

### Muskoxen and Peary Caribou Harvest Database Summary Report

December, 2011

Wildlife Research Section
Baffin Region
Department of Environment
Government of Nunavut
Pond Inlet, NU
Version 2.0

#### Acknowledgement

Thanks to the HTOs in Resolute Bay and Grise Fiord for their participation in this initiative. A special thanks to the Conservation Officers for documenting the information and submitting the data collection forms.

#### Introduction

The Baffin Region of the Arctic Archipelago supports two ungulate species, muskoxen (*Ovibos moschatus*) and Peary caribou (*Rangifer tarandus pearyi*). These ungulates are a key component of the Arctic ecosystem and are of cultural, traditional, and economic importance to Inuit. Both species are an important food source, although caribou are preferred (Personal communication, Jeffrey Qanaq).

Two communities, Resolute Bay and Grise Fiord, are located in the Arctic Archipelago, and both were settled in 1953. In the 19<sup>th</sup> century, the only inhabitants were temporary and included explorers; occasional hunters from Greenland; and RCMP officers and the Inuit families they employed (Dick, 2001; QSO, 2005). Both muskoxen and Peary caribou were a valued food source and the impact of unrestricted harvests by early explorers may have been significant (Barr, 1991; Peterson et. al., 2010). On the mainland, increased demand for meat and animal products, brought muskoxen close to extinction, and the Canadian government introduced legislation in the early 1900s to protect the species (Barr, 1991; Gunn and Forchhammer, 2008).

By the late 1960s, muskoxen numbers had sufficiently recovered to allow their harvest under a quota system. This system was subsequently formalized in regulations under the Government of the Northwest Territories Wildlife Act, introduced in 1988 (Wildlife Act, RSNWT 1988, c W-4).

Conversely, Peary caribou have never been the subject of any form of legislated harvest restrictions. From 1975 to 1989, after drastic declines in Peary caribou numbers, the Resolute Bay Hunters and Trappers Association (HTA) imposed self-regulated harvesting restrictions on its' members to minimize the impact, primarily on the caribou of Bathurst Island. This was extended to Cornwallis Island in 1982 (Ferguson, 1991; DoE 2004a). Additionally, in 1986 the HTA of Grise Fiord imposed a 10-year harvest ban on Peary caribou across the southern extent of Ellesmere Island (DoE 2004b). As of fall 2011 there are no harvest restrictions in place for Peary caribou in Nunavut.

Following passage of the Wildlife Act, a database was developed to manage information on muskox harvest/mortality in the NWT (currently Nunavut) Baffin region. The database has been expanded to include anecdotal evidence of Peary caribou harvest from hunters in Grise Fiord and Resolute Bay.

The Government of Nunavut has since passed its own Wildlife Act (Wildlife Act, SNu 2003, C26) and the process of developing management plans for both muskoxen and Peary caribou has been initiated. Modification and expansion of the database and objectives are expected as the

process unfolds.

#### **Objectives**

- 1. To monitor the number, spatial distribution and sex/age structure of muskoxen harvest/mortality
- 2. To monitor Peary caribou harvest/mortality numbers and spatial distribution.
- 3. To develop a complementary resource management tool

#### Methods

The participating communities, from which quotas are extended and administered, include Grise Fiord, Resolute Bay and Arctic Bay. Community quotas are structured in accordance with the *Consolidation of R.R.N.W.T 1990, c. W-11 Wildlife Management Muskox Area Regulations* (dated 15<sup>th</sup> July, 1992, and amended thereafter). Wildlife management muskox areas have been delineated in accordance with the descriptions contained in the schedule of the regulations and include the following units:

#### Muskox Management Unit:

MX01 (formerly known as A/2-1)

MX02 (formerly known as A/1-1)

MX03 (formerly known as A/1-2)

MX04 (formerly known as A/1-6)

MX05 (formerly known as A/1-3)

Wiztos (formerly known as 74/1-5)

MX06 (formerly known as A/3-1)

New muskox management units are being developed in conjunction with the local Hunters and Trappers Organizations (HTOs) based on the best available information on populations, abundance and distribution.

The tags, which physically represent the quota for each management unit, are managed by the local HTA, although in practice the local Conservation Officer generally administers them on behalf of the HTA. The HTA has the option to distribute tags to its members (beneficiaries under the Nunavut Land Claim Agreement) or non-members (Nunavut residents, Canadian residents residing outside of Nunavut, non-Canadian residents) for the purpose of domestic, sport or commercial harvest.

In the case of a domestic hunt, the hunter is required to notify the Conservation Officer that he has harvested an animal. The Conservation Officer will then ask a series of questions relating to the hunter, the hunt and the harvested animal, and record these details on a muskox mortality sheet (see Appendix 1). Information on the animal harvested, including the management unit in which the harvest occurred and the sex of the muskox, is mandatory. These muskox mortality sheets are forwarded to the Department of Environment's Regional Wildlife Management Office in Pond Inlet to be included in the database.

The HTA is also responsible for allocating tags for sport hunts or commercial operations. In the former case, the hunter must purchase his tag and pay the appropriate trophy fees (if required) prior to the hunt. Similarly, the details associated with each successful harvest in these categories are collected and forwarded on to be included in the database.

#### Results

Muskox mortality data have been collected since the onset of the 1990-91 hunting season. As of September 2011 the database contains 623 records and should be considered as a work-in-progress. The following is a summary of the database.

# **MUSKOXEN**

#### 1. ALL COMMUNITIES

Quota (per hunting season)149Tags available since 1990/912980Total number of recorded tags used623

Note: This figure of 623 represents 20.9% of all tags available since 90/91.

