

Summary of 2010-11 Porcupine Caribou harvest data reported to the PCMB

File report to the PCMB by D. Cooley and M. Branigan, Feb. 13, 2012

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 estimate harvest by caribou sex, variance of those estimates, 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, nobody submitted data in time to be part of the Annual Summary Report. All Parties either reported before the start of the Annual Harvest Meeting or presented harvest numbers at the AHM. This file report to the PCMB summarizes all available data as of February 7, 2012.

Data collection programs for the 2010-11 season

Inuvialuit

- For 2010, 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.
- In Inuvik, door-to-door interviews took place to record reported harvest from July 2009 to Nov 2010. Data were separated by Caribou Year for the PCMB and only harvest for the 2010-11 year is summarized below.
- No active harvester list was used. Stratification into Active and Key hunters was not done. Calculated variance was not possible.
- All Inuvialuit data still need to be compared to North Dempster check station data.

NWT Gwich'in

- Ongoing program of bi-annual, door-to-door interviews in all 4 Gwich'in communities.
- An active harvester list was used. Stratification into Active and Key hunters was not done. Calculated variance was not submitted.
- For one community, harvest was reported for November 2009 to December 2010. These numbers were included with the data from the other communities covering May 2010 to May 2011.
- All Gwich'in data still need to be compared to North Dempster check station data.

Vuntut Gwitchin

- Interviews with VG citizens are done for numerous species, twice per year. During the fall hunt when multiple hunters go out in one boat, the interviewer asked the boat driver to report the harvest that was recorded by all hunters (L. Nagwan, pers comm.). In effect, this turns the sample unit for the estimated harvest into the boat rather than the hunter. However, VG submitted the total reported harvest and not the estimated harvest so the numbers presented here are not affected. If the VG reported data is to be used to estimate the community's harvest, the sample unit needs to be taken into consideration in the calculations.
- Note: the Jan. to Jun. 2011 total was incorrectly listed in VGG's report as 57 bulls. The sum of the relevant column was 60 bulls therefore the value of 60 was used in this summary.

Tr'ondëk Hwëch'in

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

First Nation of Na-cho Nyäk Dun

- Hunters participating in the harvest data program run by the First Nation of NND report no Porcupine Caribou taken in the 2010-11 season. We assume total reported harvest is 100% reporting rate.

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 2010-11 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. Because NWT residents are limited to bulls only, we recorded the number of tags sold as the maximum possible number of bulls harvested by NWT resident hunters.
- Currently PCH range is the only area in the NWT where residents can harvest.

Yukon licensed

- Mandatory reporting by all hunters. We assume total reported harvest is 100% reporting rate.

Estimated number of caribou harvested

It was not possible to calculate an estimated number of caribou harvested in Canada, as outlined in the Harvest Management Plan for the 2010-11 season. There were several reasons for this:

- One community has not yet initiated a data collection program. It is noted, however, that the harvest by hunters in this community is very low.
- Participation rates for some communities remain low.
- None of the three community data collection programs that need to estimate harvest have yet identified Active and Key hunters; therefore, stratification is not possible.
- No estimates of variance were submitted; therefore, no confidence intervals could be calculated.

Based on information that was submitted prior to the Annual Harvest Meeting and provided during Day 1 of the Annual Harvest Meeting, a very loose guesstimate of harvest is presented in Table 1. Readers should be sure to read the notes for each Party's data.

Table 1. Sum of estimated and reported harvest of Porcupine Caribou by Canadian Users, June 2010 to July 2011. Updated with data received from the Parties as of February 7, 2012.

