Status of the Porcupine Caribou Herd

A presentation to the PCH Annual Harvest Meeting
8 Feb 2011, Inuvik, NT
Outline

• Background
• Population
• Harvest
• Caribou Body Condition
• Habitat

PORCUPINE CARIBOU
ANNUAL SUMMARY REPORT

----- DRAFT -----

Submitted to the Porcupine Caribou Management Board
February 2011

By the Porcupine Caribou Technical Committee
In preparation for the Porcupine Caribou Annual Harvest Meeting, 2011
BACKGROUND

PCH Co-management

• *Porcupine Caribou Management Agreement (1985)*
  – Porcupine Caribou Management Plan written by the PCMB

  – Plan for the International Conservation of the Porcupine Caribou Herd written by the IPCB
BACKGROUND

Harvest Management Plan

- Canadian Wildlife Service
- Government of the Northwest Territories
- Government of Yukon
- U.S. Fish and Wildlife Service
- Alaska Department of Fish and Game
- Yukon Parks Act
- Yukon Environment Act
- Order in Council
- Inuvialuit Final Agreement
- Gwich’in Comprehensive Land Claim Agreement

PCH Co-management

Tr'ondëk Hwëch'in

ANWR

Yukon Wildlife Act

Alaska Department of Fish and Game

Yukon Parks Act

ANILCA

Trinity Western University

Dempster Area Development Act

U.S. Geological Survey

Yukon Wildlife Act and Regulations

Fairbanks

Alaska Fairbanks

St. Nation of Na’cho Nyak Dun Final Agreement

Vul National Parks Act
Porcupine Caribou Herd Population

Business as usual
POPULATION

Adult cow survival

Annual survival rates of adult female Porcupine Caribou

Horizontal lines are study averages. Error bars are 95% CL. Labels indicate # of collars monitored.
Calf birth rates and survival

March results are graphed under the birth year.
Survival rates of female Porcupine Caribou from 9 months to 3 years of age.

Study started in 2003. Error bars are 95% CL. Labels indicate # of collars monitored.
POPULATION

Adult bull survival

Survival rates of adult bull Porcupine Caribou in years following capture
Study started in 2003. Error bars are 95% CL. Labels indicate # of collars monitored.
Porcupine Caribou satellite locations 1985 to 2010
HARVEST

Hunting zones
Hunting regulations

HARVEST

ALASKA
GMU 26B
Central Arctic Herd
5 caribou
- no cows 1 May to 30 Jun

ALASKA
western 25A
Central Arctic Herd
5 caribou
- no cows 16 May to 30 Jun

ALASKA
GMU east 25A,
25B, 25D, 26C
1 bull
1 Aug to 30 Sep

YUKON
Non Yukon
Canadians
1 bull
1 Aug to 31 Jan

NON RESIDENT
HUNTING

NWT
I/BC/05 and G/BC/01
closed
HARVEST Hunting regulations
HARVEST Hunting regulations

ALASKA GMU 25B
Central Arctic Herd
10 caribou per day
- no cows 1 May to 30 Sep

ALASKA western 25A
Central Arctic Herd
10 caribou total
- no cows 16 May to 30 Jun

ALASKA GMU east 25A, 25B, 25D
10 caribou per year
1 Jul to 30 Apr

ALASKA GMU 26C
10 caribou per day
1 Jul to 30 Apr

YUKON PCH subzones
Bulls only

YUKON PCH / Hart overlap
- closes 31 Oct unless PCH is present

SUBSISTENCE HUNTING

NWT I/BC/05 and G/BC/01
Voluntary bull only
**HARVEST**

Total AVERAGE harvest 1979 - 2006
2,571 caribou

- **YT Non-resident**: 1%
- **YT First Nation**: 13%
- **Inuvialuit**: 20%
- **NWT Gwitchin**: 45%
- **AK Resident**: 3%
- **AK native**: 12%
- **YT Resident**: 6%

