



To
Ministry of Environment and Nature
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Standing Non-Detriment Findings for Exports from Greenland of Products derived from polar bear (*Ursus maritimus*)

As is required under Article IV, Paragraph 2 of CITES, any export permit shall only be granted when the Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of the species.

In determining the extent to which harvesting of polar bears in Greenland for trade is potentially impacting natural populations, the following has been considered:

Background

Greenland

- Polar bears occur in five more or less separate subpopulations in Greenland: Polar Basin (PB), Kane Basin (KB), Baffin Bay (BB), Davis Strait (DS) and East Greenland (EG) (Aars et al. 2006).
- Bears in the Polar Basin north of Greenland have practically no contact with humans and nearly nothing is known about them.
- The populations of Kane Basin, Baffin Bay and Davis Strait are found in West Greenland.
- The three subpopulations to the west are separated from the East Greenland subpopulation

West Greenland

- The three subpopulations of West Greenland are shared with Canada, and all three are harvested in both countries. Satellite telemetry studies conducted jointly by Canada and Greenland during the 1990s have indicated that the areas of Kane Basin (KB), Baffin Bay (BB) and Davis Strait (DS) harbour three groups of polar bears that should be managed separately (Taylor et al. 2001, Lunn et al. 2002, Aars et al. 2006). Genetic studies involving

¹ Reference list added on February 4, 2008

nuclear markers have revealed that DS and BB differ genetically whereas no difference was found between BB and KB suggesting a source-sink relationship between these two units (i.e. the larger BB subpopulation probably supplying KB with bears) (Paetkau et al. 1999, Aars et al. 2006).

- Intensive mark-recapture operations conducted during 1992-1998 in KB and BB area indicated the existence in 1998 of 164 (standard error: 35) and 2074 (se 265) polar bears in KB and BB, respectively (Taylor et al. 2005, 2008; Aars et al. 2006). Until 2005 it was assumed without strong scientific background that the DS constituted ca. 1650 polar bears. However, based on intensive mark-recapture operations in 2005 and 2006 a preliminary estimate of 2380 (se 186) polar bears was provisionally adopted by CPBTC for the DS subpopulation (Lunn 2007).
- Interviews in 2005 among Inuit living along eastern Baffin Island (Dowsley 2005, Dowsley & Taylor 2006) and in 2006 among polar bear hunters in Northwest Greenland indicated that polar bears have become more abundant along the shores of Baffin Bay probably since about the early 1990s (Born et al. 2008). The majority of informants in Baffin Island were of the opinion that this change in occurrence reflected an increase of the population of polar bears in Baffin Bay. This was also offered as an explanation by several informants in Northwest Greenland, although alternatively it was suggested that it reflected a change in distribution caused by a decrease in later years in the sea ice cover in the region. Several satellite-telemetry studies have shown that during the latest decades, sea ice has decreased significantly and spring breakup has occurred progressively earlier in Baffin Bay (and Davis Strait). This suggests that the apparent increase in number of polar bears near shore experienced in BB reflects a change in distribution, rather than an increase in bear numbers. A similar situation has been well documented in north-western Hudson Bay where sea ice has also diminished during the same period (Stirling & Parkinson 2006 and references therein).

East Greenland

- Genetic studies show that polar bears from East Greenland are not related to those in Baffin Bay or Davis Strait, whereas there is little genetic difference between polar bears in East Greenland and in the Svalbard-Franz Josef Land area (Paetkau et al. 1999). Movement and tagging studies have indicated that there is very limited connection between polar bears in East Greenland and at Svalbard-Franz Josef Land, where polar bears are completely protected (Born 2005, Born et al. 1997, Wiig et al. 2003, Aars et al. 2006). There is only little information on the population structure of polar bears in East Greenland.
- Due to the lack of population inventories there is no information on the abundance of polar bears in the East Greenland subpopulation (Aars et al. 2006). Polar bears range over a huge area along the entire coast of eastern Greenland and in the pack ice in Fram Strait, the Greenland Sea and Denmark Strait (Born 1995, Born et al. 1997, Wiig et al. 2003).

Management

- Prior to 2006 there were no quotas for the catch of polar bears in Greenland. A new executive order came into force in 2005, allowing the Greenland Home Rule Government to set quotas for the catch of polar bears from 1 January 2006. The quotas and harvest are managed using separate reporting for each polar bear catch and a general reporting system - PINIARNEQ - where each hunter reports his total harvest by month of all species taken by him through the year (October to September).

