MANAGEMENT CONSULTATIONS FOR THE WESTERN HUDSON BAY (WH) POLAR BEAR POPULATION (01-02 DECEMBER 2005)

Martha Dowsley[1]
Mitch Taylor[2]

[1]Department of Geography, 705 Burnside Hall, McGill University,
805 Sherbrooke St. West, Montreal, QC H3A 2K6

[2]Wildlife Research Section, Department of Environment, Government of Nunavut,
P.O. Box 209, Igloolik, NU X0A 0L0

2006

Final Wildlife Report, No. 3

Dowsley, M. and M. K. Taylor. 2006. Management consultations for the Western Hudson Bay (WH) polar bear population (01-02 December 2005). Government of Nunavut, Department of Environment, Final Wildlife Report: 3, Iqaluit, 55 pp.

Management Consultations for the
Western Hudson Bay (WH) Polar Bear Population
(01-02 December 2005)

Participants included:
Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet, and Baker Lake HTOs
Kivalliq Wildlife Board
Nunavut Tungavik Incorporated
Department of Environment, Government of Nunavut

Martha Dowsley, McGill University and
Mitchell Taylor, Department of Environment, GN

4 May 2007

Background:

A recent population analysis by the Canadian Wildlife Service (CWS) for the WH population has demonstrated that the population has declined from about 1100 in 1994 to about 950 in 2004. This decline occurred at removal rates that had previously allowed the population to increase. The scientific data are entirely consistent with the hypothesis that survival and birth rates have been reduced by climate change, which caused the historical removal rates to cause decline in numbers. However, in December 2004 Nunavut increased the TA for WH polar bears by 9/year (from 47 to 56) based on Inuit perceptions that the population had increased.

The final Canadian Wildlife Service Analysis indicates that population numbers and productivity have declined to so that a maximum of 24 bears per year can be taken from the population at 2 males per female without exceeding risk management guidelines (i.e., less than a 10% chance of an unacceptable decline). The Manitoba Polar Bear Alert program removes an average of 8 bears per year. This leaves a total yield of 16 bears for Nunavut hunters.

The current polar bear MOUs specify that when a population has been reduced by more than 10%, the population will not be harvested until it has recovered to the "target number". The target number in WH was increased from 1200 to 1400 based on IQ that the population had increased. The WH population appears to have been reduce by 21% from WH=1200 and by 32 from WH=1400. CWS has documented that the current population growth rate for WH has been reduced due to climate change. The current estimated annual rate of increase with no harvest in either Manitoba or Nunavut is 3.2% per year. However, Manitoba will continue to remove about 8 bears per year. I have not done the simulations to determine the length of time a Nunavut moratorium would have to be in place for the current population of 950 to increase to 1200 or 1400, but it would be, but it would be about 11 years moratorium to return to 1200 and about 17 years moratorium to return to 1400 (current target number).

At the end of the next harvest reason the situation will of course be worse because we have decided not to reduce quotas this harvest year. Based on the past estimates of the rate of population decline (about 24 per year) and our increased harvest (9 per year), the population estimate in 2005 should be something like 920 which will reduce our options accordingly.

A presentation of the scientific information on WH polar bears (Appendix I) was developed from a power-point presentation developed by the Canadian Wildlife Service (Stirling and Lunn, 2005) and harvest data and population simulation results provided by GN (Dowsley and Taylor, 2005). This presentation summarizes the data that support the scientific conclusion that the WH polar bear population is declining dues to the combined effects of climate change reductions in survival and recruitment, and over harvest.

An Inuit knowledge study on Western Hudson Bay polar bears was conducted by and reported on Mr. Gabriel Nirlungayuk. This study involved a 2 day workshop with 5 elders from the Kivalliq coastal region. The workshop and interviews were video taped, but have not been transcribed and summarized in report form as of 20 December 2005. Mr. Nirlungayuk summarized the findings of the workshop in his comments to the group during our consultations. Except for this workshop, Inuit knowledge on WH polar bears is known only from the comments of hunters that live along the Kivalliq coast, including those recorded as part of our meeting transcript.

Summary of Consultations:
A transcript of the consultations was taken for HTO meetings with Qikiqtarjuaq, Clyde River, and Pond Inlet, and a community meeting with Clyde River. The transcript is attached as Appendix II.

The main points from the communities were fairly consistent with the NTI Inuit knowledge study:

1) Most but not all local hunters and residents are seeing more polar bears and experiencing more polar bear damage than in the past in the late October through December freeze up season.

2) Annual variability in local distribution makes it difficult to discern a trend in number over a short (2-3 years) period, and hunters urged wildlife officials not to over-react.

3) Some people have a public safety concern because bear-human encounters have increased, but these concerns were not a pronounced as in the Baffin Bay area.

4) Inuit knowledge was in agreement with scientific knowledge polar bear numbers in the WH area have increased greatly from the 1950s and 1960s.

5) The NTI Inuit knowledge study suggested that the decline in numbers may be part of a natural cycle of the underlying carrying capacity of the environment rather than over hunting.

6) Principles of modern conservation, including the co-management process identified in the Nunavut Land Claim Agreement, were not well understood by the non-agency participants.

6) There was less frustration over the lack of a compensation program for bear damage and lack of a bear deterrent program than in Baffin Bay.

7) The HTOs did not want to respond to our suggestion for a reduction in the TAH for BB until they had met with their communities to discuss it further. A joint meeting sometime in winter 2006 was suggested. However, it seemed clear that there was not HTO support for a reduction in the BB TAH because they are seeing more polar bears and they believe the numbers have increased (or at least not declined).

8) The scientific information suggests a slower decline than in BB; however the profile of this population may cause tolerance for any further decline to be minimal.

9) Communities had concerns that the CWS mark-recapture study did not cover the entire WH summer retreat area. HTOs and NTI were not convinced that a consistent marked to unmarked ratio throughout the area of CWS and Manitoba capture work and Nunavut hunting demonstrated complete mixing of all the bears marked. In spite of mark-recapture records and telemetry movements, many hunters cling to the notion that polar bears are nomadic and not organized into relatively discrete populations.

10) Although Inuit knowledge and Science were not in agreement in all areas, there was a sense that the CWS analysis presented a shared problem. If the population is declining (i.e., the scientific research is correct) the population (and TAH) are being reduced at an accelerating rate. If the Inuit knowledge is correct, and the population is returning to a level more in line with current ecological conditions, a new management target number needs to be identified.

11) The transcript documents that a considerable amount of the discussion occurred between NTI and the GN representatives.

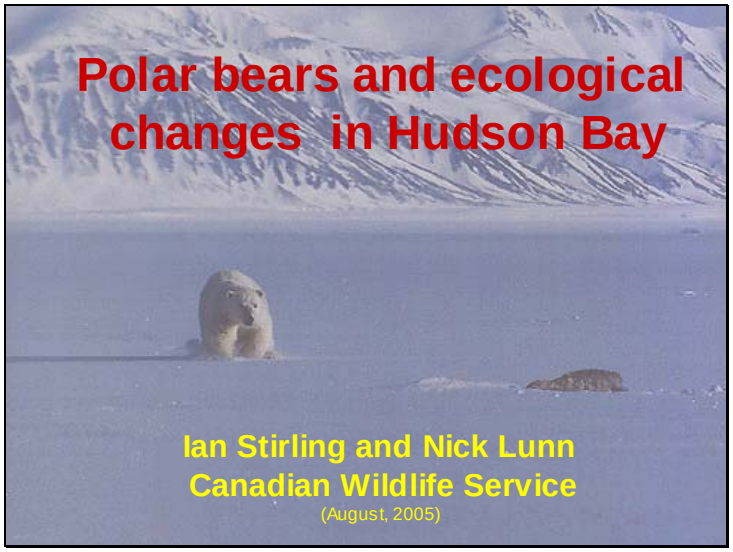
Recommendations:

1) The recommendation from the meeting was for the HTOs to return home and consult on this matter with their home communities. Possible negative consequences to Nunavut's co-management credibility, traditional economy, and the WH population were discussed and understood.

2) No recommendation for management action was taken forward to the NWMB.

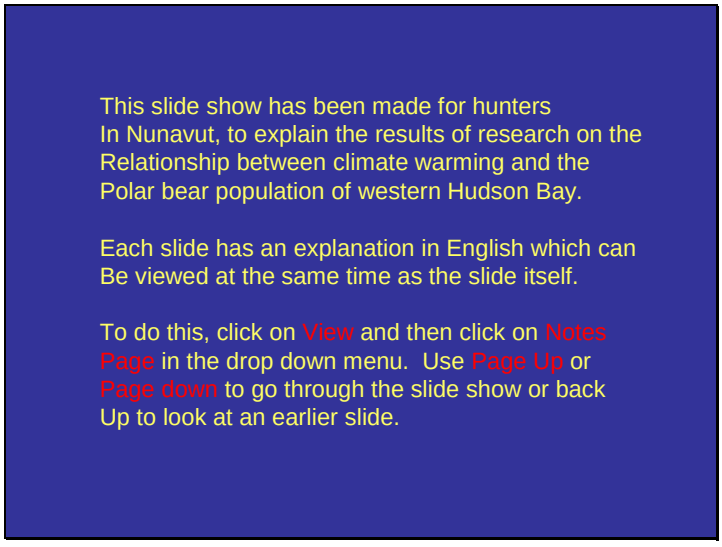
Appendix I. The following presentation of the scientific information on WH polar bears was developed from a power-point presentation developed by the Canadian Wildlife Service (Stirling and Lunn, 2005) and harvest data and population simulation results provided by GN (Dowsley and Taylor, 2005).

