





**SUBMISSION TO THE  
NUNAVUT WILDLIFE MANAGEMENT BOARD  
FOR**

**Information:**

**Decision: X**

**Issue:** Davis Strait Polar Bear Total Allowable Harvest and Domestic Inter-jurisdictional Management.

**Background:**

Within Canada, the Davis Strait (DS) Polar Bear Population is shared by Nunavut, Quebec and Labrador. This population may also be opportunistically harvested by residents of Greenland, although historical harvest levels are believed to be very low at about 2 bears per year.

The population was first inventoried in the 1970s (1974-79) by a mark-capture study conducted during the spring-time. This study did not cover the entire area which is now defined as "Davis Strait" and likely underestimated the population size at approximately 900.

Based on the population estimate derived from the 1970s study, jurisdictions around DS attempted to managed harvesting around a combined maximum of 57 bears annually; informally acknowledging harvest levels in each jurisdiction as follows: Nunavut 34 Quebec 15, Nunatsiavit 6, and Greenland 2.

In 1992 and 1993 surveys found larger densities of bears as well as older bears. Satellite tracking information in 1991-94 also indicated large numbers of bears offshore in pack ice. These indicators suggested a healthy population that was sustaining itself, which was consistent with Traditional Knowledge and hunter observations. Population modeling indicated that the population needed to be at least 1400 to sustain a harvest of 57 animals, and in 1995 the population estimate was increased to 1400.

During the MOU consultations in 2005, Inuit indicated that the DS population had increased and, based on Inuit Knowledge, the NWMB and GN supported an increase in the Nunavut TAH from 34 to 46. This raised the total combined harvest from 55 to 65.

The population was identified as the highest priority for research, and the GN initiated a population inventory mark-recapture study (2005-2007). The results indicated that the population significantly increased from the previous estimate of 1400. Specifically, the results indicated that, as of October 2007, the population estimate was 2158 bears with a 95% confidence interval of 1978 – 2338.

Population growth rate before accounting for harvest was estimated at 3%. The current total combined harvest from DS of approximately 67<sup>1</sup> bears annually represents about 3.1% of the 2007 population estimate. At this level of harvest, the population would remain stable if it is assumed that productivity (i.e., reproduction and survival) remains unchanged in future<sup>2</sup>. However, findings from the study suggest that DS is currently experiencing a decline in productivity that is predicted to result in a population decline in future<sup>3</sup>. This reduced productivity may, in part, be attributable to the effects of high bear densities<sup>4</sup> which came about during a period of population growth from the 1970s to the present. In addition, an observed long-term negative trend in sea-ice (i.e., longer open water periods) has raised concerns that polar bear habitat and access to prey (i.e., seals) are undergoing long-term declines that will affect the status of this population.

Inuit have identified that large numbers of bears create public safety concerns, especially for people going out on the land, and that the bears are having negative impacts on other wildlife by killing large numbers of baby seals and eating bird eggs in bird colonies.

## **Current Status**

Canadian jurisdictions around DS have taken a coordinated approach in responding to the findings of the recent population study. A User-to-User workshop was held in Kuujuaq, Quebec from 13 to 16 September, 2010. The purpose of the workshop was to review study results alongside local knowledge/IQ and to discuss future harvest management. In brief, the outcome of the workshop was as follows:

- The Nunatsiavut Government requested that their TAH be increased from 6 to 12 bears. All parties present at the workshop supported this request recognizing the relatively small size of Nunatsiavut's existing quota relative to the proportion of DS bears using land and sea-ice in, or adjacent to, this jurisdiction.
- The Newfoundland Government indicated they did not support an increase in harvesting levels in DS; instead, they want to see the existing allowable harvest reallocated amongst jurisdictions such that a portion of Nunavut's TAH is reallocated to NL.
- Under the James Bay Agreement, Quebec has a guaranteed minimum harvest of up to 60 bears from the DS, Foxe Basin and Southern Hudson

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<sup>1</sup> Based on 5-year average

<sup>2</sup> Given observed trends in sea-ice and the condition and reproductive performance of bears in DS, this assumption is unlikely to remain valid for an extended period.

<sup>3</sup> Body condition and size is also declining

<sup>4</sup> Densities of bears in DS are amongst the highest recorded in a polar bear population.

Bay sub-populations combined. There is no specified or regulated harvest for DS by Quebec. Consequently, it was determined that there is presently no means to reallocate harvesting between Quebec and other jurisdictions.

- A motion was passed by user groups represented at the workshop to eliminate the TAH in Nunavut completely for a set period of time, and permit unlimited harvesting.

### **Recommendations:**

Having evaluated the scientific evidence and available traditional knowledge as well as taking into account the outcome of the Kujuaq workshop, the GN recommends a management objective for DS of a modest population reduction in the medium term (5-10 years). Recognizing the current status of the population and the potential for future decline, the primary cause of which is unrelated to harvest (but to which harvest will contribute), this management objective also takes into account;

- (a) concerns over public safety resulting from high bear numbers; and
- (b) the need to ensure on-going hunting opportunities for communities.

A modest increase in annual harvest levels will contribute to achieving this objective and may address concerns about public safety and the impacts of bear over-abundance on other wildlife. This conservative approach also takes into account uncertainty about future changes in productivity of DS resulting from things such as climate change.

The Department of Environment (DOE) recommends to the NWMB a total harvest increase of 15 bears from DS. As per discussions at the Kujuaq workshop, DOE recommends that 9 of these 15 bears be allocated to the 3 Nunavut communities, and that the remaining 6 be made available to Nunatsiavut, in response to their request for an increase of 6 bears.

If the total combined harvest is increased by 15 bears from 67 to 82 annually, it is projected that the DS population would decline to approximately 1900 bears in 10 years, if productivity remains constant. Recognizing the significant uncertainty surrounding this prediction<sup>5</sup>, the proposed increase in harvest must be accompanied by a commitment for more frequent monitoring. DOE, therefore recommends that a follow-up study, which cost effectively capitalizes on the high proportion of marked bears still present in DS, be conducted 7 years after the increase to estimate population size and status and reassess harvest levels. If a study cannot be done after 7 years it is recommended that the TAH revert back

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<sup>5</sup> If demographic changes and environmental trends revealed during the recent population study continue, this projection probably underestimates rate of population decline.

to the 2010/11 levels in-order to manage risk of over harvest and exercise the precautionary principle.

In February 2011 DOE conducted consultations with the three DS communities, providing them with the updated population estimate and the recommended TAH increase of 15. There was no opposition to the recommendation, nor was their outright support, and the HTO's did not suggest any alternative recommendations or approaches. The HTO's were reminded that they can forward their own harvest recommendations to the NWMB and that the NWMB may choose to conduct a public hearing on the matter.