



To: Nunavut Wildlife Management Board

From: NTI Wildlife & Environment

Subject: Regional TAH for the Foxe Basin Polar Bear Subpopulation in the NSA

Date: Wednesday, July 24th, 2013

1 Management Issues

1.1 Increasing Encounters with Polar Bears in Communities

Many Nunavut communities have been experiencing increased encounters with polar bears in and near their communities which is a major safety concern. One consequence is that some communities have harvested more females than recommended by the Government of Nunavut (GN) for the 2012-2013 harvesting season. Consequently, communities that have overharvested bears may experience serious hardship due to a decrease or moratorium of their total allowable harvest (TAH) based on management recommendations provided as part of the Polar Bear Management Memorandum of Understanding (MOU). For the Foxe Basin polar bear population, this seems especially harsh given the results of the recent GN population assessment, which indicates that the number of polar bears in the population has not declined since the Government of the Northwest Territories (GNWT) completed the last population estimate in 1994.

1.2 Management Objectives

1.2.1 Target Population

The MOU established a target population of 2,300 animals for this subpopulation in 2005 based on *Inuit Qaujimagajatuqangit* (IQ). In 2012, this subpopulation was estimated at 2,580 animals \pm 487 animals based on an aerial survey. Therefore, the status of this subpopulation since 1994 has remained stable.

2 Background

2.1 Management

Inuit support the continued utilization of polar bears through sound wildlife management. Nunavut Inuit continue to use their own systems of management to decide when and how to hunt polar bears, based on IQ. As the primary instrument of wildlife and an institution of public government, the Nunavut Wildlife Management Board (NWMB) establishes, modifies, and removes TAHs and non-quota limitations (NQLs). The TAHs may also be recommended by Government and are ultimately decided by Government. Communities closely monitor the TAHs and there has been a long and successful history of communication and compliance (see Tables 2 and 3 and Figure 1).

2.2 Population status

According to the Polar Bear Specialist Group (PBSG), the current status, current trend and estimated risk of future decline of Foxe Basin were listed as data deficient at their last meeting in 2009 (PBSG 2009). According to the Polar Bear Technical Committee (PBTC), the 2012 status was assessed as not reduced, the observed/historical trend was assessed as stable and the predicted trend was assessed as data deficient (PBAC 2012). The results of a recent aerial survey indicate that the subpopulation has not been reduced and may have increased. When compared to previous population estimates, the recent trend of the subpopulation is considered to be stable. This is consistent with *Inuit Qaujimajatuqangit* that indicates that the population has increased (Environment Canada consultation report 2010).

2.3 Population estimate

A total subpopulation estimate of $2,119 \pm 349$ animals was reported in 1996 (Taylor et al. 2006) from a mark-recapture analysis based on harvest recovery of bio-marked bears (tetracycline). In 2004, the population estimate was revised to 2,300 animals based on IQ (MOU 2005). In 2012, The GN reported a total subpopulation estimate of $2,580 \pm 487$ based on an analysis of an aerial survey (GN 2012).

2.4 Harvest management

The communities of Cape Dorset, Chesterfield Inlet, Coral Harbour, Hall Beach, Igloodik, Kimmirut, Repulse Bay and Northern Quebec currently utilize this population and have had their harvest levels both reduced and increased historically.

“Harvest levels in Nunavut were reduced in 1996 to permit slow recovery of this subpopulation. After consultations in 2004, the Nunavut quota was increased to accommodate the target population of 2300 animals (106 per year), based upon the available scientific information and the increasing trend observed by Inuit. Reported harvest in northern Quebec averages 2 bears per year.” (PBSG 2009:45)

3 Recommendations

3.1 Principles of Conservation

The request to increase the TAH is consistent with the principles of conservation provided in section 5.1.5 of the NLCA and specifically item (a) for which both IQ and scientific results are currently informing. Inuit are indicating that the number of polar bears for this subpopulation has increased. The current MOU has established a target population of 2,300 animals. The principles of conservation are listed as:

- (a) the maintenance of the natural balance of ecological systems within the Nunavut Settlement Area;
- (b) the protection of wildlife habitat;
- (c) the maintenance of vital, healthy, wildlife populations capable of sustaining harvesting needs as defined in this Article; and
- (d) the restoration and revitalization of depleted populations of wildlife and wildlife habitat.