User Group	Type *	Period covered	# of PCH harvesters	Reporting rate	Bulls	Cows	Unknown	Total	Reported variance	Notes
Inuvialuit	R	Aklavik Jun 2010 to May 2011 Inuvik Aug to Nov 2011	76	unknown	90	3	28	121	Not reported	Minimum reported. Aklavik drop-in, self-reported. Inuvik door-to-door interviews. Data still need to be compared to Check Station data. No program in Tuk yet.
NWT Gwich'in	E	May 2010 to May 2011	4 survey waves: 51 + 110 + 15 + 16	"low but increasing"	0	0	1197	1197	Not reported	Includes 1 community Nov09 to Dec10. Did not estimate bulls and cows separately because cow harvest is so small.
Vuntut Gwitchin	R	1 Jun 2010 to 30 Jun 2011	66 + 21	unknown	213	52	0	265	Not reported	Total reported. Jan to Jun11 total was corrected from 57 to 60 bulls
Tr'ondek Hwech'in	R	1 Jun 2010 to 1 Jul 2011	5	assume 100%	1	0	0	1	N/A	Total reported
Na-cho Nyak Dun	R	1 Jun 2010 to 30 Jun 2011	0	assume 100%	0	0	0	0	N/A	Hunters report no PCH harvested
Yukon licensed	R	1 Jun 2010 to 30 Jun 2011	38	assume 100%	38	0	0	38	N/A	Total reported
NWT licensed	M	15 Aug 2010 to 30 Apr 2011			98			98	N/A	Maximum possible caribou (# of tags sold for 2010/11 season), bull only bag limit
					440	55	1225	1720	= Sum of estimated and reported harvest	

* Type R = Reported, E = Estimated, M = Maximum possible

Proportion of females in the harvest

A loose estimate of the proportion of females (including caribou of unknown sex) in the harvest is 9.5%. There are three notes regarding how this number was calculated:

- We used reported harvest by NWT Gwich'in hunters, as opposed to the total estimated presented in the previous table since the estimate was not calculated based on caribou sex. Note this also accounts for the reason why the ratio of cows to bulls presented in this table is different than when using the sex ratio of the harvest as presented in the previous table.
- We assumed that the NWT licensed hunters took the maximum of 98 bulls.
- We used only data submitted or presented to the PCMB to date, which is incomplete. This proportion could change if more information is received.

This low proportion of cows in the reported harvest 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 2. Proportion of cows and unknown sex caribou in the reported harvest of Porcupine Caribou by Canadian Users, June 2010 to July 2011

User Group	Type *	Period covered	Bulls	Cows	Unknown	Total	Notes
Inuvialuit	R	Aklavik Jun 2010 to May 2011 Inuvik Aug to Nov 2011	90	3	28	121	
NWT Gwich'in	E	May 2010 to May 2011	480	11	3	494	Use reported, not estimated
Vuntut Gwitchin	R	1 Jun 2010 to 30 Jun 2011	213	52	0	265	
Tr'ondek Hwech'in	R	1 Jun 2010 to 1 Jul 2011	1	0	0	1	
Na-cho Nyak Dun	R	1 Jun 2010 to 30 Jun 2011	0	0	0	0	
Yukon licensed	R	1 Jun 2010 to 30 Jun 2011	38	0	0	38	
NWT licensed	M	15 Aug 2010 to 30 Apr 2011	98	0	0	98	Assume 98 bulls taken
			920	66	31	1017	

percent females of known sex harvest 6.7%

percent females plus unknown of total **9.5%**

* Type R = Reported, E = Estimated, M = Maximum possible

Additional Harvest Data Presented at the AHM

Some Parties provided additional information about harvest levels for the period June 1, 2011 until the meeting date (February 7, 2012). These are preliminary numbers for only part of the caribou year and final numbers will be reported in the 2012 Annual Summary Report.

NWT Gwich'in

- Data collections from June 1 to October 31, 2011
- 204 surveys completed
- About 400 plus reported harvests of caribou, with more bulls than cows
- Caribou in good condition
- Few caribou seen than previous years

NWT Resident

- 93 licences sold in 2011-12 season as of November 28, 2011

Check station

- GTC presented 2011 check station data; a total of 269 caribou (10 cows) from 84 hunters (some more than others)

Vuntut Gwitchin

- 2011 fall migration was odd with only few caribou available, so harvest was low

Tr'ondëk Hwëch'in

- Past four years, very few or no Porcupine Caribou in TH traditional territory

Inuvialuit

- For reference for the next AHM, in November 2011, the Aklavik HTC coordinated with GNWT and the Gwich'in Renewable Resources Board program to interview hunters for the entire community, based on the program outlined in the HMP. The results from this program will be compared to the self-reporting program.