Expressed as an average over nineteen hunting seasons, the total number of tags used amounts to 33 per year. It should be stressed however, that this total is likely an under-representation of the actual number of tags used, due to incomplete records.

#### **Mortality Statistics**

| <b>Beneficiary Hunting Entitlement Kills</b> | 367 | (58.9%) |
|--|-----|---------|
| - Domestic                                   | 303 |         |
| - Commercial                                 | 55  |         |
| - Domestic/Commercial                        | Q   |         |

Note: 'Domestic/Commercial' means that some of the meat was sold to the HTO.

| <b>Non-Beneficiary Hunting Kills (Sport)</b> | <b>170</b> | (27.3%) |
|--|------------|---------|
| - Canada                                     | 9          |         |
| - USA  | 120        |         |
| - Mexico                                     | 8          |         |
| - Europe                                     | 13         |         |
| - New Zealand                                | 1          |         |
| - Unknown                                    | 19         |         |
| <b>Natural Mortality</b>                     | 65         | (10.4%) |

| Harvest/Mortality Total | <u>602</u> | (96.6%) |
|-------------------------|------------|---------|
|-------------------------|------------|---------|

Other 21 (3.4%)

Note: The 'Other' category includes unsuccessful sport hunts and a lost tag.

|           | Male        | Female      | Unknown   | Total |         |
|-----------|-------------|-------------|-----------|-------|---------|
| Adult     | 296         | 69          | 0         | 365   | (60.6%) |
| Sub-Adult | 47          | 33          | 0         | 80    | (13.3%) |
| Yearling  | 7           | 8           | 0         | 15    | (2.5%)  |
| Calf      | 0           | 2           | 0         | 2     | (0.3%)  |
| Unknown   | 87          | 27          | 26        | 140   | (23.3%) |
|           |             |             |           |       |         |
| Total     | 437 (72.6%) | 139 (23.1%) | 26 (4.3%) | 602   | (100%)  |

### **2. DISTRIBUTION**

# Tags Utilised by Management Unit

|            | MX01 | A/2-1 | MX02 | A/1-1 | MX03 | A/1-2 | MX04 | A1/-6 | MX05 | A/1-3 | MX06 | A/3-1 | OTHER | TOTAL |
|------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
|            |      |       |      |       |      |       |      |       |      |       |      |       |       |       |
| DOMESTIC   | 11   | 23    | 69   | 40    | 3    | 10    | 27   | 15    | 23   | 23    | 46   | 8     | 5     | 303   |
| SPORT      | 5    | 15    | 45   | 10    | 12   | 4     | 3    |       | 5    | 10    | 58   | 5     | 18    | 190   |
| COMMERCIAL |      | 6     | 5    | 33    |      | 6     |      | 1     |      | 4     |      |       |       | 55    |
| DOM/COMM   |      |       |      | 5     |      |       |      |       |      | 4     |      |       |       | 9     |
| NATURAL    |      |       | 47   |       | 6    | 2     | 1    | 1     | 5    |       | 1    |       | 2     | 65    |
| OTHER      |      |       |      |       |      |       |      |       |      |       |      |       | 1     | 1     |
| TOTAL      | 16   | 44    | 166  | 88    | 21   | 22    | 31   | 17    | 33   | 41    | 105  | 13    | 26    | 623   |

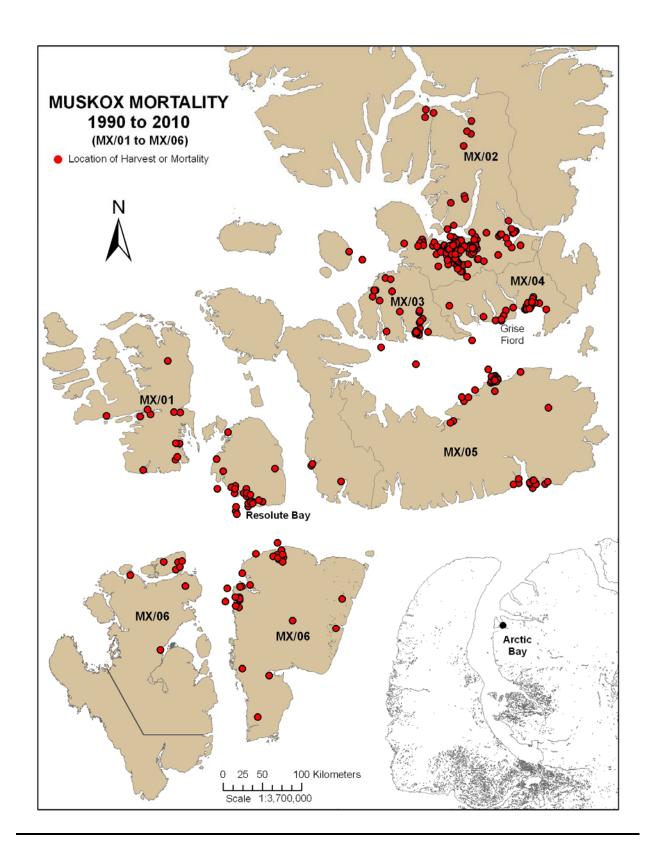
Note: The 'Other' category includes those harvested or found outside a designated hunting unit, those where the tag was purchased but an unsuccessful hunt recorded, and those where the management unit was not determined.

### 3. USE OF MUSKOX MEAT

| - Domestic   | : 297 |
|--------------|-------|
| - Dom/Comm   | 17    |
| - Dom/Sport  | 21    |
| - Commercial | 57    |
| - Comm/Sport | 3     |
| - Sport      | 8     |
| - None       | 60    |
| - Unknown    | 139   |
|              |       |

Total 602

Note: The 'Unknown' category includes spoiled meat and animals that were found.