NWT residents take < 1 %
Harvest reporting

<table>
<thead>
<tr>
<th>UserGroup</th>
<th>HunterID</th>
<th>Period covered</th>
<th># Bulls</th>
<th># Cows</th>
<th>Unknown</th>
<th>Total</th>
<th>Community</th>
<th>Month</th>
<th>Year</th>
<th>Grid/subzone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple People Eaters</td>
<td>1</td>
<td>1 June 2009 to 31 July 2010</td>
<td>10</td>
<td>2</td>
<td></td>
<td>12</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>2</td>
<td>1 June 2009 to 31 July 2010</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>3</td>
<td>1 June 2009 to 31 July 2010</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>4</td>
<td>1 June 2009 to 31 July 2010</td>
<td>6</td>
<td>2</td>
<td></td>
<td>8</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>5</td>
<td>1 June 2009 to 31 July 2010</td>
<td>9</td>
<td></td>
<td></td>
<td>9</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>6</td>
<td>1 June 2009 to 31 July 2010</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>7</td>
<td>1 June 2009 to 31 July 2010</td>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td>Timbuktu</td>
<td>7</td>
<td>2009</td>
<td>AY2042</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>15</td>
<td>1 June 2009 to 31 July 2010</td>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td>Timbuktu</td>
<td>9</td>
<td>2009</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>16</td>
<td>1 June 2009 to 31 July 2010</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>Timbuktu</td>
<td>9</td>
<td>2009</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>17</td>
<td>1 June 2009 to 31 July 2010</td>
<td>8</td>
<td></td>
<td></td>
<td>8</td>
<td>Timbuktu</td>
<td>9</td>
<td>2009</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>18</td>
<td>1 June 2009 to 31 July 2010</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3</td>
<td>Timbuktu</td>
<td>10</td>
<td>2009</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>19</td>
<td>1 June 2009 to 31 July 2010</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td>Timbuktu</td>
<td>10</td>
<td>2009</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>20</td>
<td>1 June 2009 to 31 July 2010</td>
<td>9</td>
<td></td>
<td></td>
<td>9</td>
<td>Timbuktu</td>
<td>1</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>21</td>
<td>1 June 2009 to 31 July 2010</td>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
<td>Timbuktu</td>
<td>1</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>22</td>
<td>1 June 2009 to 31 July 2010</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td>Timbuktu</td>
<td>1</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>23</td>
<td>1 June 2009 to 31 July 2010</td>
<td>6</td>
<td>3</td>
<td></td>
<td>9</td>
<td>Timbuktu</td>
<td>2</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>24</td>
<td>1 June 2009 to 31 July 2010</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>Timbuktu</td>
<td>2</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>25</td>
<td>1 June 2009 to 31 July 2010</td>
<td>7</td>
<td></td>
<td></td>
<td>7</td>
<td>Timbuktu</td>
<td>2</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>26</td>
<td>1 June 2009 to 31 July 2010</td>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td>Timbuktu</td>
<td>2</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>27</td>
<td>1 June 2009 to 31 July 2010</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>Timbuktu</td>
<td>2</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
<tr>
<td>Purple People Eaters</td>
<td>28</td>
<td>1 June 2009 to 31 July 2010</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>Timbuktu</td>
<td>3</td>
<td>2010</td>
<td>GMS 154</td>
</tr>
</tbody>
</table>

Sum 117  8  0
Average 5.57  0.38
Variance bulls 6.26
Variance cows + unknown 0.67
## Estimated harvest of Porcupine Caribou by Canadian Users, June 2009 to July 2010

Updated for PCH Annual Harvest Meeting, Feb 8 - 10, 2011

<table>
<thead>
<tr>
<th>Period</th>
<th>YT Resid</th>
<th>YG NR</th>
<th>NWT Resid</th>
<th>VGG</th>
<th>NND</th>
<th>TH</th>
<th>IGC</th>
<th>GTC</th>
<th>All Users</th>
</tr>
</thead>
<tbody>
<tr>
<td># Active Harvesters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Harvesters Contacted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Harvesters Interviewed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total reported bulls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total reported cows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total reported unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated harvest bulls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated harvest cows + unkn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Have data from most of the user groups
• Technical issues to be worked out eg:
  – Different reporting periods
  – Need to define what people are covered in each project
  – Need the total # of active hunters etc
• THANKS for sending your data but no estimate yet…
• Harvest will be another input into model
Hunter assessment of caribou condition
1-poor  2=fair  3=good  4=very good.
Error bars are standard errors. Labels indicate # of caribou sampled.
Depth of backfat, Body Condition Monitoring project
Error bars are standard errors. Labels indicate # of caribou sampled.
Total number of fires and number of large fires (greater than 10,000 hectares) in PCH range, by year

- # of fires < 10,000 ha
- # of fires > 10,000 ha
HABITAT

Total area of PCH range burned, by year

square kilometers

## Indicator Table

**Annual Summary Report for AHM Feb 2011**  
Prepared for the Porcupine Caribou Management Board

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
<th>5 year average</th>
<th>Notes</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population size and trend</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population size (2001)</td>
<td>123,000 in 2001</td>
<td>---</td>
<td>Declined by 55,000 caribou since peak in 1989. New herd size estimate from 2010 is coming but it expected to be greater than 123,000 caribou.</td>
<td></td>
</tr>
<tr>
<td>Estimated population (2007)</td>
<td>90,000 to 100,000 in 2009</td>
<td>---</td>
<td>Based on the trend from the computer model run in 2007</td>
<td></td>
</tr>
<tr>
<td>Population trend</td>
<td>Decline between 1989 and 2001</td>
<td>---</td>
<td>Recovering</td>
<td></td>
</tr>
<tr>
<td>Adult cow survival</td>
<td>2003 to 2006 study = 0.826</td>
<td>---</td>
<td>Similar to 2001 estimate (herd declining). Lower than when herd was increasing. Annual survival is quite variable.</td>
<td></td>
</tr>
<tr>
<td>Calf birth rate</td>
<td>2010 = 0.85</td>
<td>0.82</td>
<td>24-year average = 0.81</td>
<td></td>
</tr>
<tr>
<td>Calf survival to 9 months</td>
<td>2006 = 0.39</td>
<td>0.36 (13 years)</td>
<td>We like to see at least 0.30. Missing 2005, 2007 to 2010 due to overlap with other herds.</td>
<td></td>
</tr>
<tr>
<td>Peak of calving</td>
<td>30 May to 2 June</td>
<td>2 June</td>
<td>A bit early but still good</td>
<td></td>
</tr>
</tbody>
</table>

### Harvest
- Total harvest
- % females in harvest
- Hunters’ needs met?

### Body condition
- Average backfat
• Any questions?