

August 2, 2013

***Via Electronic Mail***

Manasie Audlakiak  
Acting Chairperson  
Nunavut Wildlife Management Board  
P.O. Box 1379  
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Email (per instructions of the NWMB office): [receptionist@nwmb.com](mailto:receptionist@nwmb.com)

**Re: Total Allowable Harvest for the Foxe Basin Polar Bear Population**

Dear Chairperson Audlakiak,

Thank you for this opportunity to submit comments on the Qikiqtaaluk Wildlife Board (QWB) proposal to increase the current Total Allowable Harvest (TAH) for the Foxe Basin Polar Bear subpopulation in the Nunavut Settlement Area. As explained below, I strongly oppose any increase in TAH for the Foxe Basin polar bear population.

As the Board is aware, in 1996, the Foxe Basin population was estimated at  $2,119 \pm 349$  based on mark-recapture analysis.<sup>1</sup> In 2005, Nunavut increased the population estimate to 2,300, based on traditional ecological knowledge (TEK), and the TAH was set at 106. It is estimated that two Foxe Basin bears are taken in Quebec each year, where the hunting not regulated. The Polar Bear Specialist Group (PBSG) considers the population's status, current trend, and estimated risk of future decline to be "data deficient."<sup>2</sup> Accordingly, the PBSG has stated that "[i]t is unknown" if the current harvest level of 106 is sustainable.<sup>3</sup> In recent years, the quota set for this population has consistently been exceeded, and in some years, exceeded by substantial amounts.<sup>4</sup>

The Foxe Basin polar bear population faces severe risk of extinction due to climate change. The population's habitat encompasses the northern portion of Foxe Basin, Hudson Bay, and Hudson Strait, an area which is seasonally ice-free and spans portions of both Nunavut and Nunavik. The population has already suffered severe habitat decline. In 2012, Sahanatien and Derocher found that, "from 1979 to 2008, the Foxe Basin ice season decreased from 9 to 7

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<sup>1</sup> Obbard, M.E., G.W. Thiemann, E. Peacock, and T.D. DeBruyn. 2010. Polar Bears: Proceedings of the 15th Working Meeting of the IUCN/SSC Polar Bear Specialist Group, Copenhagen, Denmark, 29 June–3 July 2009. Gland, Switzerland and Cambridge, UK: IUCN. Available at: [www.iucn.org/dbtwwpd/edocs/SSC-OP-043.pdf](http://www.iucn.org/dbtwwpd/edocs/SSC-OP-043.pdf); Taylor, M.K., Lee, J., Laake, J. and McLoughlin, P.D. 2006. Estimating population size of polar bears in Foxe Basin, Nunavut using tetracycline biomarkers. File Report, Department of Environment, Government of Nunavut. Igloolik, Nunavut, Canada. 13 pp.

<sup>2</sup> Obbard 2010.

<sup>3</sup> *Id.*

<sup>4</sup> See Letter from Joshua Kango, Vice Chairman, Qikiqtaaluk Wildlife Board to Manasie Audlakiak, NWMB. Request for Increase in Polar Bear Total Allowable Harvest (TAH) for the Foxe Basin (FB) Population (May 3, 2013) (showing the Foxe Basin TAH was exceeded each year between 2008 and 2011, and in 2011, the quota (adjusted to make up for previous years' overharvest) was exceeded by 14 bears).

months,” and that the ice seasons in Hudson Strait and Hudson Bay have also decreased.<sup>5</sup> In addition to habitat loss, as the climate warms and sea ice becomes less compacted, ice floes drift more easily and further apart, requiring increased movement rates for the polar bears, which increases energy costs, reduces energy stores, and requires more and longer swimming events.<sup>6</sup> Sahanatian and Derocher hypothesized that “the polar bears of . . . the Foxe Basin population, will show future reduced body condition and cub production in response to the documented changes in sea ice habitat, as have been observed in the Western Hudson Bay and Southern Hudson Bay populations.”<sup>7</sup>