Slide 1

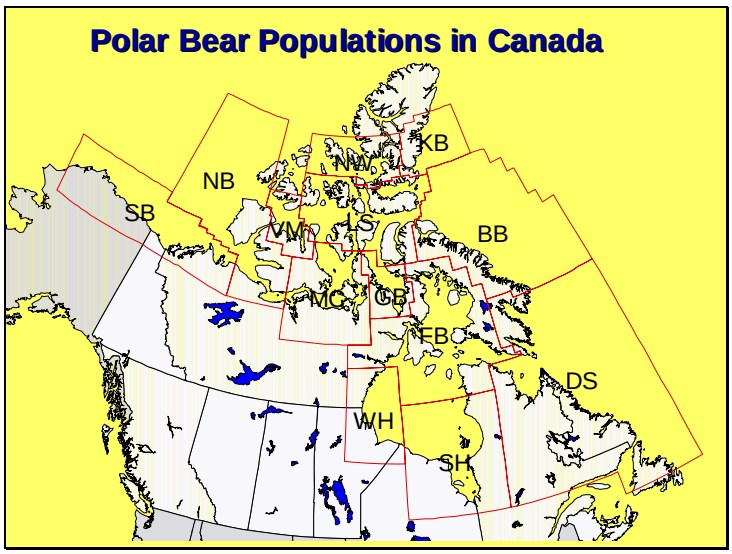


This presentation outlines the results of recent research on the effects of climatic warming on polar bears in Hudson Bay. There is also some discussion of possible effects of climate warming on other marine-dependent species. Lastly, some areas of possible future concern for polar bears in Nunavut are identified.

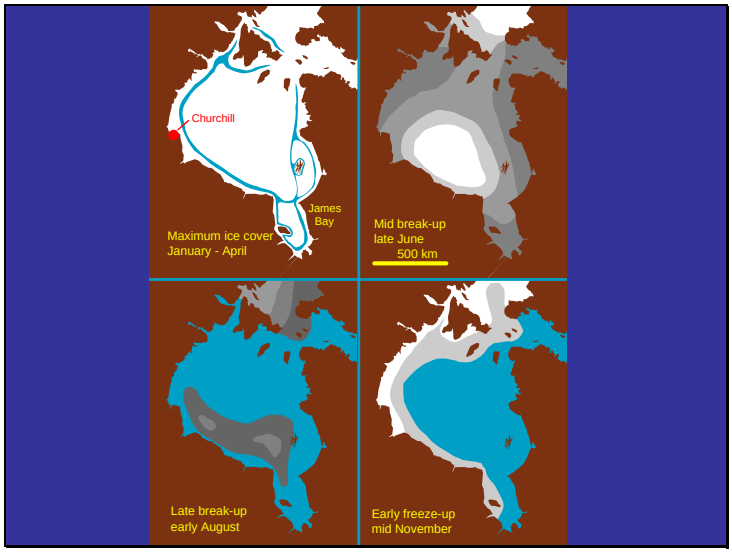
Slide 2



Slide 3



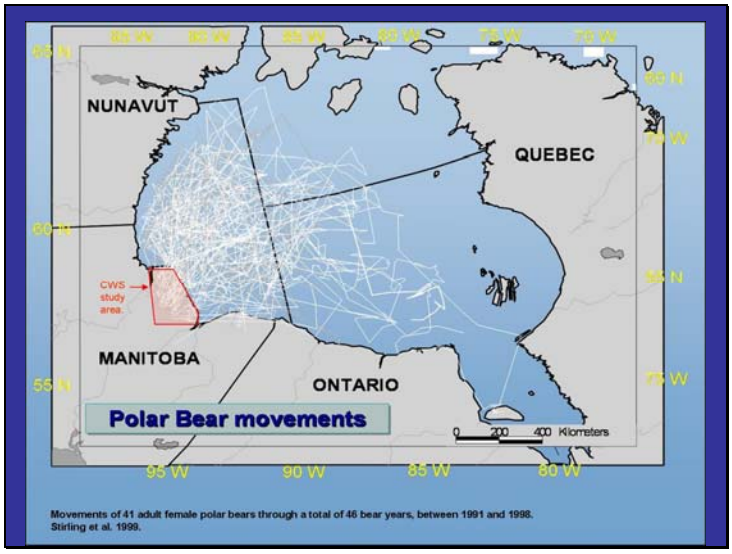
Polar bears in Canada are distributed in 13 different populations. Some are shared between Canada and Greenland. Some are completely within Canada but shared between Nunavut and other Territories or Provinces.
This talk is mostly about the effects of climate warming on the polar bears in western Hudson Bay but many of the things being documented there are likely to be occurring in other populations as well. This study gives us some ideas about things that may happen more extensively in the future.
Slide 4



Hudson Bay is completely frozen during winter (top left). Open water in spring appears first in the NW. Southerly currents on the west coast and NW winds move the ice southwest (top right). The last ice melts off Manitoba and Ontario so bears from WH and

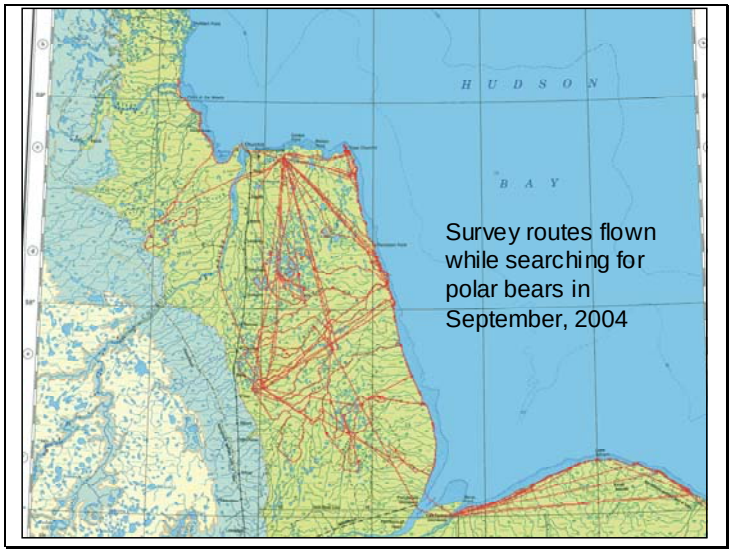
SH go ashore there (bottom left). Freeze-up begins along the Kivalliq coast (bottom right).
All polar bears in the WH population must fast on their stored fat for a minimum of 4 months and pregnant females must do so for 8 months. Thus, the amount of fat they can store before breakup is critical for their survival and reproductive success.

Slide 5



The main study area for the CWS research is in Manitoba south of Churchill because that is where most of the bears from the WH population are at the end of August and September. This allows for the most cost-effective sampling of the whole population. As the fall goes on, many of the bears from Manitoba move north into the Kivalliq region.

Slide 6



The red lines give an example (from 2004) of the effort made to spread out the sample and cover the whole area during a typical fall field season. We have gone north along the coast toward the Nunavut border in several years but there are few bears there until later in the fall. It would be very expensive to survey north to Rankin Inlet or Chesterfield Inlet at that time for the relatively small amount of bears that could be captured then.

Slide 7

In Western Hudson Bay, adult males tend to congregate along the coast and remain inactive in order to conserve their stored energy (fat) until freeze-up. By late fall, as in the bottom right photo, bears aggregate along the capes and small islands. Some animals, particularly younger ones, walk north along the Kivalliq coast in advance of freeze-up.

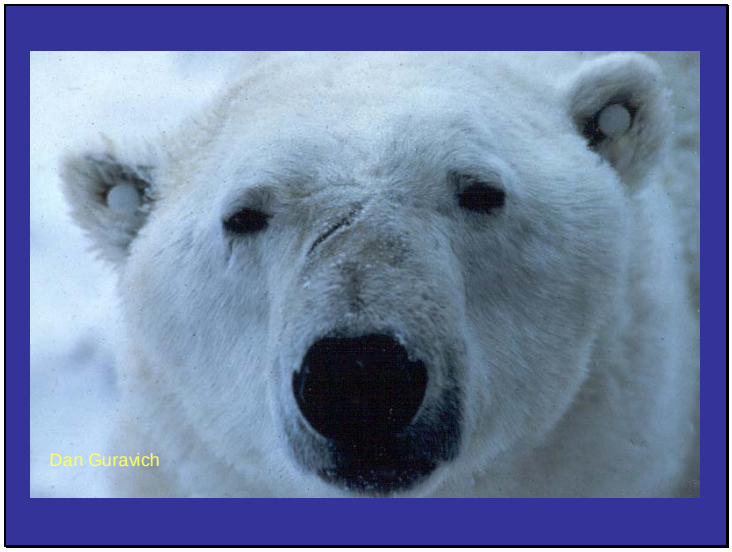
Slide 8

Pregnant adult females and family groups go inland, probably to avoid the males. Pregnant females dig dens into the permafrost under the trees along the banks of creeks and lakes. They start using the dens most of the time by mid-August (to escape the heat and conserve energy) and remain there until the end of Feb or early March, when they return to the sea ice with their cubs. Pregnant females do not feed for about 8 months.