- Quotas issued for the Greenland catch of polar bears for the year 2006 represented an average of the catches reported by municipality during 1993-2005 (i.e. since PINIARNEQ was introduced). The total allowable catch of polar bears in Greenland was 150 in 2006. Annual quotas have been set for a three-year period (2007-2009) intending a gradual decrease in the catch of polar bears in West Greenland but unaltered in East Greenland.
- Quotas for the catch of polar bears are determined by the Greenland Home Rule government based on recommendations from the Ministry of Fisheries, Hunting and Agriculture. This ministry recommends the quotas with basis on scientific advice, taking into consideration the needs and the opinions of the hunters.
- The scientific advice to the Greenland Home Rule management authorities on sustainable catch of polar bears by population is provided by the Greenland Institute of Natural Resources. The advice is based on the assessment and recommendations offered by the IUCN International Polar Bear Specialist Group (PBSG). For population shared by Canada (i.e. Kane Basin, Baffin Bay and Davis Strait) the annual advice provided by the Canadian Polar Bear Technical Committee (CPBTC) is also taken into consideration. PBSG meets at 3-4 years intervals whereas CPBTC meets annually. Both organisations meet to determine polar bear subpopulation status, to perform assessments by subpopulation, and to develop recommendations for management.
- Based on model exercises including the estimates of subpopulation size and information obtained from the tagging operation on vital parameters the IUCN PBSG and CPBTC have given advice on the level of total sustainable harvest by Canada and Greenland from the KB, BB and DS groups of polar bears.
- There are ongoing negotiations between the governments of Greenland and Nunavut, Canada, for cooperation on the management of the shared polar bear populations in Kane Basin and Baffin Bay. At the moment, there are no mechanisms for coordinated setting of quotas between the two countries, other than voluntary good will and timely sharing of information.

Harvest, catch limits and scientific advice

West Greenland catches and quotas

- The level of removals of polar bears in West Greenland has increased considerably since 1993, when the PINIARNEQ reporting system was introduced in Greenland. The increase has mainly been due to an increase in catches in Northwest Greenland from the BB subpopulation (Born and Sonne 2006).
- Reported catches of polar bears in Greenland for the 5-year period 2001-2005 were: KB 14/year (variation: 10-25/yr), BB 142/year (97-206/yr) and DS 3 (1-6/yr). The increase in catches was most marked in BB where the catch in Greenland peaked at 206 in 2003 (Born and Sonne 2006).
- Based on information obtained from Inuit living along eastern Baffin Island of an increased occurrence near-shore of polar bears, the Nunavut management authorities unilaterally increased its quota from the shared BB population in December 2004 from 64/year to 105/year (64% increase). Similarly, based on a presumption that the DS subpopulation was

higher than the guesstimated 1650, an increase in Nunavut's quota from DS was made in December 2004 from 34/year to 46 bear/year (35% increase). The Nunavut quota for KB is 5/year and has remained at this level for several years (Aars et al. 2007, Lunn 2007).

- The quotas in West Greenland for 2007-09 are: KB 10, 8, 6; BB 73, 71, 68 and DS: 2,2,2 (Greenland Home Rule 2006). The quotas in Nunavut (Canada) for the same subpopulations for the 2006-2007 hunting season are: KB 5; BB 93; DS 41 (Lunn 2007). Hence the resulting combined allowable take of West Greenland and Nunavut for the 2007 hunting season can be as high as 15 bears in KB, 166 in BB and 43 in DS. In addition, 10-20 bears from the DS population may be caught in Quebec.

Scientific advice for West Greenland

- The latest assessments of the status of the three subpopulations shared between Canada and Greenland were made at the CPBTC meeting in February 2007 using model simulations and subpopulation-specific vital rates (Lunn 2007). Incorporating the reported Canadian-Greenlandic catches for the last 5 years (2001-05), 3 years and 2005, respectively, and the estimates of population size into a stochastic population model resulted in a 100% probability of decline for KB and BB under the reported catches and the current quotas. It was concluded that both subpopulations are reduced.
- Due to the fact that the population estimate for DS was preliminary (last year of field work is 2007), the trend in this population was not determined but it was assumed not to be reduced.
- Total sustainable harvest from the three subpopulations was calculated to: KB 7.7/year, BB 72/year (based on a simulated population level in 2004 of 1546 polar bears in BB), and DS 98/year.
- The Greenland Institute of Natural Resources participates actively in the meetings of the PBSG and the CPBTC. In accordance with the evaluations made by PBSG and CPBTC, the Greenland Institute of Natural Resources concludes that KB and BB are over-exploited and currently are reduced, and that determination of the status of the DS subpopulation is pending on the finalization of the population inventory but that is likely not overexploited.

