

Summary:
Canadian Porcupine
Caribou Harvest
2014 – 2015

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PORCUPINE CARIBOU
HARVEST DATA PROGRAM

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Summary: Canadian Porcupine Caribou Harvest 2014-2015

BACKGROUND

In the development of 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 caribou harvest data from their respective hunters. The IP outlines the variables or information that is to be recorded 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 agreed to 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 to be further stratified by their relative hunting activities; active and key harvesters. 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 their harvest summary data to the Porcupine Caribou Management Board (PCMB) by July 15th each year as part of the IP procedures (Activity 1.2.1). 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

This file report to the PCMB summarizes all data submitted under the HMP.

METHODS

INUVIALUIT

- Two interview survey waves were done in Aklavik. Harvesters were divided into key and active harvesters and the PCH database was used to estimate overall harvest.
- Locations were recorded using the NWT grid system.
- No data collection in Inuvik or Tuktoyaktuk.

NWT GWICH'IN

- GRRB coordinating ongoing door-to-door interviews in all 4 Gwich'in communities. For most communities, key/active harvester lists are still being developed so these harvest estimates were stratified only by community.
- Biannual surveys conducted in Inuvik, Fort McPherson and Tsiigehtchic. In Aklavik, three survey waves were conducted. Participation rates still need improvement.
- Locations were recorded using the NWT grid system.

VUNTUT GWITCHIN

- This year, one-on-one interviews are conducted with VG citizens known to have harvested caribou within the traditional territory. Guardians contacted citizens known to be harvesting or who had harvested caribou. The information was summarized and provided as monthly summaries.

TR'ONDĚK HWĚCH'IN

- One-on-one interviews are done with TH citizens known to have harvested any caribou within the TH traditional territory. Reporting for PCH harvesters was considered to be 100%.

FIRST NATION OF NA-CHO NYÄK DUN

- Harvest information is gathered during once annual interviews of known harvesters. Reporting for PCH harvesters was considered to be 100%.

NWT LICENSED

- 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. Non-resident harvest is not permitted.
- The mail-out for the 2014-15 season is currently underway; therefore, no estimate is yet available. For the purposes of this report, it was assumed all tags issued in the Inuvik Region were filled, which is probably an over-estimate.
- Because surveys are not complete, date and location information of actual harvests is not available yet. Harvest locations are available from hunters who report but not in time for this report.

YUKON LICENSED

- All Yukon resident and non-resident hunters are required by law to report their harvest.
- Yukon requires successful resident hunters to complete a compulsory harvest report and guided non-resident hunters to complete a mandatory harvest declaration.
- Reporting for PCH harvesters was considered to be 100%.

RESULTS

Caribou distribution:

An understanding of herd distribution is important to put the annual harvest into perspective. During the summer months of 2014, Porcupine caribou were relatively well distributed across their summer range with most caribou located in the North Richardson Mountains of Yukon and NWT by August. In late August, caribou moved west towards the upper Firth River and then to Arctic Village and Venetie, Alaska, for the remainder of the winter. Telemetry flights and anecdotal reports identified several hundred Porcupine caribou wintered in the Yukon in the upper Ogilvie, Miner and lower Blackstone drainages and along the Yukon North Slope.

Caribou migrations from Alaska back into Canada followed their usual timing with most cow caribou entering Yukon in mid-May on their way to their calving grounds which in 2015 were mostly in the 1002 Lands of the Arctic National Wildlife Refuge. Bull caribou followed shortly after the cow movement with many bulls traveling further south and intercepting Old Crow and the Crow Flats before continuing their movement into the North Richardson Mountains.

Total estimated caribou harvest in Canada, 2014/2015

The total estimated harvest for Canadian Porcupine Caribou users for the period June 1, 2014 to May 31, 2015 was 749 caribou of which 467 were bulls and 282 were cows (Table 1). These estimates were derived from a reported harvest of 458 caribou. Unfortunately, minimal data was collected from Inuvik hunters. For Inuvialuit harvesters, it is believed that Inuvik based harvest was similar to Aklavik harvest which would increase the total estimate by around 120 caribou. Harvest from Tuktoyaktuk is believed to be negligible. Low participation rates continue to affect the confidence in the NWT Gwich'in estimated harvest.