Slide 9

Bears are immobilized with tranquilizer darts that inject a tranquilizing drug into the heavy muscle mass of the back, shoulder, and neck. Being drugged and handled does not appear to affect their ability to hunt or reproduce successfully.

Slide 10



Small white ear tags are put in each ear, with a number on them. They do not appear to have any negative effect on the bear.

Slide 11

Each bear is given its own individual tattoo number so if the tag is lost, it can still be identified. This tattoo, X687, was put on this bear 21 years before this picture was taken.

Slide 12

A small premolar tooth is removed so the bear can be aged. The tooth is non-functional so the bear is not harmed because of its removal.

Slide 13

Total body length is measured in a straight line from from the tip of the nose to the tip of the tail. Girth is measured around the body just behind the front legs. With these data, we estimate the weight of the bear and calculate a condition index which provides a relative comparison of how fat the bear was. The index is standardized to the same day. If a bear is caught before that day, we subtract 0.85 kg for every day, if it is caught after that date, we add 0.85 kg. This way, we can compare the condition of bears between years.

Slide 14

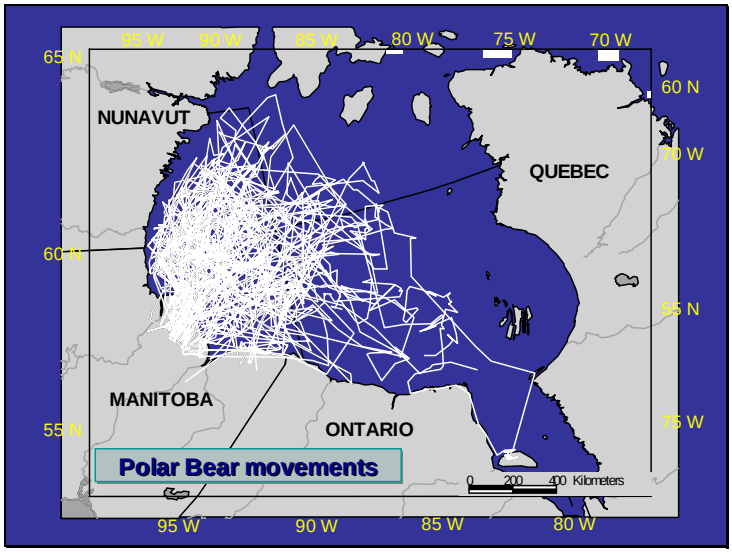
Some bears have satellite radios put on so we can track their movements throughout the year. This enables us to determine the area that is occupied by the population at all times of the year. Also, since the radios last for 3-4 years, and we can replace them when the batteries wear out, we can follow the breeding success of individual females. In this

picture, an old radio has been removed after 3 years and a new one is being fitted. There is no wear or damage on the bear's neck.

Slide 15

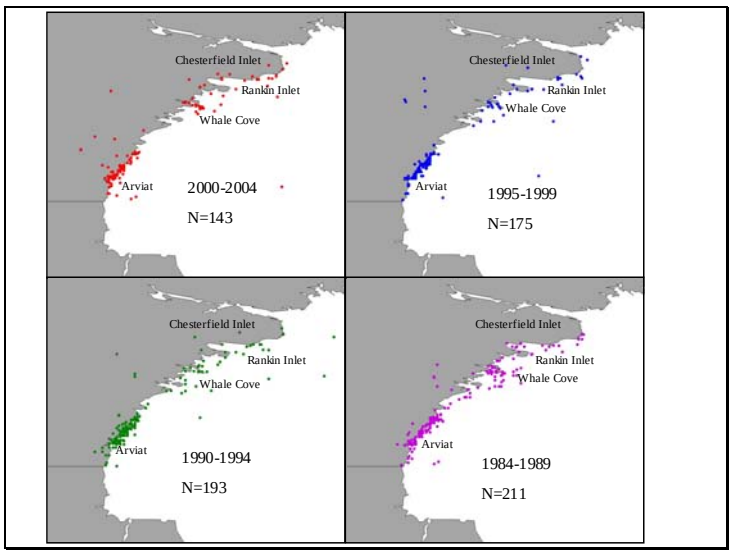
By using the radio to re-locate a female, we can also determine how many cubs she has and whether they survive, without having to capture her again until the batteries start to wear out.

Slide 16



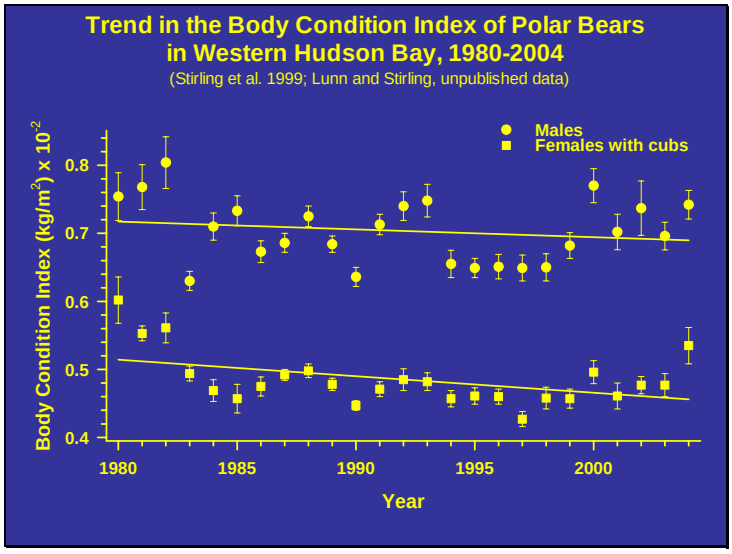
These are the year-round tracks of adult female bears with satellite collars deployed on the Manitoba coast between 1991 and 1998. Most movement remains within the present boundaries of the Western Hudson Bay polar bear management zone.

Slide 17



This slide shows where almost 500 polar bears tagged in Manitoba were shot in the Kivalliq area, in the past 20 years, divided into 5 year blocks. These figures suggest the distribution of tagged bears being shot has not changed over the past 20 years. Thus, a change in the distribution of bears or more bears from Manitoba moving into the Kivalliq area does not explain why more bears are being seen near settlements and outpost camps along the Kivalliq coast.

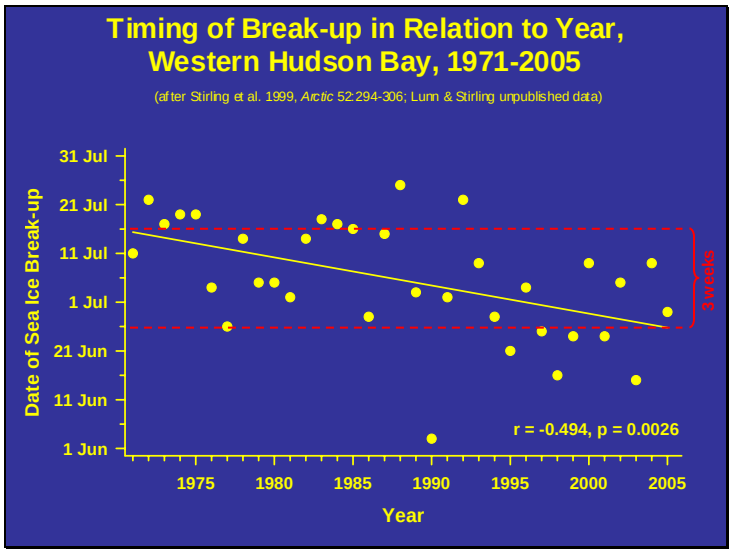
Slide 18



This slide shows that the condition (fatness) of adult males (top) and adult females with cubs or yearlings in the fall has declined steadily over the last 20 years. The condition varies between years, but the overall trend is down. There is more variation between years and within years in the adult males (top) than in the adult females with dependent

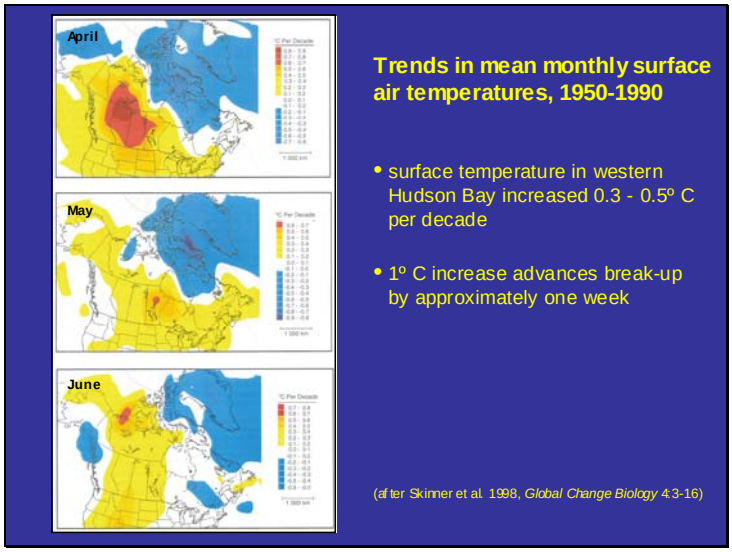
young (bottom). This is probably because the females have to support themselves and 1 or 2 cubs from their fat. Males only have to support themselves and, while on the ice, are able to scavenge and steal carcasses from smaller bears.