# **Grise Fiord (1990 to 2010)**

# I Affiliated Management Units

| Muskox Unit                  | Old Name | Quota      |         |
|------------------------------|----------|------------|---------|
| N/MX/02                      | A/1-1    | 60         |         |
| N/MX/03                      | A/1-2    | 10         |         |
| N/MX/04                      | A/1-6    | 4          |         |
| N/MX/05                      | A/1-3    | 4          |         |
|                              |          |            |         |
| Total Annual Quota           |          | 78         |         |
| Tags available since 1990/91 |          | :1560      |         |
| Total number of tags used    |          | <u>408</u> | (26.2%) |
| N/MX/02                      | A/1-1    | 254        |         |
| N/MX/03                      | A/1-2    | 43         |         |
| N/MX/04                      | A/1-6    | 48         |         |
| N/MX/05                      | A/1-3    | 50         |         |
| N/MX/06                      | A/3-1    | 1          |         |
| Unknown                      |          | 12         |         |

Note: This figure of 408 represents 26.2% of all Grise Fiord tags available since 90/91. Eight of these tags were used but classed as 'Unsuccessful', and one tag was lost and replaced.

#### **II Mortality Statistics**

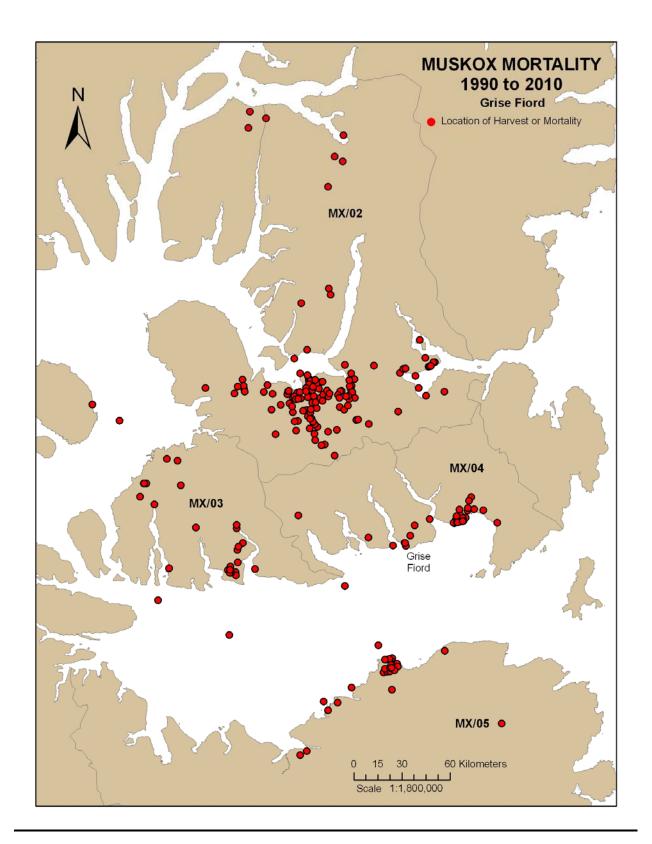
| Beneficiary Kills                   | 254        |     | (63.7%) |
|-------------------------------------|------------|-----|---------|
| - Domestic                          |            | 196 |         |
| - Commercial                        |            | 49  |         |
| - Domestic/Commercial               |            | 9   |         |
| Non-Beneficiary Kills (Sport Hunts) | 81         |     | (20.3%) |
| Natural Mortality                   | 64         |     | (16.0%) |
| Total                               | <u>399</u> |     | (100%)  |

# Mortality by Hunting Season & Management Unit

| Season  | Total | Percentage | MX/02 | (60) | MX/03 | <b>(10)</b>  | MX/04        | <b>(4)</b> | MX/05        | <b>(4)</b> |
|---------|-------|------------|-------|------|-------|--------------|--------------|------------|--------------|------------|
|         |       | _          | M     | F    | M     | $\mathbf{F}$ | $\mathbf{M}$ | F          | $\mathbf{M}$ | F          |
| 1990/91 | 22    | (28.2%)    | 11    | 7    |       |              |              |            | 3            | 1          |
| 1991/92 | 15    | (19.2%)    | 3     | 6    | 1     | 1            |              |            | 2            | 2          |
| 1992/93 | 24    | (30.8%)    | 13    | 5    | 2     |              |              |            | 2            | 2          |
| 1993/94 | 21    | (26.9%)    | 3     | 1    | 5     | 3            | 4            |            | 4            |            |
| 1994/95 | 28    | (35.9%)    | 9     | 4    | 4     | 2            | 5            |            | 4            |            |
| 1995/96 | 13    | (16.7%)    | 4     |      |       | 1            | 4            |            | 4            |            |
| 1996/97 | 35    | (44.9%)    | 19    | 4    | 2     | 1            | 4            |            | 4            |            |
| 1997/98 | 20    | (25.6%)    | 14    |      | 1     |              | 3            |            | 1            |            |
| 1998/99 | 20    | (25.6%)    | 13    |      |       |              | 2            |            | 4            | 1          |
| 1999/00 | 26    | (33.3%)    | 9     | 6    | 3     |              | 4            |            | 1            | 2          |
| 2000/01 | 27    | (34.6%)    | 9     | 4    | 4     | 2            | 2            | 1          | 3            | 1          |
| 2001/02 | 32    | (41.0%)    | 13    | 5    | 2     |              | 5            | 2          | 3            | 1          |
| 2002/03 | 22    | (28.2%)    | 10    | 5    | 3     | 1            |              |            | 1            | 1          |
| 2003/04 | 27    | (34.6%)    | 12    | 7    | 4     |              |              |            |              |            |
| 2004/05 | 30    | (38.5%)    | 14    | 9    |       |              | 1            |            |              |            |
| 2005/06 | 13    | (16.7%)    | 3     |      |       |              | 5            |            |              |            |
| 2006/07 | 14    | (17.9%)    | 4     |      |       |              | 2            |            |              |            |
| 2007/08 | 10    | (12.8%)    | 7     |      |       |              | 2            |            | 1            |            |
| 2008/09 | 8     | (10.3%)    | 3     | 5    |       |              |              |            |              |            |
| 2009/10 | 1     | (1.3%)     |       |      |       |              | 1            |            |              |            |
|         |       |            |       |      |       |              |              |            |              |            |

