

- (b) The best available scientific information, based upon population surveys conducted in northern Manitoba over approximately a 20-year period, is that the maximum WH polar bear population in recent years was no more than 1200, reduced to 935 by 2004;
 - (c) There is no available Inuit Qaujimajatuqangit (IQ) information concerning specific WH polar bear population numbers; however, the consensus among Inuit harvesters - based upon their careful observations - is that more bears than ever before, including family groups, are now being sighted throughout the WH population area in Nunavut;
 - (d) Scientific and IQ observations agree upon the following significant changes, among others:
 - (i) Ice in Western Hudson Bay is melting significantly earlier and sometimes freeze-up is later, which is having a detrimental effect on the hunting practices of WH polar bears;
 - (ii) There are many more problem bears, the majority of which appear to be young, underweight and hungry; and
 - (iii) The worst bear problems occur in the fall before the ice forms;
 - (e) Currently, there is uncertainty about the meaning and consequences of these changes; and
 - (f) Faced with both this uncertainty and the risk of serious harm to the WH polar bear population, the NWMB is applying a precautionary approach to the management and conservation of the population.
2. Pursuant to NLCA Section 5.3.3(a) and based upon the precautionary approach - and if no new significant information becomes available during the next year - further reduce the annual TAH to 8 bears, commencing on July 1st 2008.
 3. Fully support and carefully review the results and analysis of the GN polar bear survey - scheduled for the fall of 2007 - covering the area north of the Seal River to the northern limit of the WH population area.
 4. Recommend that the GN immediately implement the community-based polar bear deterrent plans promised in section 7.7 of the 2004 *Polar Bear Management Memoranda of Understanding*.
 5. Recommend that, within the next 6 months, the GN develop and implement a *Western Hudson Bay Polar Bear Compensation Program*, to assist Inuit in financially coping with:
 - (a) The sudden and massive reduction, starting on July 1st 2008, of polar bear sport hunts and the revenues generated by those hunts; and
 - (b) Property damage and financial losses resulting from encounters with problem bears.
 6. Recommend the development of a management plan for the WH polar bear population.
 7. Recommend and offer funding for an IQ survey of polar bear movements occurring north of the Seal River up to the northern boundary of the WH population area.
 8. Recommend that the GN approach the Manitoba Government regarding potential modifications to the Churchill Polar Bear Program, designed to reduce the number of problem bears annually killed in Manitoba.

The NWMB is required by NLCA S.5.3.3(a) to limit Inuit harvesting only to the extent necessary to effect a valid conservation purpose. In the current circumstances facing the WH polar bear population, that valid conservation purpose is to considerably reduce the impact of harvesting on the population.

Mindful of the very significant effect of the necessary TAH reduction on Kivalliq hunters and their communities, as well as the need for further research, the NWMB has decided to take a two-step approach to the reduction in TAH. By limiting the decrease to approximately 32% in year one, the NWMB is allowing a reasonable amount of time for Inuit to commence making meaningful adjustments to their harvesting activities, and for the development of a proposal for the IQ survey recommended in point 7 above.

At the same time, the NWMB's approach provides the GN with an opportunity, prior to the implementation of step two:

- To complete its fall 2007 survey of polar bear movements north of the Seal River, and provide a thorough report of the results;
- To implement community-based polar bear deterrent plans;
- To develop and implement an appropriate compensation program;
- To commence the development of a management plan for the population; and
- To commence talks with the Manitoba Government regarding its polar bear program.

The second step - involving a drastic 86% reduction from the current TAH of 56 - will be taken in year two, if no new significant information becomes available during the next twelve months. Thereafter, the NWMB will review the TAH from time to time and as circumstances require.

Finally, Mr. Minister, the NWMB wishes to underline that IQ and science are complementary sources of information that are essential to the management and conservation of wildlife in Nunavut. Currently, there is much agreement between the observations of scientists and hunters concerning the environmental and other changes that are taking place in the Western Hudson Bay area. As more IQ and scientific research is carried out, the Board is confident that a consensus will also emerge as to the meaning and consequences of those changes.

If you have any questions or concerns regarding this letter, please do not hesitate to contact the NWMB.