Slide 19



This graph shows that the average date of breakup of the sea ice in Western Hudson Bay is now about 3 weeks earlier than it was 30 years ago. (Breakup is defined as the point where the ice is 50% ice and 50% water.) The breakup date is calculated for the area defined within the boundary of the Western Hudson Bay polar bear management zone.

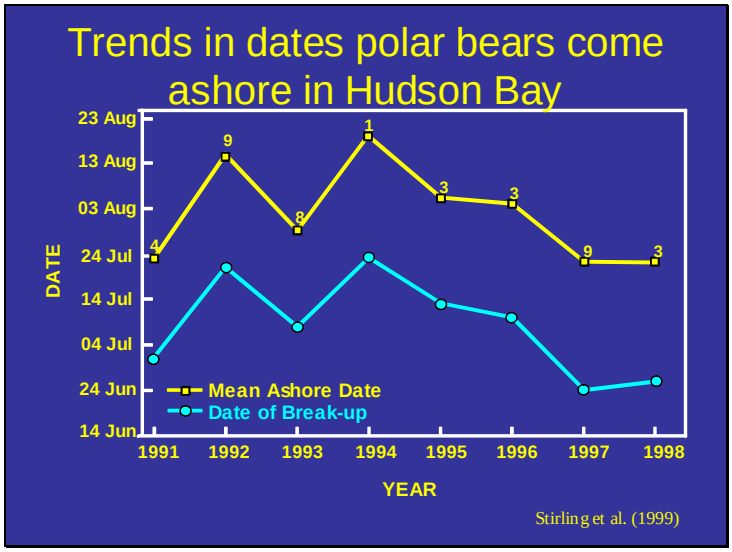
Slide 20



This slide illustrates the temperature increases over Canada for each decade, from 1950 through 1990, for April, May, and June. The yellow color over Western Hudson Bay

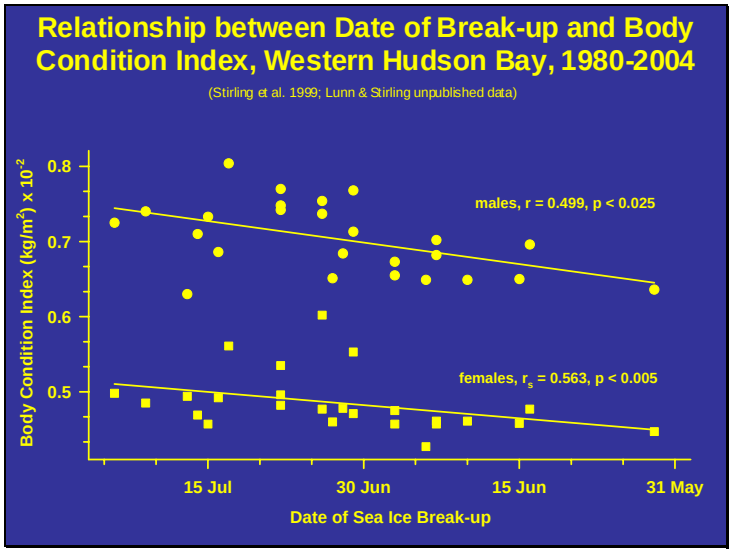
indicates the temperature has increased about 0.3 - 0.4^{o} centigrade in those months each decade. Warming of only 1 degree in the annual average temperature causes ice in Hudson Bay to break up one week earlier. The warming illustrated above has continued from 1990 to now and is the primary reason why the ice is now breaking up earlier.

Slide 21



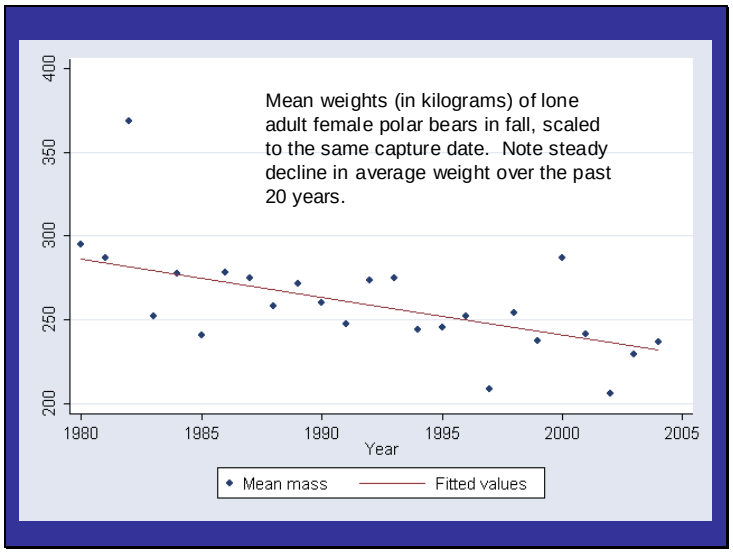
This slide shows the dates that bears with satellite radio collars came ashore each year from 1991 through 1998 (blue line at the bottom). Two and one-half to three weeks after breakup, the bears come ashore to start living on their stored fat until freeze-up in the fall. This relationship is remarkably constant and shows that if breakup becomes progressively earlier, the bears will come ashore earlier as well. If they come ashore earlier, they will be lighter because they will have had less time to catch seals and deposit fat at the best time of the year for hunting.

Slide 22



This slide shows the relationship between the date of break up and the body condition of the bears. Late breakup is on the left and early breakup is on the right. Condition is on the vertical line so being higher up indicates being in better condition than being low. Note that the lines for both males and females decline as breakup becomes earlier. This means that the earlier breakup is, the poorer condition the bears will be in, and when breakup is late, the bears are in much better condition. Again, there is some variability between years but the trend is clear.

Slide 23

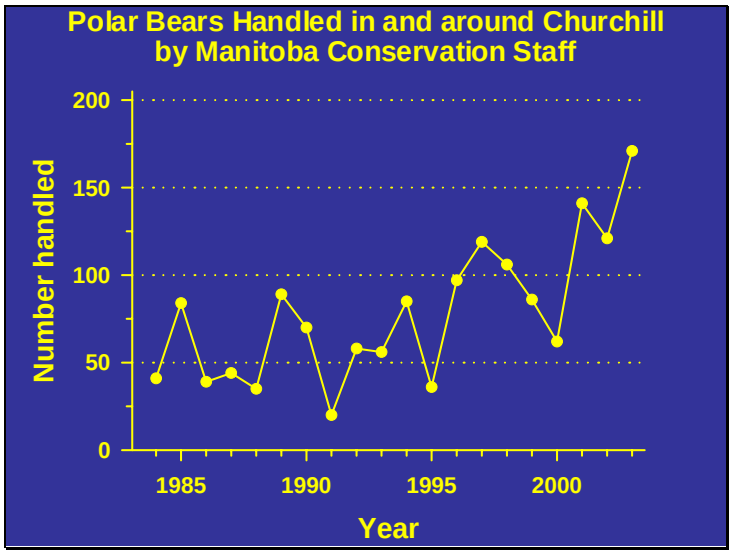


The average weights of lone adult females captured in the fall, and scaled to the same day, has declined steadily over the last 20 years. Some are in or near dens while others are not. Most are expected to be pregnant although some are not. No females weighing less than about 190 kg in the fall have been recorded with cubs the following spring. The downward slope of the average weights suggests that in 20-30 years, the proportion of females still fat enough in the fall to be able to produce cubs (i.e., greater than 190-200 kg) will be greatly reduced.

Slide 24

Hungry bears look for food in towns and around outpost camps or hunting camps. In towns, the smell of garbage attracts bears. Around hunting camps, or areas where people travel and hunt, there are often remains of whales, seals, caribou or other animals and these attract hungry bears. Bears that have fed around human settlements and camps may become less fearful of humans. Also, thin bears may be very difficult to scare away because they are very hungry. Those bears are quite dangerous.