Note: The figures in brackets express the number of tags used, as a percentage of those available to Grise Fiord in any single hunting season.

| Age Class | <u>Male</u> | <u>Female</u> | <u>Unknown</u> | <u>Total</u> |          |
|-----------|-------------|---------------|----------------|--------------|----------|
| Adult     | 189         | 41            | 0              | 230          | (57.6%)  |
| Sub-Adult | 30          | 22            | 0              | 52           | (13.0%)  |
| Yearling  | 6           | 7             | 0              | 13           | (3.3%)   |
| Calf      | 0           | 1             | 0              | 1            | (0.3%)   |
| Unknown   | 67          | 22            | 14             | 103          | (25.8%)  |
|           |             |               |                |              |          |
| Total     | 292 (73.2%) | 93 (23.3%)    | 14 (3.5%)      | 399          | (100.0%) |



# **Resolute Bay (1990 to 2010)**

### I Affiliated Management Units

| Old Name | Quota                                     |   |
|----------|---|---|
| A/2-1    | 40  |   |
| A/1-3    | 7   |   |
| A/3-1    | 20  |   |
|          | 67  |   |
|          | 1340                                      |   |
|          | <u> 188</u>                               | (14.0%)   |
| A/2-1    | 60  |   |
| A/1-3    | 6   |   |
| A/3-1    | 117*                                      |   |
|          | 14  |   |
|          | A/2-1<br>A/1-3<br>A/3-1<br>A/2-1<br>A/1-3 | A/2-1 40<br>A/1-3 7<br>A/3-1 20<br>67<br>1340<br>188<br>A/2-1 60<br>A/1-3 6<br>A/3-1 117* |

Note: This figure of 188 represents 14.0 % of all Resolute Bay tags available since 90/91. The asterisk refers to the use of 9 tags by Arctic Bay in the 2004/05 and 2006/07 seasons. Eleven of these tags were used but classed as 'Unsuccessful', and another tag was used but remains unclassified.

#### **II Mortality Statistics**

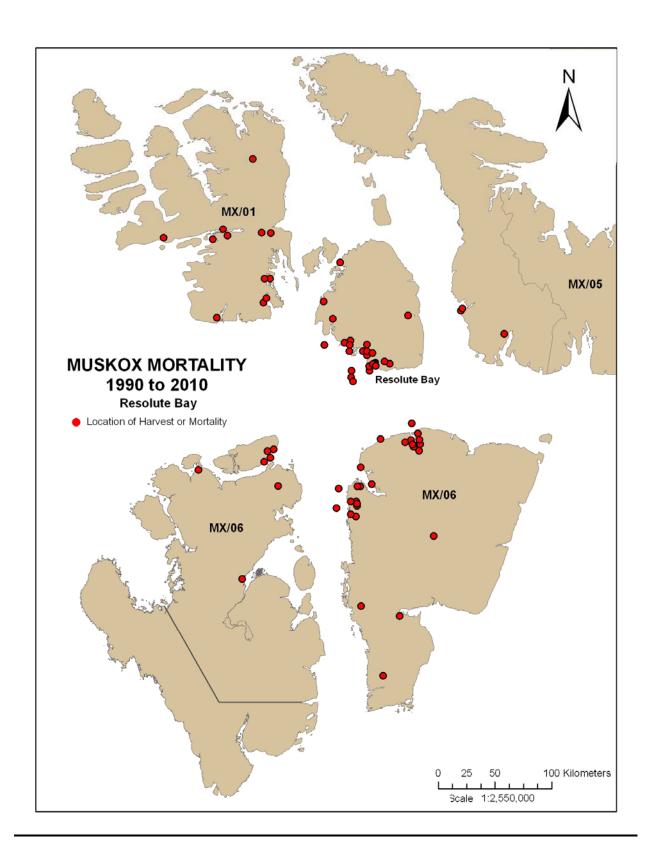
| Beneficiary Kills                   | 87  | (49.4%) |
|-------------------------------------|-----|---------|
| - Domestic                          | 81  |         |
| - Commercial                        | 6   |         |
| Non-Beneficiary Kills (Sport Hunts) | 89  | (50.6%) |
| Total                               | 176 | (100%)  |