Yours sincerely,


for Joe Tigullaraq
Chairperson

**APPENDIX A TO THE NWMB DECISION CONCERNING THE REGIONAL TAH
FOR THE WESTERN HUDSON BAY POLAR BEAR POPULATION:
A SUMMARY OF KEY POINTS MADE AT THE NWMB's
APRIL 24th AND 25th 2007 HEARING INTO THE MATTER**

Environment Canada

Canadian Wildlife Service (CWS) Senior Scientist Dr. Ian Stirling presented results from research he and his team have recently completed on the Western Hudson Bay (WH) polar bear population. This research investigated the response of polar bears to environmental changes (e.g., sea ice dynamics) as well as a mark-recapture population estimate. Key points from the presentation are the following:

- The most important feeding period (late spring/early summer) is getting shorter because the ice is breaking up earlier. Thus, bears are able to store progressively less fat to survive through the open water season.
- All bears must fast for at least 4 months. Pregnant females fast for 8 months, during which time they also nurse cubs from 0.6 kg to about 10 kg.
- Not only are bears able to store less fat, they must survive on it for a progressively longer period. In addition, they must start their fasting at what has traditionally been the best time of the year for hunting and for storing fat.
- In 1980, the average weight for a female bear in the fall was 280 kgs. Now (27 years later), that average weight is 230 kgs. CWS estimates that they will not be capable of having cubs if they get any lighter than around 190 kgs.
- The last ice to melt is along the coast of Manitoba and Ontario. The bears go on shore around Churchill for the summer. As freeze-up commences in the fall, the bears start walking up the coast.
- The only known denning area for this population of polar bears is in the area near Churchill, Manitoba.

- More bears are running low on their stored fat before freeze-up so they go to settlements and outpost camps to look for food.
- Thus, it is likely more bears are being seen near settlements and hunting camps because they are in poorer condition and hungrier, not because the population has increased.
- As condition declines, so does survival and recruitment so the present harvest is no longer sustainable. Continued harvest at this rate will increase the decline.
- The most recent mark-recapture estimate shows a decline from 1200 in 1987 to 935 in 2004. Such a decline calls for a reduction of quota.
- Historic harvest numbers at York Factory show a steady decline in harvested bears recorded between 1760 and 1939. Fewer bears were likely caught in later years because there were fewer bears in the population. It is likely that the military at Churchill killed many females and cubs from the main denning area just south of Churchill. After York Factory closed and the military left Churchill, the polar bear population appears to have increased. This is consistent with Elders' and IQ reports of more bear sightings now than in the past.

Questions about Dr. Stirling's presentation were primarily concerned with the effects of capture and marking on bears. There was concern that this activity may be a factor in the decline of the population. Dr. Stirling assured the parties and the NWMB that the well-being of captured bears was also a concern of his. He reported other research showing no differences between the body condition or behavior of bears that are captured and marked for the first time compared to those that have been marked and recaptured.

Nunavut Tunngavik Inc. (NTI) asked if the CWS study had been peer reviewed and published. Dr. Stirling answered that it was in process and he expected it to be formally accepted soon. (Dr. Stirling recently informed NTI, NWMB, and Government of Nunavut (GN) personnel that this research has been accepted for publication in the Journal of Wildlife Management, and will appear later this year.)

There was no formal response from the GN to Dr. Stirling's presentation. However the GN representative commented during his submission that they found no problems with the mark-recapture analysis presented.

GN Department of Environment

The Manager of Wildlife Research, Dr. Mitchell Taylor, presented the GN submission. Below are key points from his presentation.

- Dr. Taylor expressed his concern over the portion of the coast that wasn't included in the mark-recapture study.
- The GN views the CWS population estimate in doubt until there is an opportunity to understand why hunters are reporting seeing more bears than ever.
- Dr. Taylor ran a simulation using the population model RISKMAN (risk management). In this simulation he used a population estimate of 825. This is the number he calculated for the population, given the estimate of 935 in 2004 and the current TAH for WH. The results of this simulation predict a continued population decline to approximately 400 bears in 15 years time.
- Dr. Taylor argued that the survival rate should be 1.5% higher than it was reported to be, since this rate brings agreement between his model and the decline from 1200 bears to 935.
- Dr. Taylor went on to state that there are two considerations for the Board when making its decision. First, the population level (1200 or 935) and second, the survival rate. These factors are important because they will influence what a sustainable TAH will be. He gave possible sustainable Nunavut harvest numbers that ranged from 3 to 30 depending on which case the Board chooses.
- Speaking as the GN representative, Dr. Taylor said that, *"Even if there's 1200 still there, we're still quite a ways over with [the Manitoba quota plus Nunavut TAH of] 66 from the 27 or the 40 that would be sustained."*

