

**IUCN/Species Survival Commission  
Polar Bear Specialist Group**



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**Re: Written hearing of the Nunavut Wildlife Management Board to consider proposed modification to the 2012-2013 level of total allowable harvest for the Western Hudson Bay polar bear subpopulation in the Nunavut Settlement Area**

On June 26th 2012, the Nunavut Wildlife Management Board (NWMB) invited the IUCN/SSC Polar Bear Specialist Group (PBSG), to comment on the proposal by the Government of Nunavut's Department of Environment (GN) to increase the total allowable harvest (TAH) for the Western Hudson Bay (WH) polar bear subpopulation, in the Nunavut Settlement Area, to 24 rather than have it revert back to 8 for the 2012-2013 harvest season. In fact, last year's quota, which was actually 38 (17 to 'pay back' over harvests in previous years plus 21 to be used in 2011-12), was a one year increase that ended 30 June 2012. That increase was opposed at the time by the PBSG. On July 1st, the TAH would technically have reverted back to 8. The following is our evaluation of the new proposal, and recommendation.

The PBSG commends the NWMB, along with several other agencies, for funding an aerial survey of the area occupied by the Western Hudson Bay subpopulation of polar bears during the ice-free period in late summer, 2011. In part, conducting an aerial survey sought to address the desire expressed by hunters for a population assessment that did not involve handling polar bears, which has been the method applied in most parts of the Arctic for many years. Results of the 2011 aerial survey provide additional useful information on the status of the Western Hudson Bay subpopulation.

In summary, the PBSG strongly opposes the proposed increase in the TAH for three reasons: 1) the increase is being proposed for approval before the final analyses, evaluations, and comparisons of the results from all the population studies of this population have been completed. Given the continued concern about the survival and reproduction of the Western Hudson Bay subpopulation, held by most scientists outside Nunavut, we recommend that all avenues of data analyses and comparison should be fully evaluated before the TAH is increased substantially; 2) based on the fact that the aerial survey identified that only 3% of the animals counted were yearlings, instead of around 10-15 % which is the approximate proportion in a normal healthy population, it is likely that even with the previous TAH of 8 that the harvest would be unsustainable; and, 3) there is no indication that any of the other jurisdictions or agencies that share responsibility for conservation and management of this subpopulation (particularly Manitoba, where most of the cubs for this subpopulation are produced) support this proposed increase.

In point form as follows, the PBSG details the reasons for its strong objections to this proposed increase in the TAH for the Western Hudson Bay polar bear subpopulation.

1. The final report from the aerial survey by Nunavut suggests that the mark-recapture studies in WH have resulted in the abundance estimates being biased low because the area between the Nelson River and the Ontario border was under-represented. If that is true, then the 1987 mark-recapture estimate of 1200 would also have been biased low. If the 1987 estimate really was low then the fact that the 2011 estimate from the aerial survey, covering the whole area, was 1000 is even more worrisome.
2. The GN submission to the NWMB states on p. 2, paragraph 2 that the estimate of the number of bears in the WH subpopulation from the 2011 aerial survey is "very likely estimated low" citing Atkinson et al. (2011). However, this is not what Atkinson et al. (2011) state. In fact, they state (p. 32) "Because this study met analytical assumptions and potential

sources of bias were likely minimal, we believe that the aerial survey-based estimate of 1,000 bears (95% CI: ~715 – 1398) accurately reflects the number of polar bears within the bounds of WH during August, 2011.” The authors then state that “any biases in the aerial survey would likely result in an underestimate of the true polar bear abundance in WH”. Note that in the previous sentence Atkinson et al. argue that potential sources of bias were minimal. Therefore, it is misleading to state that the aerial survey was “very likely estimated low”.