In 2012, Nunavut released its findings of aerial surveys conducted in 2009 and 2010, which resulted in an abundance estimate for the Foxe Basin population of 2,580.<sup>8</sup> While the authors state that the survey suggests the population has remained “relatively stable” since the 1990s, they caution that “aerial survey data yield information . . . on trend *only* via a time series of population estimates; accordingly, reliance on such data may require more conservative harvest management.”<sup>9</sup> Further, “using the 1990s estimate to assess population trend (instead of current estimates of vital rates) may limit inferences about the current management system. In accordance with the precautionary principle, managing with less information may ultimately require more conservation management...”<sup>10</sup>

In response to the aerial survey, the Government of Nunavut considered whether the Foxe Basin TAH should be altered but ultimately recommended “no change in the present TAH of 106.”<sup>11</sup> The Government explained that the aerial survey “does not provide estimates of survival and recruitment which are necessary to determine population growth rate (i.e. trend) and to calculate long-term sustainable harvest.” Additionally, the Foxe Basin population “may be subject to a range of pressures in [the] future which could negatively affect population size and productivity,” including “long-term declines in sea-ice quality and quantity” and shipping and industrial development in the population’s habitat. Lastly, hunting of the population is unregulated in Nunavik, and although hunting levels in Nunavik are currently believed to be low, hide prices are rising and a “recent spike” of hunting has been documented in Nunavik for the Southern Hudson Bay population. Similar hunting pressure could affect the Foxe Basin population.<sup>12</sup>

On May 23, 2013, the Qikiqtaaluk Wildlife Board (QWB) requested an increase in the Foxe Basin TAH but did not propose a specific TAH. I strongly urge the NWMB to deny this request. The QWB’s request relies on the 2012 aerial survey data, inaccurately stating the data “suggests higher polar bear numbers” compared to the 1990s mark-recapture data.<sup>13</sup> However, as described by

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<sup>5</sup> Sahanatian, V. and A.E. Derocher. 2012. Monitoring sea ice habitat fragmentation for polar bear conservation. *Animal Conservation* 15, 397-406.

<sup>6</sup> Stirling, I. and A.E. Derocher. 2010. Effects of climate warming on polar bears: a review of the evidence. *Global Change Biology* 18, 2694-2706, doi: 10.1111/j.1365-2486.2012.02753.x.

<sup>7</sup> *Id.*

<sup>8</sup> See Garshelis, D., E. Peacock, S. Atkinson. 2013. Aerial Survey Population Monitoring of Polar Bears in Foxe Basin. Unpublished.

<sup>9</sup> *Id.* (emphasis added).

<sup>10</sup> *Id.*

<sup>11</sup> Government of Nunavut briefing note on the results of the 2009-2010 aerial surveys of the Foxe Basin Polar Bear subpopulation. Aug. 10, 2012.

<sup>12</sup> *Id.*

<sup>13</sup> Kango Letter.

the Government of Nunavut in their recommendation not to increase the TAH, the aerial survey and the 1996 mark-recapture survey estimates cannot be directly compared, and the aerial survey did not provide the data necessary to determine trends.<sup>14</sup> To the degree the mark-recapture and aerial survey estimates are compared, the aerial survey authors suggest the population is “relatively stable,” not that the population is experiencing growth.

Additionally, the PBSG has questioned whether the *current* TAH of 106 is sustainable. As noted above, the population’s status, trend, and estimated risk of future decline are “data deficient.”<sup>15</sup> Recent studies have found declining quality and quantity of sea ice in Foxe Basin and predict future declines in body condition and cub production.<sup>16</sup> The Polar Bear Agreement, to which Canada is a party, requires that all harvest decisions be based on “sound conservation practices [and] on the best available scientific data.”<sup>17</sup> Accordingly, the NWMB may approve a TAH only if the best scientific data available harvest clearly demonstrates the take is sustainable.

In conclusion, I urge NWMB to deny the QWB’s request for an increased TAH for the Foxe Basin polar bear population. Thank you for your time and consideration, and please feel free to contact me if you have any questions regarding this submission.

Sincerely,



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<sup>14</sup> Garshelis 2013.

<sup>15</sup> Obbard 2010.

<sup>16</sup> Sahanatian and Derocher 2012.

<sup>17</sup> Agreement on the Conservation of Polar Bears, Art. II (Nov. 15, 1973).