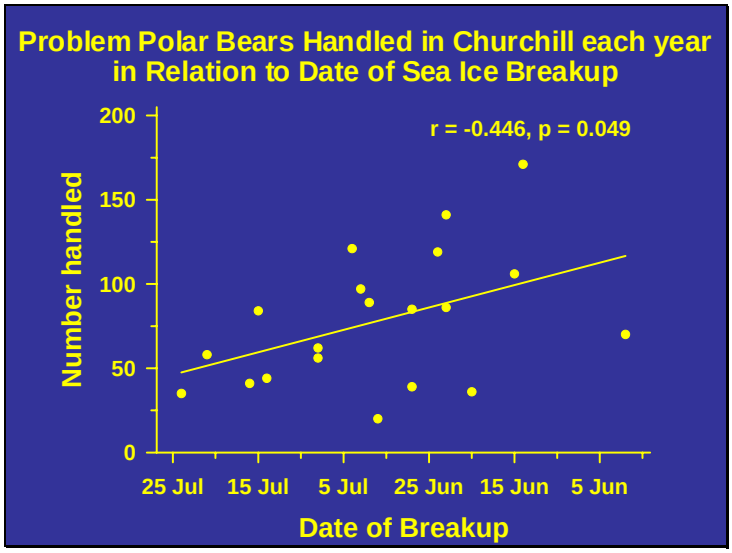
Slide 25



The number of problem bears handled in Churchill has increased greatly in recent years as the ice is breaking up earlier and bears are getting hungrier. Although they are seeing more bears in Churchill, it is not because the population is increasing. This is the same pattern of increase that Inuit are seeing in settlements on the Kivalliq coast. There is a direct and statistically significant relationship between the date of breakup and the

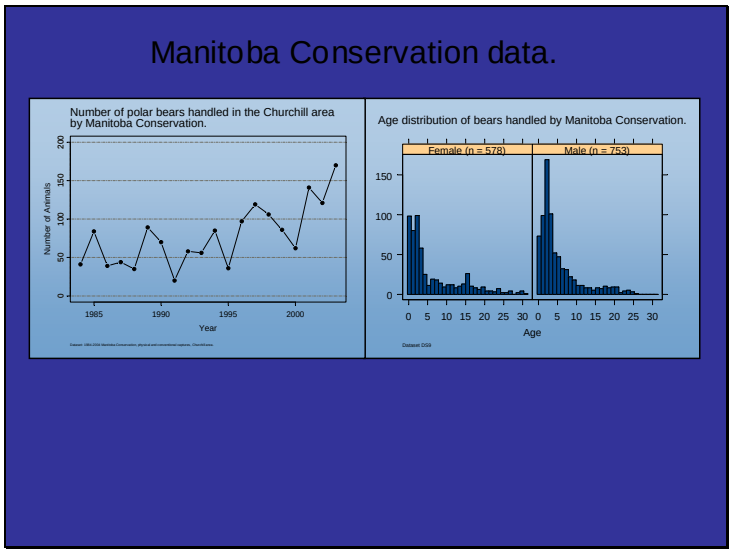
number of problem bears handled by the control program. The earlier the breakup is, the more problem bears there are.

Slide 26



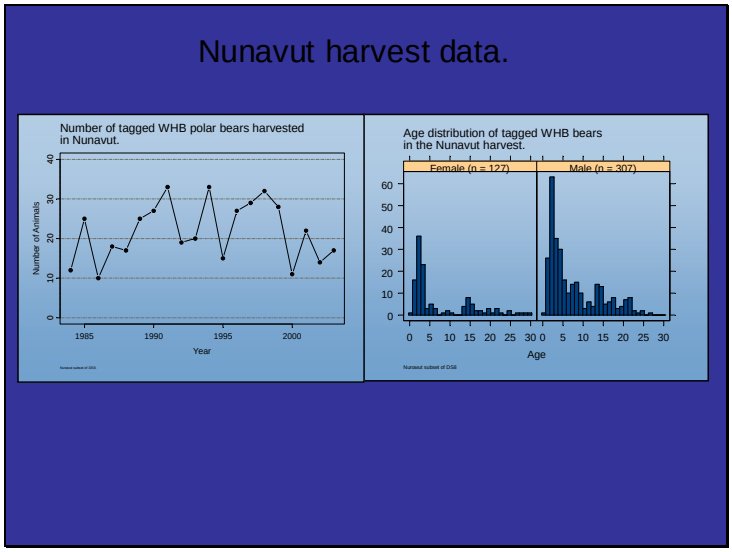
This slide shows that as breakup becomes earlier (to the right) the number of problem bears handled by Manitoba Conservation in Churchill increases. This relationship is statistically significant and clearly demonstrates that as breakup has been getting earlier in recent years, progressively more bears have been seen around town.

Slide 27



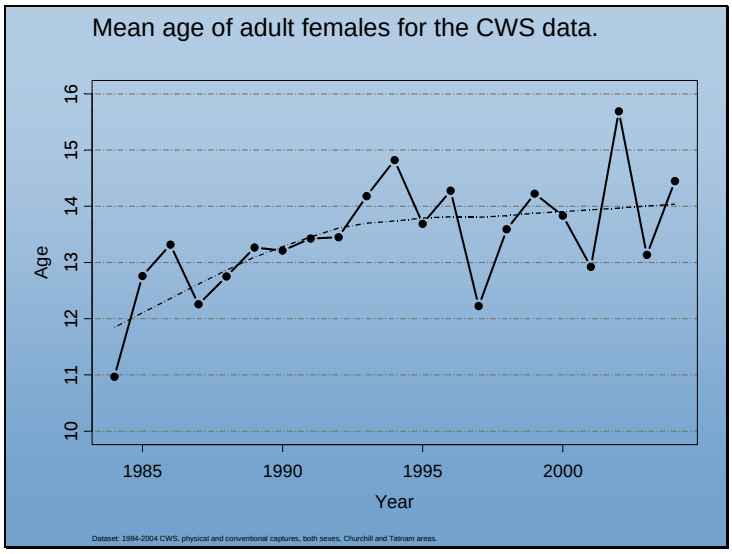
This shows the number of problem bears handled in Churchill and also the age of the bears handled. Note that most of the bears handled are less than 5 years old and many more males are captured.

Slide 28



This summarizes the number of tagged bears caught each year in the Nunavut harvest of polar bears along the Kivalliq coast. The main reason the numbers fluctuate is that in some periods we have caught many more bears than in others so more tagged bears are available. If more bears were being seen in Arviat and elsewhere on the Kivalliq coast because they were moving north from Manitoba, then the number of tagged bears in recent years should be increasing, not decreasing. Like the problem bears at Churchill, the majority of the bears shot are younger animals.

Slide 29



One result of lower survival and recruitment of young animals into the population in recent years, probably as a result of animals being in poorer condition because of earlier

breakup, is that the average age of adult females has been steadily increasing. It is worrisome for the population that more younger females are not being recruited.

Slide 30

Three different mathematical models have been applied to analyze the last 20 years of CWS population data collected from the Western Hudson Bay polar bear population. This is the most extensive data set that has ever been collected on polar bears anywhere.

Ignore the first few years as these models treat the initial data collecting differently. The most important point is that all three models show the population declining from about 1200 bears in the mid-1990s to less that 1000 today.

This also means that for the last few years, the quota has been above the sustainable limit so the harvest is now contributing to the population decline. The recent quota increase will only make the situation worse.

Slide 31

Impacts on Polar Bears of Reduced Time on Sea Ice

SUMMARY

- The feeding period is getting shorter so bears are able to store less and less fat as the years go by
- Not only are they able to store less fat, they must survive on it for a progressively longer period
- More bears are running low on their stored fat before freeze-up so they go to settlements and outpost camps to look for food
- As condition declines, so do survival and recruitment
- Thus, it is most likely that more bears are being seen because they are in poorer condition and hungrier, *not* because the population is increasing.

- **The polar bear population in western Hudson Bay is declining, not increasing**

Slide 32

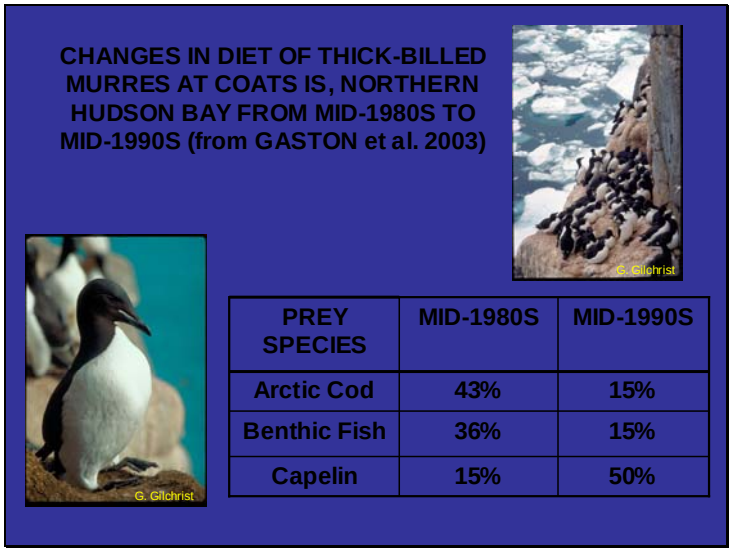
The next few slides provide a small amount of additional information that also suggest major changes are taking place in the Hudson Bay marine ecosystem. We don't know what all these changes are, except for a warming climate, earlier ice breakup, and more open water. How these are affecting other components of the marine ecosystem is presently unknown. Included in the next slides are some observations from other places and species to provide some additional background information.