3. When comparing subpopulation-specific reproductive information from recent surveys, Atkinson et al. (2011:26) note that mean litter size of cubs and yearlings were lowest in WH, and that the proportion of cubs and yearlings of all bears observed was the lowest of any subpopulation. For example, 7% of bears seen in WH during the aerial survey were cubs and 3% were yearlings. This contrasts starkly with data from the neighbouring Southern Hudson Bay subpopulation collected at about the same time. In SH, 16% of bears seen were cubs and 12% were yearlings, and litter sizes were greater in SH (Atkinson et al. 2011: Table 5). Atkinson et al. (2011:27) conclude that these “findings are a strong indication that WH is currently less productive than other subpopulations in the Hudson Bay complex”.
4. Nunavut states that the sustainable harvest was calculated as per Taylor et al. (1987). However, in developing that formula, Taylor et al. (1987) used pooled reproductive data collected from polar bears across the Canadian High Arctic between 1970 and 1984. Nunavut switched to the use of population viability analyses, using population specific vital rates, in part because of concerns that using the Taylor et al. (1987) approach could result in unsustainable harvests in populations where productivity was less than the pooled rates. Therefore it is unclear why the formerly discarded Taylor et al. (1987) approach was used here, rather than the recent subpopulation-specific vital rates from WH capture-recapture studies.
5. There is no indication of an overall management goal or desired population size for WH. It is clear from the TEK report distributed by Mr. Kotierk that many people living on the western coast of Hudson Bay in Nunavut think there are too many bears and there should be fewer. Is implementing a TAH, which does not appear to be sustainable, part of a management strategy to reduce the size of the WH population? If that is the case, then it should be stated clearly as such.
6. It does not appear that any effort has been made in the final report from the Nunavut aerial survey report to critically evaluate the influence of possible changes in sea ice breakup patterns on the distribution and movements of polar bears of all different age and sex classes relative to the time the aerial survey was conducted.
7. Because of the points raised above, we suggest the proposed increase in the TAH is clearly contrary to what would be recommended on the basis of “the best available scientific evidence” and thus contravenes the intent of the Agreement on the Conservation of Polar Bears (1973), which Canada has both signed and ratified. Article II of The Agreement states that “Each Contracting Party.... shall manage polar bear populations in accordance with sound conservation practices based on the best available scientific data.”
8. No new Traditional Knowledge, beyond that available from previous years, has been presented that would justify or support the proposed quota increase and demonstrate that it would be sustainable. Rather the recommendation appears to be based on “strongly held views” that the scientific population estimate and the previous TAH, are too conservative. In the view of the PBSG, such an approach is not defensible.
9. Effective conservation and management should not be based solely on the estimated number of animals but must also consider trends in population status and health. Several years of detailed evaluation of body condition, reproduction, and survival of cubs indicate all parameters are declining significantly. In addition, specific comparisons of these values between bears that had previously been handled, and those that had not, in the same time periods, found there were no significant differences. Thus, the decline in the parameters listed above, cannot be attributed to handling for scientific studies. Some of these values and comparisons have been published previously and an extensive re-analysis is currently



underway. An overall assessment of the ability of the population to withstand any TAH should be deferred until all data can be evaluated. Such an evaluation will at some point be secured through publication in peer-reviewed scientific literature, and additionally it might even be subject to dedicated workshops with all scientists and representatives of user groups participating.

10. Polar bears are currently listed as a “threatened species” in Manitoba. Parks Canada protects the main maternity denning areas for the Western Hudson Bay subpopulation in Manitoba. Non-consumptive uses in Manitoba, including tourism, depend on living bears present on the Hudson Bay coast to support their activities. There is no indication that either Manitoba or Parks Canada is supportive of an increase in the TAH.
  
11. Proposing an increase in the TAH, in a subpopulation where the scientific information suggests the subpopulation is declining and where there is no indication it could be supported, is not consistent with the “precautionary principle”, widely accepted by conservation organizations around the world, in which increases in harvest levels are not made where there is uncertainty about whether or not they could be sustained. It is the opinion of the PBSG that there is a high degree of uncertainty with respect to whether Nunavut’s proposed TAH is sustainable and thus should be rejected.

Should the Nunavut Wildlife Management Board require any additional information or clarification, please contact me and I will coordinate the request with the Specialist Group.

Sincerely yours,



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