### Mortality by Hunting Season & Management Unit

| Season  | Total | Percentage | MX/(         | 01 (40) | MX/          | 05 (7) | MX/0         | 6 (20) |
|---------|-------|------------|--------------|---------|--------------|--------|--------------|--------|
|         |       |            | $\mathbf{M}$ | F       | $\mathbf{M}$ | F      | $\mathbf{M}$ | F      |
| 1990/91 | 4     | (6%)       |              |         |              |        | 4            |        |
| 1991/92 | 11    | (16.4%)    | 3            |         |              |        | 7            |        |
| 1992/93 | 0     |            |              |         |              |        |              |        |
| 1993/94 | 9     | (13.4%)    |              |         |              |        |              |        |
| 1994/95 | 0     |            |              |         |              |        |              |        |
| 1995/96 | 8     | (11.9%)    | 5            | 3       |              |        |              |        |
| 1996/97 | 35    | (52.2%)    | 18           | 10      |              | 1      |              | 2      |
| 1997/98 | 0     |            |              |         |              |        |              |        |
| 1998/99 | 23    | (34.3%)    | 1            | 2       |              |        | 14           | 4      |
| 1999/00 | 18    | (26.9%)    |              |         | 2            |        | 13           | 3      |
| 2000/01 | 14    | (20.9%)    |              |         |              |        | 10           | 1      |
| 2001/02 | 14    | (20.9%)    | 1            | 2       |              |        | 9            |        |
| 2002/03 | 2     | (3.0%)     |              |         |              |        | 1            | 1      |
| 2003/04 | 8     | (11.9%)    |              | 2       |              |        | 4            | 2      |
| 2004/05 | 19    | (28.4%)    |              |         |              |        | 13           | 2      |
| 2005/06 | 8     | (11.9%)    |              |         |              |        | 8            |        |
| 2006/07 | 6     | (9.0%)     | 2            |         |              |        | 4            |        |
| 2007/08 | 3     | (4.5%)     |              |         |              |        | 2            | 1      |
| 2008/09 | 1     | (1.5%)     | 1            |         |              |        |              |        |
| 2009/10 | 5     | (7.5%)     | 5            |         |              |        |              |        |

Note: The figures in brackets express the number of tags used, as a percentage of those available to Resolute Bay in any single hunting season. It should also be noted that it is not clear whether the zero figures are because none were harvested or none recorded.

| Age Class | Male         | <u>Female</u> | <u>Unknown</u> | <u>Total</u> |           |
|-----------|--------------|---------------|----------------|--------------|-----------|
| Adult     | 93           | 20            | 0              | 113          | (64.2%)   |
| Sub-Adult | 14           | 10            | 0              | 24           | (13.6%)   |
| Yearling  | 1            | 1             | 0              | 2            | (1.1%)    |
| Calf      | 0            | 0             | 0              | 0            | (0.0%)    |
| Unknown   | 20           | 5             | 12             | 37           | (21.0%)   |
| Total     | 129 (72 70/) | 26 (20 50/)   | 12 (6 90/)     | 176          | (100.00/) |
| Total     | 128 (72.7%)  | 36 (20.5%)    | 12 (6.8%)      | 176          | (100.0%)  |



# Arctic Bay (1990 to 2010)

### I Affiliated Management Units

| Muskox Unit<br>N/MX/05       | Old Name<br>A/1-3 | Quota<br>4 |         |
|------------------------------|-------------------|------------|---------|
| Annual Quota:                |                   | 4          |         |
| Tags available since 1990/91 |                   | 80         |         |
| Total number used            |                   | <u>27</u>  | (33.8%) |
| N/MX/05<br>N/MX/06           | A/1-3             | 18<br>9    |         |

Note: This figure of 27 represents 33.8% of all Arctic Bay tags available since 90/91.

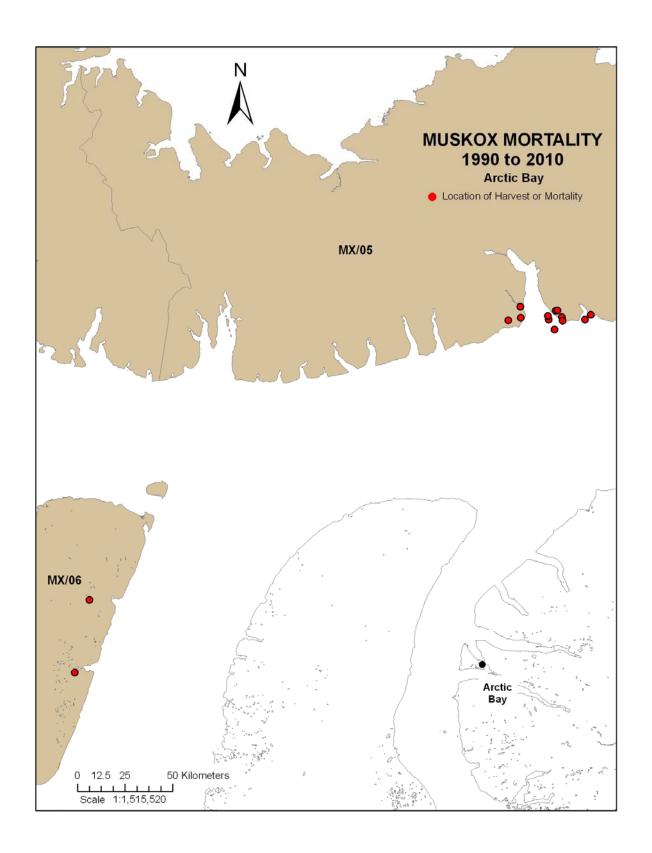
### **II Mortality Statistics**

| Beneficiary Kills     | 26        | (96.3%) |
|-----------------------|-----------|---------|
| - Domestic            | 26        |         |
| Non-beneficiary Kills | 0         |         |
| Natural Mortality     | 1         | (3.7%)  |
| Total                 | <u>27</u> | (100%)  |