As a result of the distribution and movement pattern during this year (see previous section), most of the reported caribou harvest occurred through the spring, summer and fall seasons, with very low harvest during the winter period and a slight increase in spring (Figure 1).

Location information was provided for 85% of the 458 reported caribou for this period. The harvest was mapped based on the location references provided through each of the reporting programs of the NWT (10km² grid) and Yukon (Game Management Subzone). To be consistent among the reporting methods all harvest was mapped as caribou harvested per 100km². Overall harvest was low in most areas with a few key grid cells such as at the NWT/Yukon border on the Dempster Highway and parts of the Yukon North Slope near Shingle Point reporting slightly higher harvests than other grid cells.

Female caribou harvest within the reporting period was higher than in the previous four years. Estimated female harvest was 38% of the total estimated harvest and appears to be approximately double the proportion estimated in the previous 4 years of harvest reports (Figure 3). However, overall estimated harvest of cows this year was approximately half of the 2013/2014 estimate where the total harvest estimate was much higher.

In general, the harvest data in both month (Figure 1) and distribution (Figure 2) were strongly affected by the relatively brief presence and availability of caribou in the communities and on the Dempster highway. Caribou were available on the Yukon North Slope and the North Richardson Mountains in

the early part of the reporting period and through mid-summer. By fall, satellite GPS collared caribou made a mass movement towards winter range in Alaska where they remained through late winter and spring. Very few remained within their Canadian range, including along the Dempster Highway resulting in the closure of harvesting in the Hart River overlap area. Based on satellite GPS collar data, cow caribou from the Porcupine caribou gradually moved to Ivvavik National Park, and the coastal plain of the Arctic National Wildlife Refuge with limited time in Yukon. Bull caribou did pass through Old Crow but remained largely unavailable through spring 2015 for NWT hunters.

The timeliness of harvest data reporting continues to be a challenge as most parties did not meet the reporting timeline. The implementation plan identifies that data should be submitted to the PCMB by July 15th to ensure it is included in the Annual Summary Report produced by the PCTC prior to the Annual Harvest Meeting (AHM). Harvest is also a critical information need to model the size of the herd for the years when a census is not completed; another tool outlined in the HMP to provide additional information for the Annual Summary Report produced by the PCTC in advance of the AHM. It is likely if all users made use of the database developed for PCH harvest reporting, harvest estimates and the harvest reporting would be completed in a more timely way. These are important products that support other work and reporting requirements for management of the Porcupine caribou.

Table 1. Total estimated harvest of Porcupine Caribou in Canada: June 2014 to May 2015.

User Group	Type	Active hunters	Participation rate	Period covered	Bulls	Cows / Unk	Total Caribou	Margin of Error	Notes
Inuvialuit	E	92	81%	June 2014 to May 2015	88	35	123	33	Includes Aklavik harvest estimate. Inuvik harvest likely similar to Aklavik but no interviews were done. Tuktoyaktuk harvest considered minimal.
NWT Gwich'in	E	245	41%	June 2014 to May 2015	219	232	451	204	Estimated Harvest based on 2 or 3 survey waves (depending on community)
Tr'ondëk Hwëch'in	R	0	—	June 2014 to May 2015	0	0	0		Door to Door interviews
First Nation of NaCho Nyäk Dun	R	0	—	June 2014 to May 2015	0	0	0		
Vuntut Gwitchin	R	—	—	June 2014 to May 2015	99	15	114		Reported Harvest
YT Resident	R	3	100%	June 2014 to May 2015	3	0	3		Reported Harvest
YT Non-resident	R	0	—	June 2014 to May 2015	0	0	0		Reported Harvest
NWT Resident	M	37	--	June 2014 to May 2015	58	0	58		Tags Issued; Maximum possible
NWT Non-resident	--	0	--	June 2014 to May 2015	0	0	0		Harvest of PCH by Non-residents is prohibited
		377			467	282	749		

Proportion of cows

38%

Type

E = estimated

R = reported

M = maximum possible

Active hunters: maximum number of interviewees over all interviews

Participation rate: (sum all interviews done / sum of all harvesters) for all interviews this caribou year

Figure 1. Month of caribou harvest reported in Canada, 2014 / 2015

Does not include 1.7 % of reported harvest where no month was reported.