East Greenland

- Data on reported catches are available for East Greenland since the late 1800s. Catches were high at the beginning of the 1900s but the overall catch from the E Greenland subpopulation has decreased during the 20th Century (Sandell et al. 2001). Since 1993 the reported catch from the E Greenland subpopulation has averaged 58/year (range: 51-72) with no apparent trend (Born and Sonne 2006).
- The quota for the catch of polar bears in East Greenland is 54/year during the 3-year period 2007-09 (Greenland Home Rule 2006).
- The total number of polar bears in the East Greenland subpopulation is not known. The PBSG concluded in 2005 that the status of the East Greenland subpopulation of polar bears could not be determined due to lack of scientific data. However, it was noted that currently the population in East Greenland is subject to negative impact due to the decrease in sea ice and a high level of persistent organic pollutants (Aars et al. 2006).

Trade and Export

- Export of polar bear products from Greenland is restricted to hides, skulls and crafted parts of canine teeth, claws, penis bones and hide. According to the executive order dealing with hunting and protection of polar bears, issued in 2005, the export of gall bladders or parts thereof is prohibited.
- Because of several confounding factors, the statistics on export of polar products cannot be used directly to provide insight into the utilisation of polar bears in Greenland.
- The most valuable hunting product of polar bears in Greenland is the hide. In several areas and in particular NW Greenland the polar bear hide is used for traditional clothing. In all parts of Greenland some hides are traded and exported. Between 1989 and 2002 an estimated average of 75 polar bear hides were exported from Greenland (range: 47-157/year). CITES permits for the export of polar bear parts are issued since 2003. For 2003, 2004 and 2005 there were respectively 57, 71 and 105 CITES permits issued for the export of polar bear skins (Greenland Home Rule, unpublished data).
- The value products other than hide is variable and depends on the price of the handicraft of which they are a part. Trade in other parts than the hide is considered not to be the primary incentive for the polar bear hunt in Greenland. However, income from selling various products of polar bears is part of the subsistence economy, in particular in Northwest and East Greenland, and it cannot be excluded that trade of crafted parts thereof is influencing the harvest of polar bears.
- The catch of a polar bear in Greenland is still considered a major cultural event locally and catching a polar bear is highly prestigious to the hunter in question. The meat is considered a delicacy that is shared and eaten locally. It must be stressed that the prestige in the hunting culture associated with catching a bear is a major – if not the major – incentive of the catch although it cannot be excluded that the economical value of the game is a contributory factor.

Conclusion on non-detrimental findings for export

- Although the increased removals since the 1990s are considered a main cause of the apparent decline in the abundance of polar bears in Kane Basin and Baffin Bay in West Greenland, the current management system should allow exports of products from polar bears hunted in West Greenland to be non-detrimental to the survival of natural polar bear populations if the total annual removal of polar bears from specified areas in the West Greenland region are smaller than or equal to the scientific recommendations. If removals from specified areas exceed the recommendations it cannot be concluded that export is non-detrimental. The current recommendation is an annual total removal by Greenland and Canada of no more than ca. 8 polar bears from Kane Basin, and no more than ca. 72 from Baffin Bay. The anticipated total take from KB and BB in the 2007-hunting season is ca. 15 and ca. 178, respectively. This means that the current combined catches from Greenland and Canada for KB and BB are probably unsustainable. The anticipated take from the DS subpopulation is 50-60 and likely sustainable.
- For East Greenland the lack of explicit scientific recommendations on sustainability makes it difficult to conclude on non-detrimental findings. The majority of hides of polar bears shot from the East Greenland subpopulation are traded. However it must be noted that the catch has shown a long-term decline during the 20th Century.
- It must be added that during the last decades the sea ice habitat of polar bears in Baffin Bay, Davis Strait and East Greenland has changed markedly with earlier ice break up and a

decrease in sea ice cover. This habitat destruction is assumed to impact the subpopulations of polar bears living in these areas negatively and these ongoing large scale ecological changes hamper analyses of the sustainability of past and current catch regimes.

- Furthermore, the level of pollution in some individuals is so high that it may impose reduced reproduction.
- As it cannot be asserted that current catches in all populations, including the combined catch of Greenland and Canada is sustainable, and there is no trade-system in place that will help to distinguish the origin of polar bear products, it cannot be concluded that the current export of polar bear products from Greenland is non-detrimental.

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