| Season  | Total | Percentage | MX/0<br>M | 05 (4)<br>F |
|---------|-------|------------|-----------|-------------|
| 1990/91 | 0     |            |           | _           |
| 1991/92 | 4     | (100.0%)   | 2         | 2           |
| 1992/93 | 0     |            |           |             |
| 1993/94 | 4     | (100.0%)   | 3         | 1           |
| 1994/95 | 0     |            |           |             |
| 1995/96 | 0     |            |           |             |
| 1996/97 | 0     |            |           |             |
| 1997/98 | 1     | (25.0%)    |           | 1           |
| 1998/99 | 0     |            |           |             |
| 1999/00 | 0     |            |           |             |
| 2000/01 | 4     | (100.0%)   | 2         | 2           |
| 2001/02 | 4     | (100.0%)   | 2         | 2           |
| 2002/03 | 1     | (25.0%)    | 1         |             |
| 2003/04 | 0     |            |           |             |
| 2004/05 | 5*    |            |           |             |
| 2005/06 | 0     |            |           |             |
| 2006/07 | 4*    |            |           |             |
| 2007/08 | N/A   |            |           |             |
| 2008/09 | N/A   |            |           |             |
| 2009/10 | 0     |            |           |             |

Note: The figures in brackets express the number of tags used, as a percentage of those available to Arctic Bay in any single hunting season. It should also be noted that it is not clear whether the zero figures before the 1997/98 season are because none were harvested or none recorded. The asterisk s beside the figures for 2004/05 and 2006/07 represent animals that were harvested from Somerset Island (MX/06) with permission from the Resolute Bay HTA.

| Age Class | <u>Male</u> | <u>Female</u> | <u>Total</u> |          |
|-----------|-------------|---------------|--------------|----------|
| Adult     | 14          | 8             | 22           | (88.9%)  |
| Sub-Adult | 3           | 1             | 4            |          |
| Yearling  | 0           | 0             | 0            |          |
| Calf      | 0           | 1             | 1            | (11.1%)  |
| Unknown   | 0           | 0             | 0            |          |
|           |             |               |              |          |
| Total     | 17 (55.6%)  | 10 (44.4%)    | 27           | (100.0%) |



# **PEARY CARIBOU**

The summary tables below describe the total recorded number of Peary caribou harvested in each year by the communities of Grise Fiord and Resolute Bay.

| Community    | Year | Harvest Location   | Total | Source                                | Comments  |
|--------------|------|--------------------|-------|---------------------------------------|---|
|              |      | Bathurst Island    |       | DoE Conservation Officer              | Estimate: No Records on file, however, HTO reports  |
|              | 2010 | Datifal of Tolaira | 15    |                                       | number as being around 15.                          |
|              |      |                    |       | DoE Conservation Officer              | Eartag #1733 - Origin: Telemetry project, 2003; Mar |
|              | 2009 | Bathurst Island    | 18    |                                       | 2 in Polar Bear Pass; Apr - 3 Freeman Cove area     |
|              | 2003 | Datifulst Island   | 10    |                                       | (1M, 2F?); Jul - 1 Freeman Cove area; BI - 8(Sep),  |
|              |      |                    |       |                                       | 4(Dec)  |
|              | 2008 |                    |       |                                       |   |
|              | 2007 | Bathurst Island    | 1     | DoE Conservation Officer              | Eartag #1737 - Origin: Telemetry project, 2003      |
|              | 2006 | Bathurst Island    | 35    | DoE Conservation Officer              | Early Winter (13) & mid-August (22) 2006 Harvest    |
|              | 2005 | Bathurst Island    | 16    | DoE Conservation Officer              |   |
|              | 2004 | eastern QEI pop    | 18    | NWHS via NWMB email, JG June 06,      |   |
| Decelute Dev |      |                    |       | NWHS via NWMB email, JG June 06,      |   |
| Resolute Bay | 2003 | eastern QEI pop    | 18    | 2005                                  |   |
|              | 2002 | eastern QEI pop    | 8     | NWHS via NWMB email, JG June 06,      |   |
|              |      |                    |       | 2005                                  |   |
|              | 2001 | eastern QEI pop    | UNK   | NWHS via NWMB email, JG June 06, 2005 |   |
|              |      |                    |       | Nunavut Wildlife Harvest Study (2004) | 15 from NWHS 2000 harvest reports but JG of         |
|              | 0000 |                    | 45    |                                       | NWMB in june06 email states number reported as 7    |
|              | 2000 |                    | 15    |                                       | from the Eastern QEI population, though one animal  |
|              |      |                    |       |                                       | taken from SI-PoW                                   |
|              | 1999 |                    | 25    | Nunavut Wildlife Harvest Study (2004) |   |
|              | 1998 |                    | 24    | Nunavut Wildlife Harvest Study (2004) |   |
|              | 1997 |                    | 10    | Nunavut Wildlife Harvest Study (2004) |   |
|              | 1996 |                    | 6     | Nunavut Wildlife Harvest Study (2004) | 1996 (Jun-Dec)                                      |