Slide 33

I Stirling

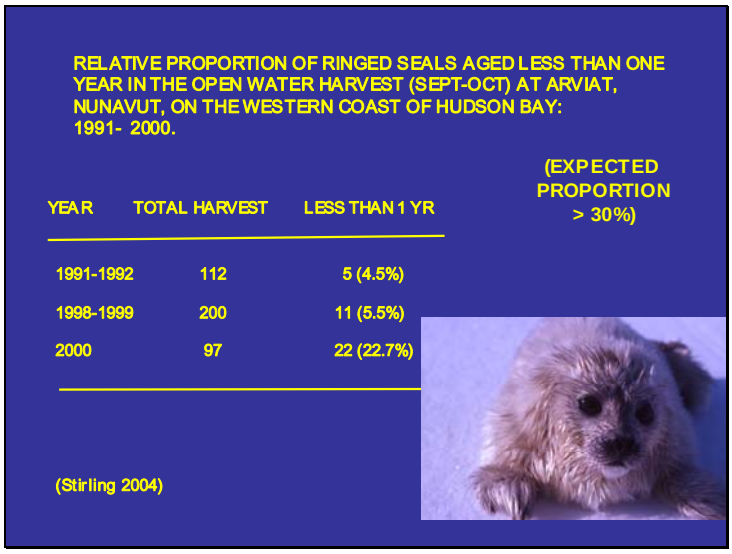
Pregnant female polar bears in Western Hudson Bay dig maternity dens in the frozen peat below spruce trees along the banks of lakes and creeks in the forest-tundra zone south of Churchill. In hot summers, lightning strikes can start forest fires that follow along the trees on the lake and river banks. This melts permafrost and destroys root systems that stabilize the roof, causing the dens to collapse. So far, the loss of prime denning habitat has been minor, but it could increase if summers become hotter and drier.

Slide 34



Over the last 20 years, the amount of open water around the thick-billed murre colonies on Coats Island in northern Hudson Bay, has increased enormously. This has caused the diet of the birds to change drastically. Formerly, arctic cod, which live under the sea ice were the primary food item. Now, capelin, which live predominantly in open water are the primary food.
It is unknown whether this represents major changes in the Hudson Bay marine ecosystem or, if it does, what those changes might be.

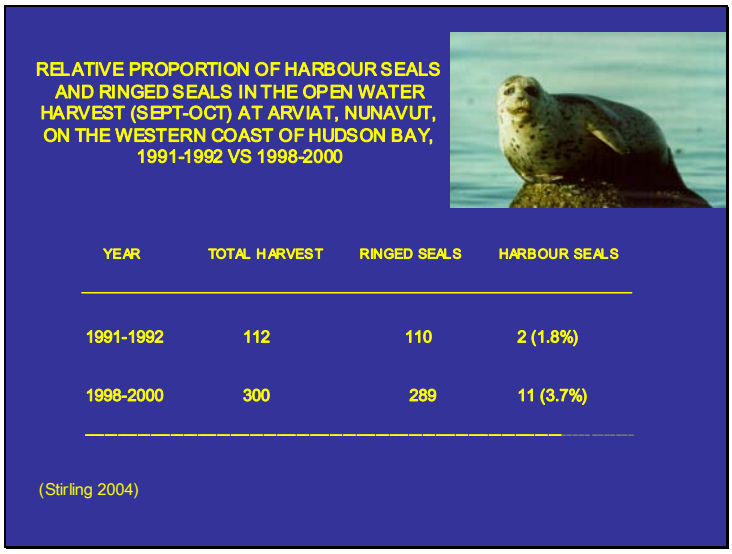
Slide 35



In most places where ringed seals have been studied, young of the year (pups born in the spring) make up 30% or more of the harvest in the open water in the early fall. In 4 of 5 years at Arviat, pups in the open water harvest have made up only about 5%. The

pregnancy rates of the adult females are fairly high so it appears something is happening to the pups between the time they are born and the open water season in fall. No one knows why this seems to be occurring.

Slide 36



There have always been small numbers of harbour seals around the mouths of some rivers along the western coast of Hudson Bay. Their numbers probably remained low because of heavy ice in winter, which is the preferred habitat of ringed seals. However, as the climate has been warming, resulting in more open water, it has been predicted that numbers of harbour seals will increase. The sample from Arviat is still too small to be statistically significant but the proportion of harbour seals in the harvest has doubled between 1991-92 and 1998-2000.

Slide 37

Ringed seals have their birth lairs under the snow in April (photos on left). Warm weather or rain causes roofs of birth lairs to collapse (bottom right), leaving the newborn pups exposed to the cold and predation by polar bears and foxes (top right). The collapsed lair shown was in SE Baffin in early April during an unseasonably warm period with heavy rain. Most of the pups in the affected area were killed by foxes and bears. The occurrence of warm periods or rain in early spring should be recorded because they could negatively affect survival of ringed seals in their birth lairs in spring.

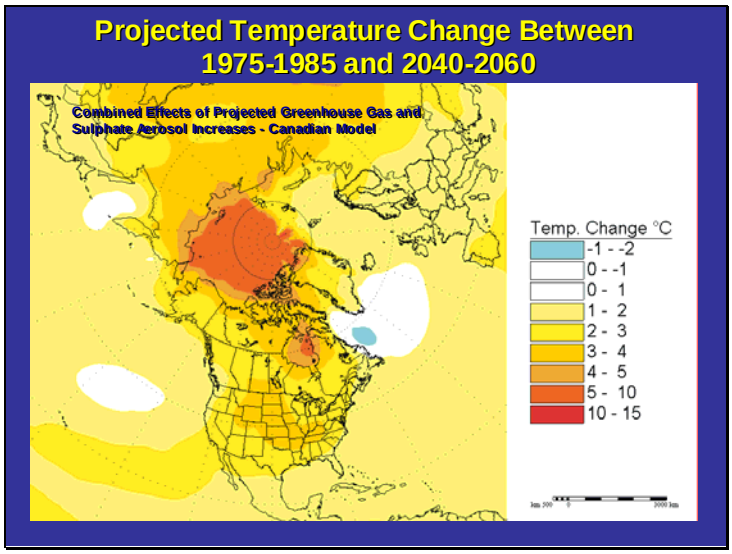
Slide 38

This polar bear maternity den on the Yukon coast of the southern Beaufort Sea collapsed during an abnormally warm period in February. It is not known for certain if rain was involved but it seems likely. The female was pinned by the collapsed den. She and her two cubs died.
This is another way that climate warming might have a negative affect on polar bears.

Slide 39

The last few slides briefly consider the future by looking at a projection of how the climate is predicted to warm, how that warming will continue to affect polar bears in Western Hudson Bay and other areas that may be affected similarly, now and in the future.

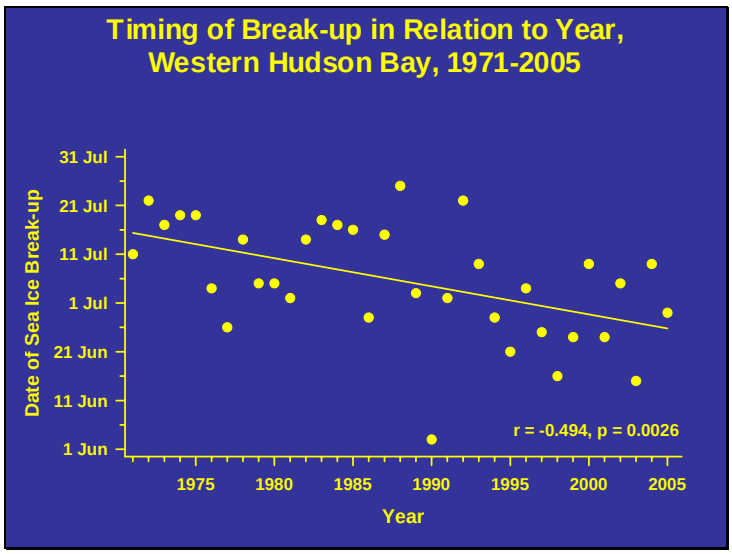
Slide 40



This figure shows a prediction of the amount that the climate may warm in the next 50 years. There are several of these models around the world and the details of their predictions vary somewhat, but *all* predict the climate will continue to warm and *all* say that warming will be greatest in the Arctic. This model suggests the warming in the Hudson Bay area will be large.

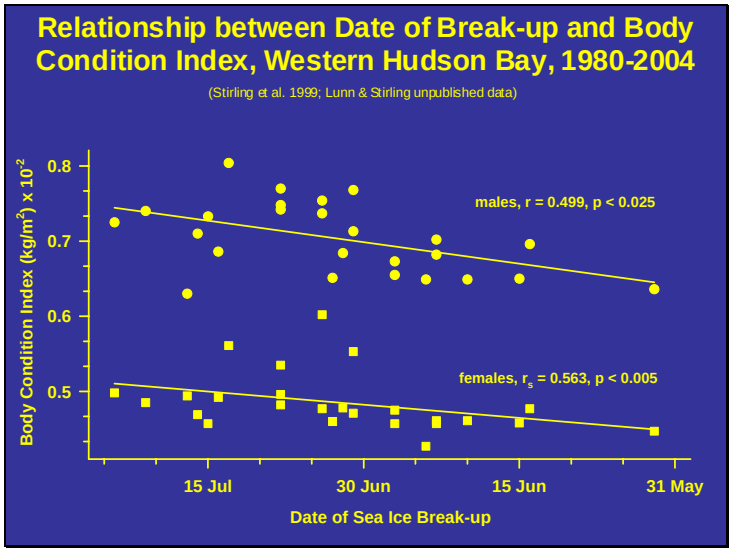
More recent analyses of temperature data from satellites have now shown that the cooler area shown above in Davis Strait is now warming rapidly.