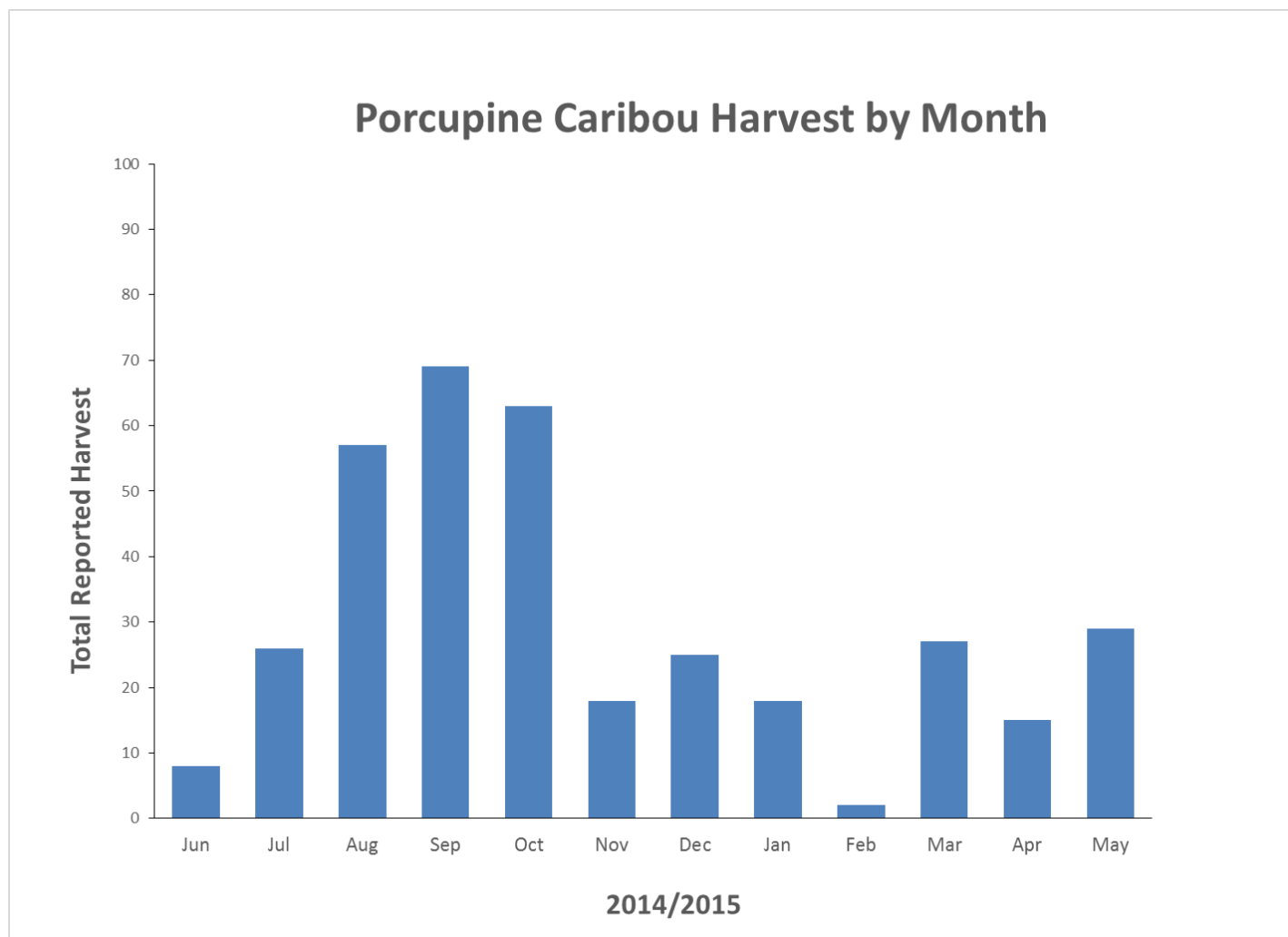


Figure 2. Reported caribou harvest in Canada, by Game Management Subzone or Grid ID, 2014/2015