NTI had questions about the percentage of marked bears in the harvest and where the unmarked bears in the harvest come from. Dr. Taylor explained that the proportion of unmarked bears in the harvest was the same as in the CWS study. NTI representatives summarized Elders' statements asking the NWMB not to reduce the TAH before the coast north of the Seal River is surveyed.

Dr. Stirling disagreed with the GN conclusion that the survival estimate from the mark-recapture study was low. He encouraged the NWMB to take a precautionary approach to addressing the conservation concern brought forward by the GN and CWS.

Nunavut Tunngavik Incorporated

NTI presented the results of a workshop it held in response to international concerns over how the TAH for WH was increased in 2004. Concerns addressed were that Inuit Qaujimagatuqangit (IQ) that was cited as justification for

the increased TAH was not documented. The workshop participants were five Elders that hunt WH polar bears. Main points of the presentation were:

- Hunters said there were very few polar bears in the regions near Churchill, Arviat, Whale Cove, Rankin Inlet, and Chesterfield Inlet in the early part of the 20th century. In recent decades, Inuit began noticing an increase. During the last few years, Inuit feel that the population has increased substantially from the past.
- In the days before quotas, most bears were caught down in the Churchill area beyond the Nelson River. Workshop participants reported a substantial increase in the polar bear population in the Churchill region when an Army base was established there.
- Hunters have noticed major changes in wildlife abundance that may be associated with global climate change. They also stated that there may be a change in the distribution of polar bears in Western Hudson Bay. However, they do not believe that the recent sightings are only a change in distribution due to global climate change.
- The participants in the IQ workshop expressed their concern that the geographical area upon which the scientific research on the WH polar bear population is based is not comprehensive enough to cover the entire region.
- The workshop participants felt that more knowledge is required of changes that are occurring north of the Seal River up to the northern boundary of the WH polar bear population.
- The workshop participants recommended an Inuit-driven IQ project to collect this information.

Dr. Stirling had left the hearing by the time the NTI submission was given, and therefore did not comment on it. Dr. Taylor had no questions or comments on the NTI submission.

Kivalliq Wildlife Board, the Arviat Hunters and Trappers Organization (HTO), the Arviq HTO, the Aqiggiak HTO, the Baker Lake HTO, the Issatik HTO, the Aqigiq HTO, and several Elders from the Kivalliq Region

A number of senior representatives of the Kivalliq Wildlife Board, the Arviat Hunters and Trappers Organization (HTO), the Arviq HTO, the Aqiggiak HTO, the Baker Lake HTO, the Issatik HTO, the Aqigiq HTO, as well as several Elders from the Kivalliq Region, participated in the hearing. Their comments are summarized below.

- More bears are seen now than 50 years ago.
- More bears are showing up at outpost camps, communities, and meat caches. Not just single bears are being sighted, but female bears with cubs as well. The population numbers are increasing and not decreasing.
- The reason that the CWS population estimate reports fewer bears is because some bears have moved north out of the main study area.
- There are more skinny bears. Skinny bears are more dangerous. Thus, there is a public safety issue that needs to be considered.
- There are not so many seals around Arviat now, and that's the reason for the polar bear decline in the Arviat area.
- The seals have shifted, and so have the polar bears in response. They hunt where their food is.
- There is an overpopulation of polar bears. That is why the seals are depleting in numbers and why the bears are very skinny.
- The only way to get a better understanding of the situation is to do a full survey of all the polar bears in the region. More information is needed.
- Inuit are concerned about the need for compensation for injuries and property damage from problem bears.



20, 2007

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Conserving wildlife through the application of Inuit Qaujimajatuqangit and scientific knowledge

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