Slide 41



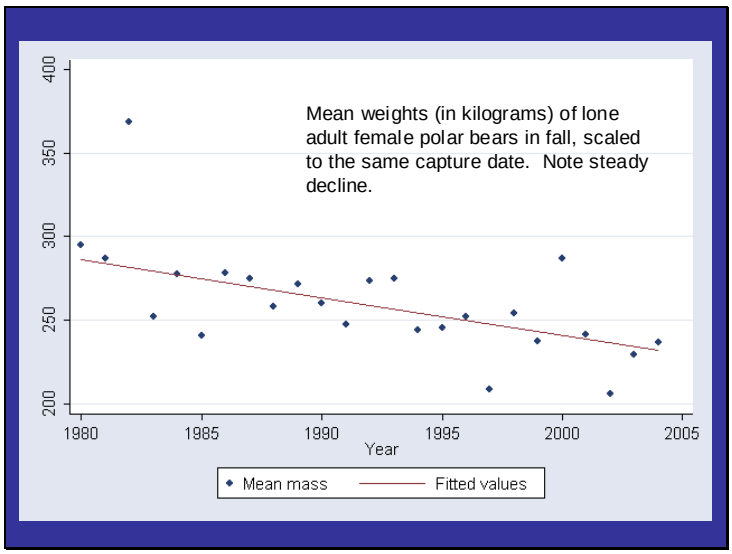
Recall that the average breakup date in Western Hudson Bay has been getting progressively earlier as the climate has continued to warm over the last 30 years. If the climate warming predictions are correct, breakup will continue to become earlier.

Slide 42



Recall also that there is a direct relationship between the date of breakup and the condition of the polar bears, especially for the adult females. If, as predicted, the climate continues to warm and breakup becomes progressively earlier, the condition of the bears will also continue to decline.

Slide 43



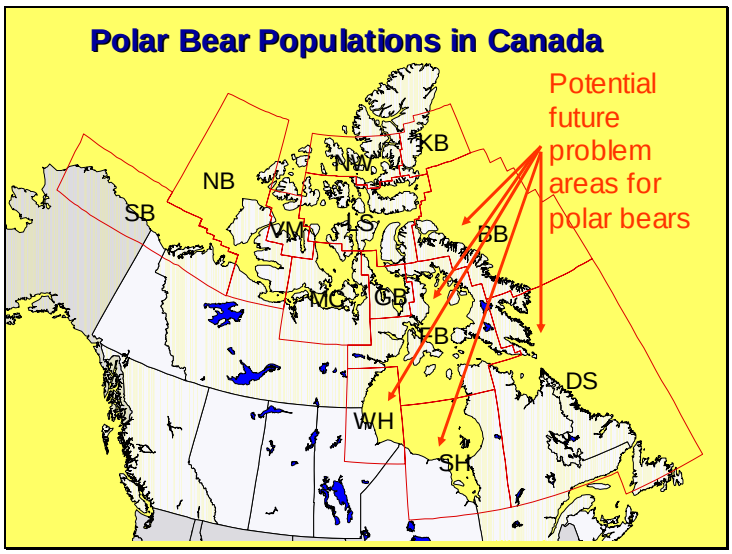
As the climate has warmed in western Hudson Bay, breakup of the sea ice has become progressively earlier and forces the bears on shore to fast on their stored fat earlier. Not only do they come ashore earlier now than they did only 20-30 years ago but they have to fast for longer on less fat. If the average weight of lone adult females continues to decline as shown above, it is likely there will be little successful production of cubs in western Hudson Bay in 20-30 years.

Slide 44

Inuit hunters report seeing more bears around towns and camps in western Hudson Bay, Foxe Basin, Davis Strait, and Baffin Bay, and suggest those populations are increasing. As a result, quotas have been increased. The scientific data for western Hudson Bay suggest the population is decreasing because of climatic warming and because the quotas are no longer sustainable. There is little evidence that the population is increasing. Similarly, it appears Baffin Bay is being overharvested so a population increase is not likely. No similar reports of seeing more bears have been made from Sanikiluaq, probably because bears from that population summer in Ontario, not in the Belcher Islands. Although details are not yet well documented, there have been several problem bears on the Ontario coasts of Hudson and James bays in recent years.

In all the populations listed above, bears spend several months fasting on stored fat on land during the open water season. It seems likely that climatic warming, earlier breakup, and longer open water seasons at least partially explain the increase in sightings of bears and these will continue to increase as the climate warms.

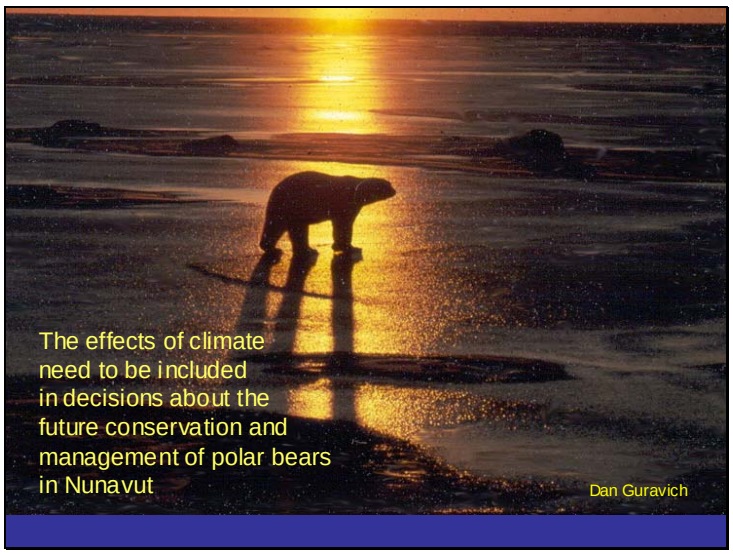
Slide 45



If the climate continues to warm so that the sea ice continues to break up earlier in the areas identified above, polar bears will be coming ashore earlier and fasting for longer on reduced stored fat. They will be thinner and hungry so there will be many more problem bears. If they follow the same pattern as the bears in western Hudson Bay, it seems likely the populations will decline and that now or in the future, increased quotas will contribute to declines in the populations shown above, as they already appear to be in western Hudson Bay, probably in the foreseeable future.

Slide 46

Slide 47

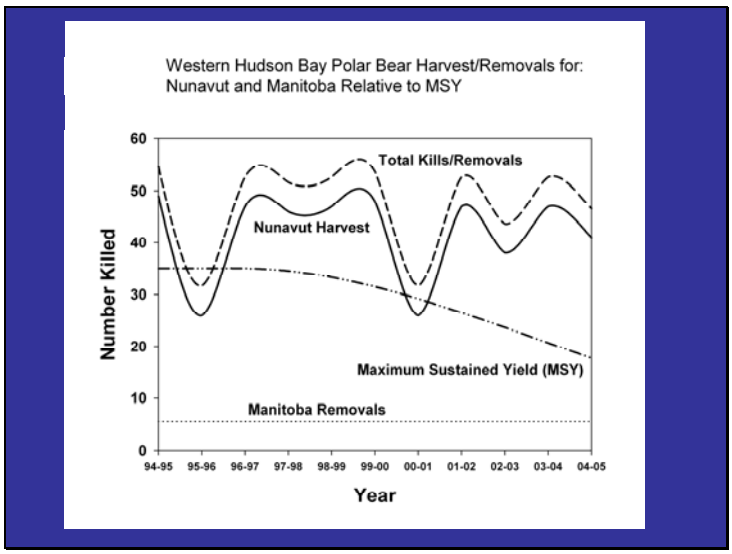


Slide 48

Slide 48 showed a decline in polar bear numbers from about 1100 in 1994, to 950 in 2004. The slide was not reproduced in this text at the request of CWS because it includes the unpublished work of collaborators with the U.S. Fish and Wildlife Service.

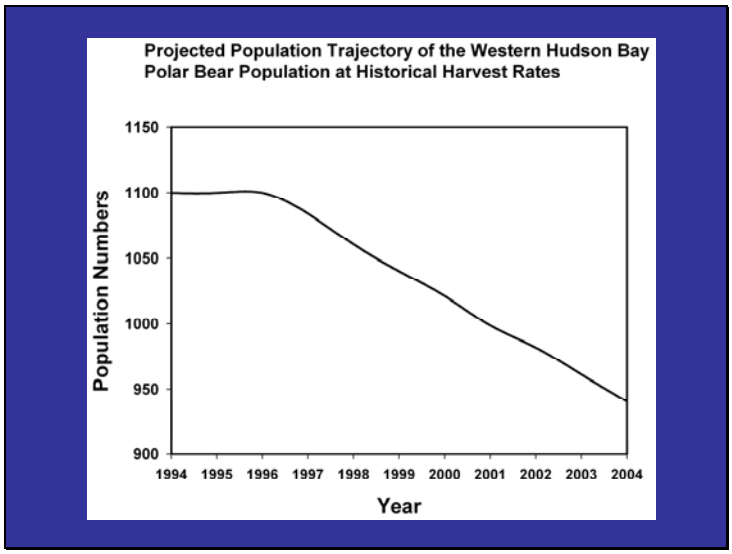
Slides 49-53 were developed by the Government of Nunavut (M. Dowsley and M. Taylor). Slide 50 is the population trajectory of the WH polar bear population bear population based on simulation results using the actual removal rates and CWS estimates of recruitment and survival rates. The simulation results are consistent with the actual mark-recapture population estimates.

