These reported numbers do indicate a change in hunter behaviour.

Table 1. Estimated harvest of Porcupine Caribou by Canadian Users, June 2011 to May 2012.

User Group	Type *	Period covered	Bulls	Cows / Unk	Total	Notes
Inuvialuit	E	1Jun11 to 12May12	249.6	44.4	294.0	Aklavik only, based on Interview data
NWT Gwich'in	E	1Jun11 to 31May12	888.6	50.7	939.3	Stratified by community but not by hunter status
Tr'ondëk Hwëch'in	R	1Jun11 to 31May12	3	0	3	
First Nation of NaCho Nyäk Dun	R	1Jun11 to 31May12	0	0	0	
Vuntut Gwitchin	R	1Jul11 to 30Jun12	503	8	511	Missing 16Oct2011 to 8Feb2012
YT licensed	R	1Jun11 to 31May12	13	0	13	
NWT licensed	M	1Jun11 to 31May12	90	0	90	Maximum possible. Total tags sold, male only
			1747.2	103.1	1850.3	Total estimated caribou harvested

* type
 E = estimated
 R = reported
 M = maximum possible

Figure 1. Month of reported caribou harvest, June 2011 to May 2012

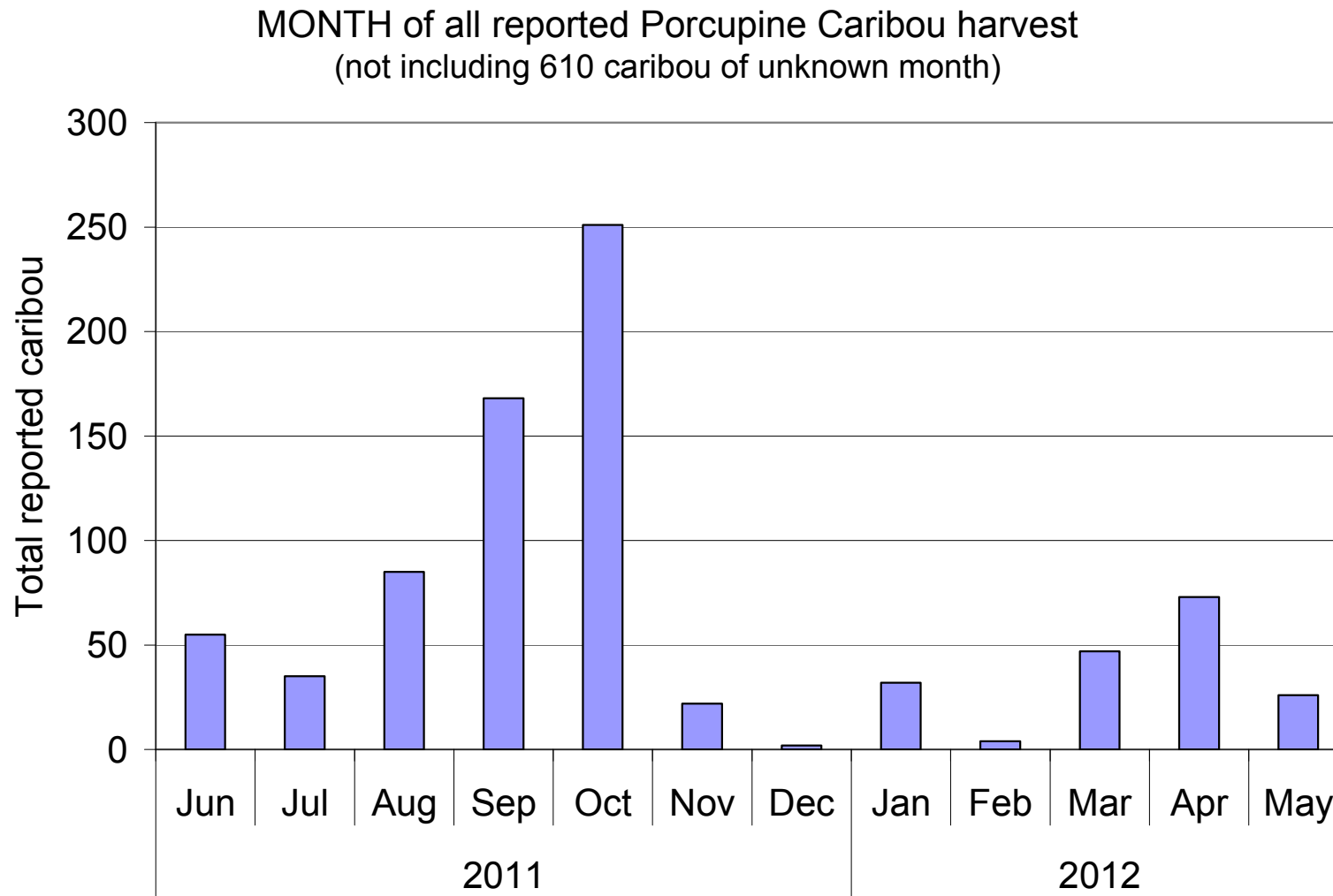


Figure 2. Density of reported caribou harvest, by GMS or grid June 2011 to May 2012
Not including 612 caribou of unknown location