3.2 Management Objectives

NTI supports the request from affected communities to increase the total allowable harvest for the Foxe Basin polar bear subpopulation based on the most recent population estimate and Inuit Qaujimajatuqangit in order to:

1. address problem bears entering affected communities and
2. follow the management agreement in which a target number of 2,300 animals has been established and by doing so adhere to principle (a) of Article 5.1.5 of the NLCA as well as acknowledge Inuit systems of management as per the principles of Article 5
3. address the overharvest of females and lack of female credits in the management system

4 References

- Canadian Wildlife Service (CWS). 2010. Nunavut Consultation Report. Consultations on the Proposed Listing of the Polar Bear as Special Concern under the Species at Risk Act. Conducted February to April 2009. Prepared by Canadian Wildlife Service. Environment Canada, Iqaluit, NU. 247 pp.
- Government of Nunavut. 2004. Polar Bear Management Memorandum of Understanding between Chesterfield Inlet Aqigiq Hunters and Trappers' Organization, Repulse Bay Arviq Hunters and Trappers' Organization, Coral Harbour Aiviit Hunters and Trappers' Organization, Hall Beach Hunters and Trappers' Organization, Igloolik Hunters and Trappers' Organization, Cape Dorset Aiviq Hunters and Trappers' Organization, Kimmirut Mayukalik Hunters and Trappers' Organization, Kivalliq Wildlife Board, Qikiqtaaluk Wildlife Board and The Department of Environment, Government of Nunavut for the Management of the Foxe Basin Polar Bear Population. Government of Nunavut, Iqaluit, NU. 26 pp.
- Government of Nunavut. 2012. Foxe Basin Polar Bear Aerial Survey, 2009 and 2010 Final Report. Prepared by D. Garshelis, S. Stapleton, E. Peacock, and S. Atkinson. Government of Nunavut, Iqaluit, NU. 19 pp.
- Polar Bear Administrative Committee (PBAC). 2012. PBAC Approved Polar Bear Technical Committee (PBTC) 2012 Status Table. Environment Canada, Ottawa, ON. 2 pp.
- Polar Bear Specialist Group (PBSG). 2009. Proceedings of the 15th working meeting of the IUCN/SSC Polar Bear Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. 168 pp.
- Taylor, M.K., Lee, J., and P. D. McLoughlin. 2006. Estimating Population Size of Polar Bears in Foxe Basin, Nunavut, Using Tetracycline Biomarkers Final Report No. 1. Government of Nunavut, Iqaluit, NU, 13 pp.

5 Appendix

Nunavut	TAH
Cape Dorset	10
Chesterfield Inlet	8
Coral Harbour	40
Hall Beach	8
Igloodik	10
Kimmirut	10
Repulse Bay	12
Kivalliq Wildlife Board	4
Qikiqtaaluk Wildlife Board	4
Northern Quebec	7
Total	113

Table 1: Current Allocations of the TAH (113) for the FB Population (Target population = 2300)

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cape Dorset	10	11	11	11	11	11	11	11	11
Chesterfield Inlet	1	3	9	8	10	4	9	9	8
Coral Harbour	39	41	41	41	41	41	41	40	40
Hall Beach	7	9	5	9	9	7	8	9	9
Igloodik	10	8	9	11	11	7	11	8	11
Kimmirut	10	11	11	11	11	11	11	11	11
Repulse Bay	11	13	13	13	11	13	13	7	4
Arviat				1				1	
Baker Lake	1			1			1	1	
Rankin Inlet	1	1	1						
Whale Cove									
Total	90	97	100	106	104	94	105	97	94

Table 2: Annual TAHs for communities harvesting Foxe Basin polar bear subpopulation

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cape Dorset	9	12	12	10	10	12	12	11	12
Chesterfield Inlet	2	2	4	8	9	4	10	9	10
Coral Harbour	39	42	42	40	39	43	42	41	44
Hall Beach	10	10	7	9	11	10	10	8	10
Igloolik	11	8	9	11	11	12	11	9	15
Kimmirut	9	7	14	12	12	13	9	9	9
Repulse Bay	13	13	12	10	11	15	14	15	8
Arviat				1				1	
Baker Lake	1								
Rankin Inlet	1								
Whale Cove								1	
Total	95	94	100	101	103	109	108	104	108