Does not include 15 % of reported harvest where no location was reported

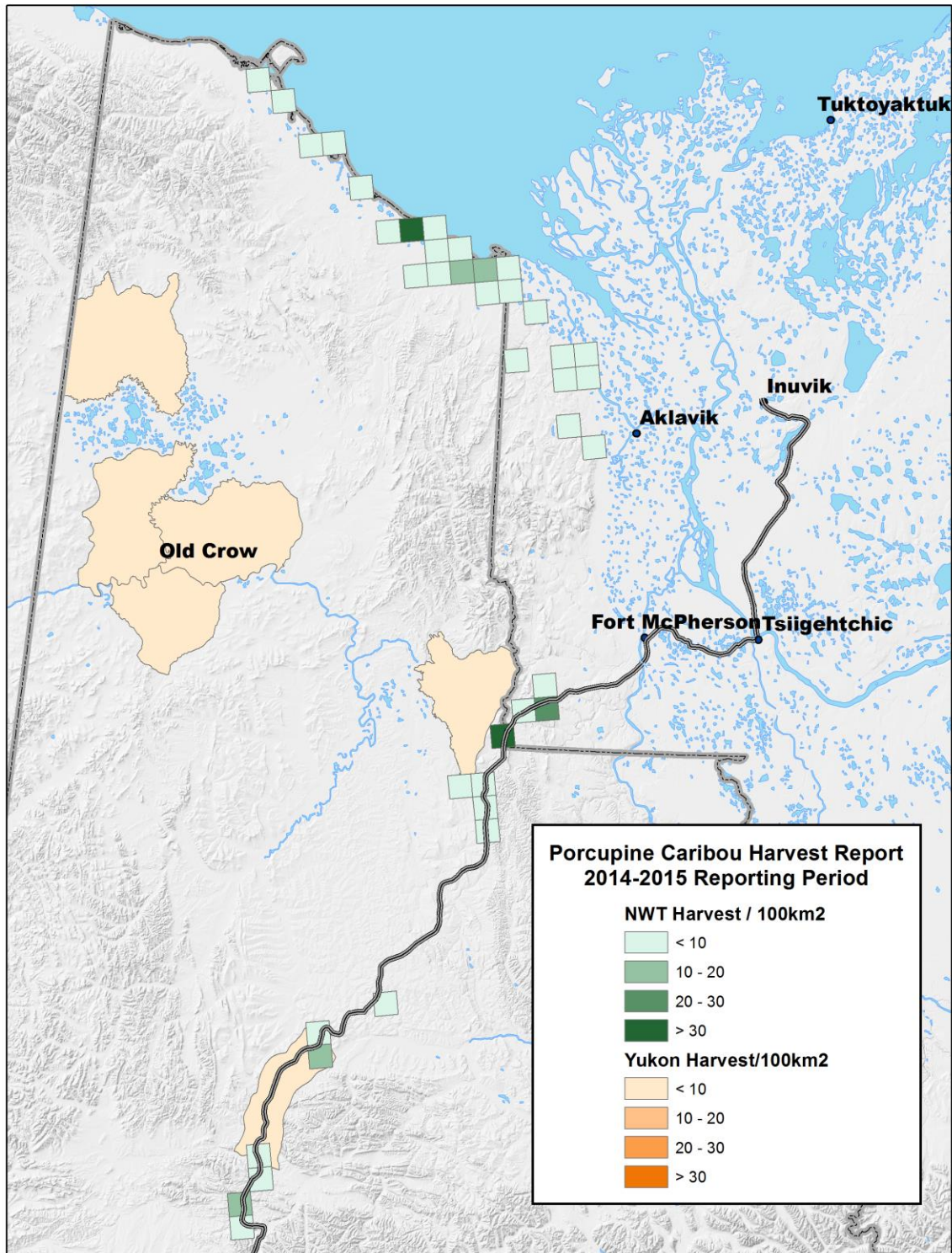
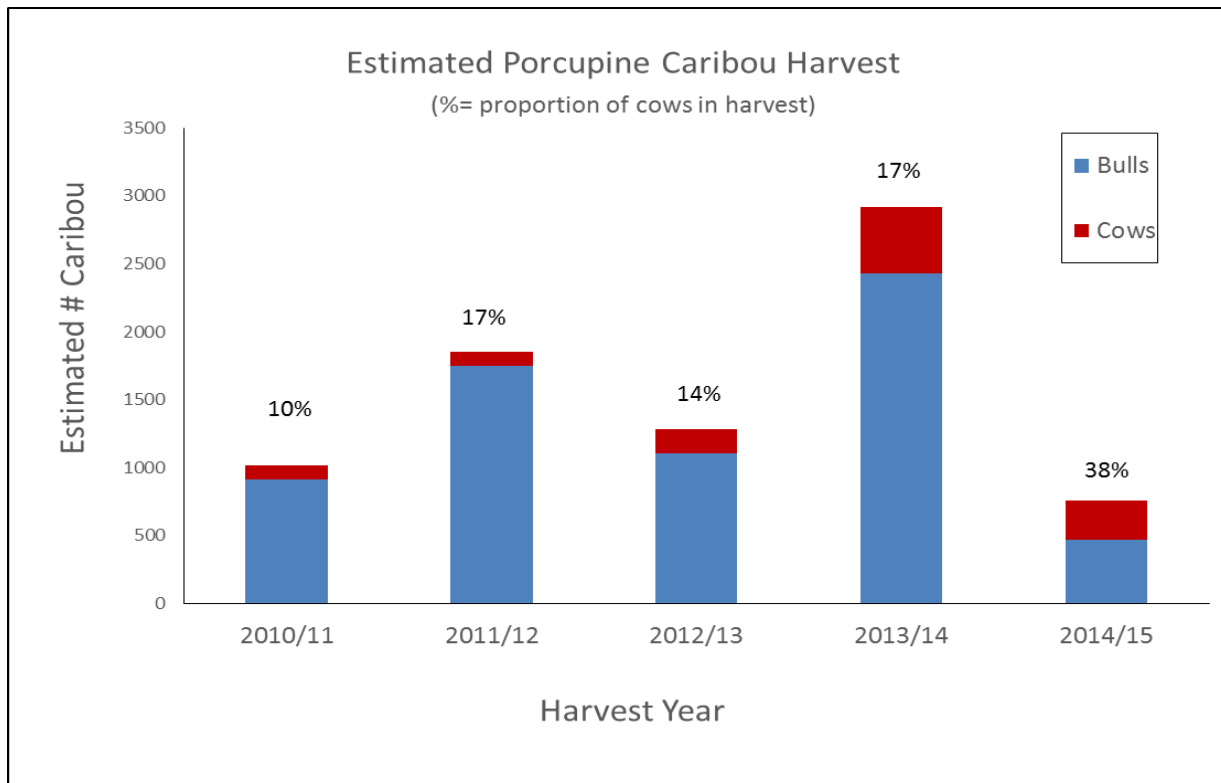


Figure 3. Total estimated Porcupine Caribou harvest in Canada and the proportion of females in the harvest, 2010 to present



Important: Note that individual reports from each party must be considered for caveats and limitations to the data. Specific details include:

- 2010-11: Inuvialuit: Aklavik drop-in data only. VGG: Total reported. NWT licensed: updated with finalized GNWT estimates 16Sep2013.
- 2011-12: Inuvialuit: Aklavik interviews only. VGG: Total reported. NWT licensed updated with finalized GNWT estimates
- 2012-13: Inuvialuit: Aklavik interviews only. NWT licensed based on estimate from hunter returns
- 2013-14: Inuvialuit: Aklavik/Inuvik interviews. VGG total reported harvest. GRRB: estimated based on two survey waves. NWT licensed: updated based on finalized GNWT estimates.
- 2014-15: Inuvialuit: Aklavik interview data included. VGG total reported harvest, GRRB estimate based on two or three survey waves. NWT licensed: maximum possible based on tags sold – estimate will be adjusted in subsequent years.

When more detailed information becomes available or when parties update data from previous surveys, data and summaries are updated to reflect the more accurate information.