| Community   | Year | Harvest Location  | Total | Source                                | Comments   |
|-------------|------|---|-------|---------------------------------------|--|
|             | 2010 |   |       | DoE Conservation Officer              | no data for 2009/2010  |
|             | 2009 | Muskox & Sor Fiord area                                 | 17    | DoE Conservation Officer              | Estimate; 5 (SorFiord, Nov09)  |
|             | 2008 | Truelove area, Devon;<br>Muskox & Sor Fd.,<br>Ellesmere | 11    | DoE Conservation Officer              | May, Truelove area, 3; Aug, Muskox Fd. Area, 3;<br>Sep, Sor Fd. Area, 5M             |
|             | 2007 | Sor & Vendom Fiord area                                 | 22    | DoE Conservation Officer              | Mar-May, Sor Fd. Area, 21(2M,1F, 18U); Mar,<br>Vendom Fd. Area, 1Unk                 |
| Grise Fiord | 2006 | Southern Ellesmere                                      | 25    | DoE Conservation Officer              | 7 (Sor/Bird Fiord, 22-28Sep06) - AM, Young M, 2AF, 2Y, ?; 18 (Muskox Fiord, 13Sep06) |
|             | 2005 | Southern Ellesmere                                      | 21    | DoE Conservation Officer              | Estimate; updated by phone (JQ) 20Sep2006  |
|             | 2004 | Southern Ellesmere                                      | 25    | HTO via NWMB                          | Estimate   |
|             | 2003 | Southern Ellesmere                                      | 66    | HTO via NWMB                          | Estimate   |
|             | 2002 |   | 35    | DoE Conservation Officer              |  |
|             | 2001 |   | 35    | DoE Conservation Officer              |  |
|             | 2000 |   | 54    | Nunavut Wildlife Harvest Study (2004) |  |
|             | 1999 |   | 35    | Nunavut Wildlife Harvest Study (2004) |  |
|             | 1998 |   | 43    | Nunavut Wildlife Harvest Study (2004) |  |
|             | 1997 |   | 45    | Nunavut Wildlife Harvest Study (2004) |  |
|             | 1996 |   | 19    | Nunavut Wildlife Harvest Study (2004) | 1996 (Jun-Dec)   |

It should be noted that there is no legislation in place that requires any formal reporting of Peary caribou harvest. The information gathered since 1996 has been provided voluntarily. The yearly totals are limited and do not necessarily reflect the actual harvest as they are based on estimates and/or incomplete data.

#### Discussion

Until legislation is introduced requiring mandatory reporting of Peary caribou harvest and muskoxen harvest details, the Government of Nunavut database will be limited in its' accuracy. For the most part, researchers are reliant on the good will and cooperation of harvesters to collect harvest information. Collaborative efforts with the local Hunters and Trappers Associations and their members are necessary to fully develop a detailed harvest database, and to educate community members as to the value of this information.

Over the twenty hunting seasons that the legislation has been in force, the mandatory information required of a tag used to harvest a muskox or to sell/transfer parts of the animal has, for the most part, been supplied. All but three (0.5%) of the 602 harvested/natural mortality used tags have an assigned 'Location' (management unit) with either coordinate information or a location name. The 'Gender' of the muskox was not recorded on 15 occasions, accounting for 2.5% of all used tags. Four of the records (0.66%) were missing a 'Kill Date'. It should be noted that there was a relatively high turnover of Wildlife/Conservation Officers over this period and it is likely that some of the deficiencies are related to the lack of continuity. As well, both communities were without officers for certain periods of time. Records of Peary caribou harvesting for the 2009-10 season in Resolute Bay were lost when a computer containing the records malfunctioned. One paper copy record was found on file but the total estimate for the year was derived by personal communication with the local HTO who did not possess hard copy data of this information.

Particular emphasis should be placed on the collection of the mandatory information. While this has generally been excellent over the years, some of the additional information about the hunter, especially those of the 'Sports' hunters, has been lacking. For example, without the country of origin one cannot speculate on the potential implications that any restrictive international species legislation might have on the economics of muskox sport hunting. Many of the sport hunters who are in the community to harvest a polar bear often purchase an additional muskox tag. The hunter's information could be cross-referenced with information supplied with the polar bear submissions prior to sending in the completed muskox harvest form.

Harvest information for Peary caribou is extremely limited. Peary caribou have never been the subject of any form of legislated harvest restrictions despite being classified as a wildlife Species At Risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for over thirty years. After declines in population numbers, Peary caribou were given 'Threatened' status in 1979. They were reassessed as 'Threatened' in the lower arctic and 'Endangered' in the high arctic islands in 1991, and in 2004 the entire *pearyi* subspecies was designated 'Endangered' (COSEWIC, 2004). Most recently, in February of 2011, Peary caribou were federally listed as Endangered in Part 2 of Schedule 1 of the Species At Risk Act (SARA) (Canada Gazette part II, Vol 145, No 4, 2011-02-16). However, provisions for Species At Risk designation under the Nunavut Wildlife Act have yet to be called upon.

Thus far, harvest information recorded for Peary caribou has been provided only through the

voluntary contribution of hunters and recorded harvest levels (including those reported in this document) are an underestimate of the actual harvest. However, given the listing of Peary caribou as Endangered under SARA, a shift in the harvest reporting system from voluntary to mandatory is recommended. This is part of on-going consultations between managers and the local HTOs and communities. A recommended draft hunter harvest form for Peary caribou is provided in Appendix 2.

A report by Jenkins *et. al.*, (2011), provides the latest abundance and distribution information on both Peary caribou and muskoxen in the high arctic. The report makes recommendations for formal and more frequent monitoring and for management programs to detect changes in abundance and distribution over time. This baseline information is critical for making adaptive harvest changes that reflect sustainable harvest levels based on current population information. A comprehensive monitoring program in combination with harvest reporting will help inform future management actions and the development of a recovery strategy for Peary caribou.