Table 3: Harvest for communities harvesting Foxe Basin polar bear subpopulation

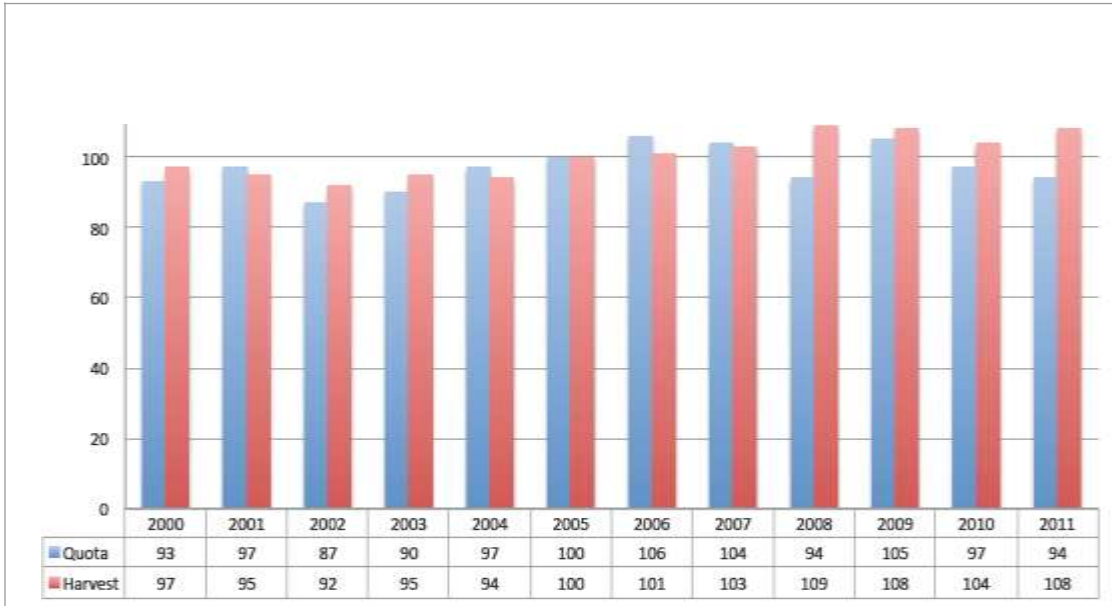


Figure 1: Harvest and TAHs for Foxe Basin Polar Bear Subpopulation

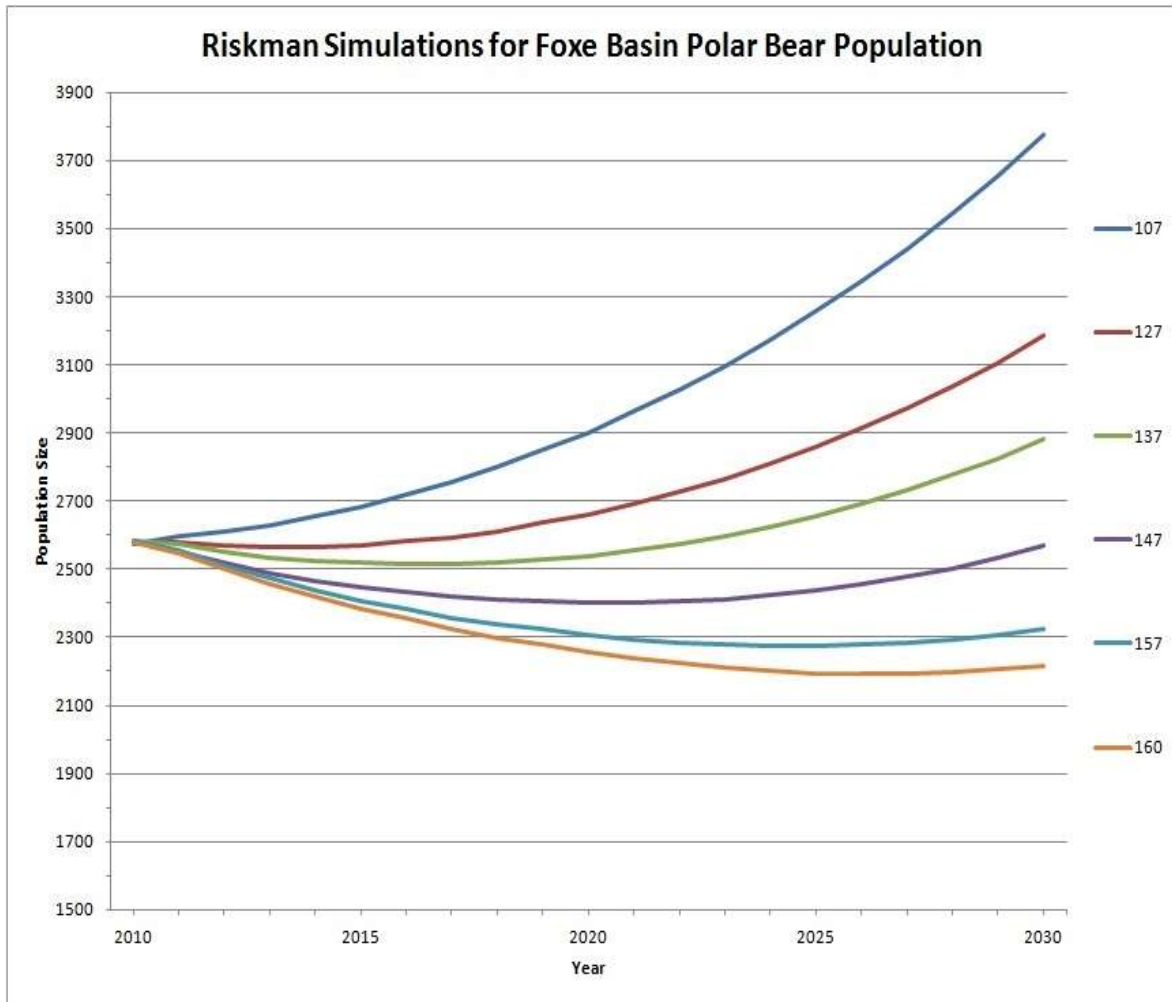


Figure 2 – Riskman Simulations for Foxe Basin polar bear subpopulation with harvest scenarios of 107 - 160. Initial population = 2580.