#### **Literature Cited**

- Barr, W. 1991. Back from the brink: the road to muskox conservation in the Northwest Territories. Arctic Institute of North America, University of Calgary, Konatik Series, 3.
- COSEWIC. 2004. Assessment and update status report on the Peary caribou Rangifer tarandus pearyi and the Barren-ground caribou Rangifer tarandus groenlandicus (Dolphin and Union population) in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa.
- Dick, L. 2001. Muskox land: Ellesmere Island in the age of contact. University of Calgary Press, Calgary, AB.
- DoE. 2004a. High Arctic Peary caribou management plan. 5<sup>th</sup> Draft. Department of Environment, Government of Nunavut, and Resolute Bay Hunters and Trappers Association, Resolute Bay, NU.
- DoE. 2004b. High Arctic Peary caribou management plan. Draft 5. Department of Environment, Government of Nunavut, and Iviq Hunters and Trappers Association, Grise Fiord, NU.
- Ferguson, M.A.D. 1991. Peary caribou and muskoxen on Bathurst Island, Northwest Territories, from 1961 to 1981. Department of Renewable Resources, Government of the Northwest Territories, File Report No. 88, Pond Inlet, NU.
- Gunn, A. & Forchhammer, M. 2008. *Ovibos moschatus*. In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.4. < <a href="www.iucnredlist.org">www.iucnredlist.org</a>>. Accessed on 06 May 2011.
- Jenkins, D., M. Campbell, G. Hope, J. Goorts, and P. McLoughlin. 2011. Recent trends and abundance of Peary caribou (Rangifer tarandus pearyi) and muskoxen (Ovibos moschatus) in the Canadian Arctic Archipelago, Nunavut. Department of Environment, Government of Nunavut, Wildlife Research Section, Wildlife Report No. 1, Pond Inlet, NU.
- Petersen, S.D., M. Manseau, and P.J. Wilson. Bottlenecks, isolation, and life at the northern range limit: Peary caribou on Ellesmere Island, Canada. Journal of Mammalogy 91(3): 698-711.
- QSO. 2005. Grise Fiord, Nunavut. New Teacher Orientation, Qikiqtani School Operations. Assessed from <a href="http://mailhub.edu.nu.ca/qikiqtani/orientation/GriseFiord.html">http://mailhub.edu.nu.ca/qikiqtani/orientation/GriseFiord.html</a>, on 5 May 2011.
- Wildlife Act, RSNWT 1988, c W-4. Assessed from the Canadian Legal Information Institute,

<a href="http://www.canlii.org/en/nt/laws/stat/rsnwt-1988-c-w-4/latest/rsnwt-1988-c-w-4.html">http://www.canlii.org/en/nt/laws/stat/rsnwt-1988-c-w-4/latest/rsnwt-1988-c-w-4.html</a>, on 5 May 2011.

Wildlife Act SNu 2003, C 26. Assessed from the Canadian Legal Information Institute, <a href="http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html">http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html</a>, on 5 May 2011.

### Appendix 1

Department of Environment Government of Nunavut Muskox Mortality Return Form

| Please print or type all the information. Where   | options are provided, circle correct answer.                                    |
|---|---|
| 1. Collector's Name (if animal found dead):   |   |
| 2. Hunter's Name:   |   |
| 3. Hunter's Mailing Address:  |   |
| 4. Type of Hunting License:   |   |
| 5. Type of Harvest or Mortality:  | Domestic, Commercial, Sport or Natural  |
| 6. Kill Date (or date found):   | Day, Month, Year  |
| 7. Location name: (including management unit, ie MX/05)   |   |
| 8. Location Latitude:   | o=N   |
| 9. Location Longitude:  | eW  |
| 10. Animal's Gender:  | Male, Female, Unknown.  |
| 11. If female, was it pregnant?   | Yes, No, Unknown.   |
| 12. Estimated Age:  | Calf (0-1 yr), Yearling (1-2 yr),<br>Subadult (2-4 yr), Adult (4+ yr), Unknown. |
| 13. Condition:  | Poor Average Good   |
| 14. Muskox Tag Number:  |   |
| 15. Meat Utilisation:   | Domestic Commercial   |
| 16. Comments/Other information (use of skin, meat and head; changes in distribution or density of animals in area; etc.): |   |

Note: Many records in the Muskoxen mortality database are lacking data due to incomplete mortality sheets. While it is accepted that due to the nature of hunting in the High Arctic, together with the fact that it is not mandatory to report all the details of a harvest, one cannot automatically assume that it is possible to collect all information on a hunt in a timely manner. Items 7, 10 & 14 are mandatory.

# Appendix 2. – Draft version for consideration

Department of Environment Government of Nunavut

**Peary Caribou Mortality**Return Form

| Please print or type all the information. Where   | options are provided, circle correct answer. |
|---|--|
| 1. Collector=s Name (if animal found dead):   |  |
| 2. Hunter=s Name:   |  |
| 3. Hunter=s Mailing Address:  |  |
| 4. Type of Hunting License:   |  |
| 5. Type of Harvest or Mortality:  | Domestic or Natural                          |
| 6. Kill Date (or date found):   | Day, Month, Year                             |
| 7. Location Name: (including Management Unit, ie. N1 or N2)   |  |
| 8. Location Latitude:   | =N   |
| 9. Location Longitude:  | eW   |
| 10. Animal=s Gender:  | Male, Female, Unknown.                       |
| 11. If female, was it pregnant?   | Yes, No, Unknown.                            |
| 12. Estimated Age:  | Calf (0-1 yr), Yearling (1-2 yr),            |
|   | Subadult (2-4 yr), Adult (4+ yr), Unknown.   |
| 13. Condition:  | Poor Average Good                            |
| 15. Meat Utilisation:   | Domestic Commercial                          |
| 16. Comments/Other information (use of skin, meat and head; changes in distribution or density of animals in area; etc.): |  |