Slide 49



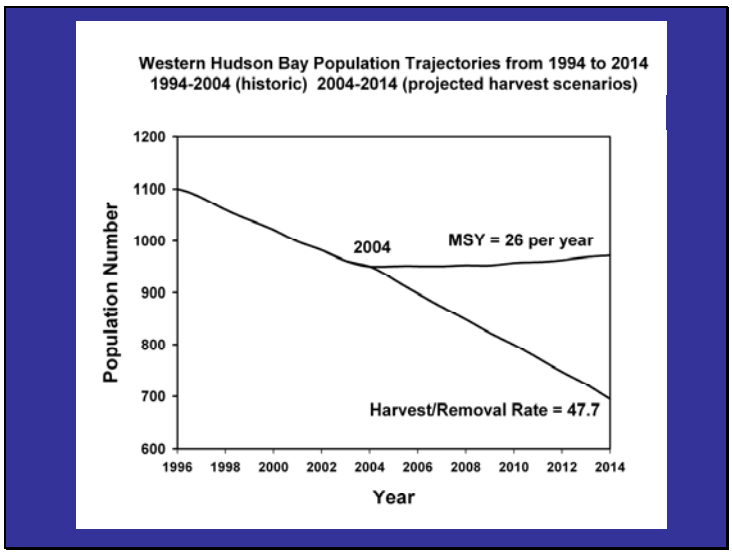
Both Nunavut and Manitoba remove bears from the WH population. The average annual Manitoba removals and the actual Nunavut removals (harvest) are shown from 1994-2005. The maximum sustainable yield for WH was estimated using a simulation model. MSY declines because of the projected over-kill of polar bears from WH in this period.

Slide 50



The total number of polar bears from 1994 to 2004 was projected using a simulation model (RISKMAN). The initial population number (1100), survival rates, and recruitment rates were provided by CWS. The actual annual removals were taken from harvest records. The projected decline in numbers was consistent with mark-recapture population estimates developed jointly by CWS and the USFWS (reported at 2005 PBTC and 2005 IUCN PBSG meetings).

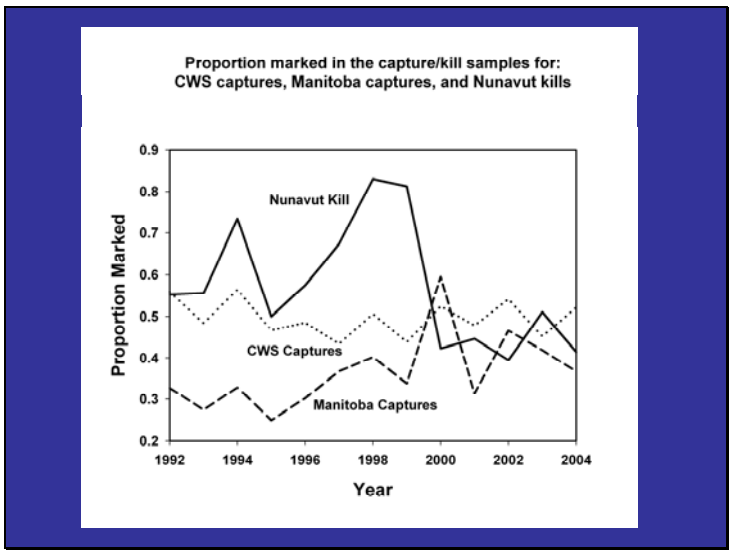
Slide 51



This figure examines two alternative management options. One is to restrict removals from the WH population to 26 per year (MSY). If 8 of the removals were reserved from Manitoba deterrent activities, that would leave 18 for Nunavut harvesting activities.

The second option is to continue removing about 47.7 bears per year (current 5 year average). The result of not changing management practices in WH would be a continued decline in population numbers.

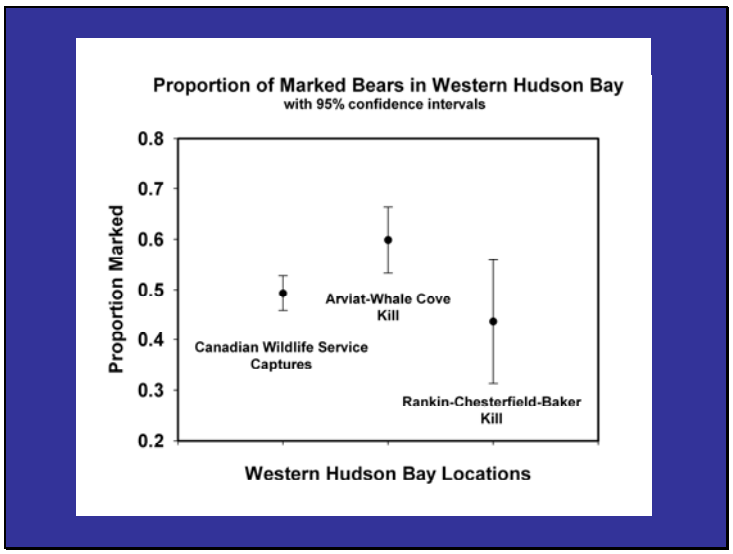
Slide 52



The proportion of marked individuals is shown for the Nunavut harvest, CWS captures, and Manitoba deterrent captures. The high proportion of marked bears in the Nunavut kill from 1996 to 1999 may have been due to the practice of moving marked problem bears north of Churchill as a control action.

After 1999, the proportion of marked bears in the CWS and Manitoba capture sample, and the Nunavut harvest seemed about the same. This suggests that the bears are all part of the same general group, and does not support the suggestion that there is a reservoir of unmarked bears north of Manitoba that were not available to the CWS and Manitoba capture teams.

Slide 53



The proportion of marked bears in the CWS capture sample (100% in Manitoba), Arviat/ Whale Cove harvest, and Rankin/Chesterfield/Baker Lake harvest pooled for the interval 1994-2005 are shown with 95% confidence limits. If there was an unsampled reservoir of unmarked bears in Nunavut, we would expect to see the ratio of marked bears in the harvest decline as we moved from south to north. This information suggests that the capture sample and the harvest sample come from a group of bears that are intermixed.

Appendix II: WH Polar Bear Consultations Meeting Transcripts
Darin Conroy and Mitch Campbell recorders
December 1-2, 2005; Rankin Inlet

December 01, 2005
9:56 am Meeting started
Introduction of all participants

David Aksawnee	Chair, KWB, Baker Lake
Willy Nakoolak	Coral Harbor HTO
Bernie Putulik	Chesterfield Inlet
Leonie Mimialik	Chesterfield Inlet
Jack Angoo	Whale Cove HTO chair
Andrew Aikashuak	Whale Cove HTO
Thomas Ubluriak	Arviat
Thomas Alikaswa	Arviat
Silas Aittauq	Baker Lake HTO
Richard Aksawnee	Baker Lake HTO
Mathew Innukshuk	Rankin Inlet
Jerome	Rankin Inlet

Raymond	Vice president for Wildlife, NTI
Gabriel Nirlungayuk	NTI
David Lee:	NTI biologist
Mitch Campbell	DoE Arviat
Dan Shewchuk	DoE, Arviat
Darren Conroy	DoE Rankin Inlet
Mitch Taylor	DoE Wildlife research manager

Jack: Have these documents been sent to the communities?
David: We will now discuss the documents. Mitch will do a presentation.
Mitch: There is no written agenda. The reason for the meeting is to consult on the status of bears in the WH population, and to discuss management options. Inuit knowledge has been collected, and we want to hear your comments and information as well. The purpose of our meeting is to discuss management options for this population. If we can agree on what to do, we will move forward with that recommendation from our meeting. However, it is not necessary to decide on a specific course of action at this meeting. We will talk about territorial and federal issues associated with some of the options, look at computer simulations, and hear a summary of a recent IQ study on polar bears in this area. Then we'll go over a range of possible management options. If we can agree on a management option, great. If not, we will conclude with our discussion recorded as a transcript of this meeting. Dan is the senior person for GN, so he will answer any policy, financial, or operational questions.

Welcome to Willie Nakoolak

Willie: Coral does not hunt WH bay quota, but we want to have a say on the quota in and around our region. We can learn from what happens in this population. We hear WH population is increasing yearly, so I am very interested in the numbers to be presented.

Mitch: We need to describe where we are now. Willie was on the previous consultations to develop the polar bear MOUs. When we did the consultations, we heard the population was rising so we thought the population was 1400 and we increased the quota by 9. In February 2005, CWS provided information from their study. They said their study showed the population in 2004 was 950. The hunters said there was an increase and the research said there was a decrease. That's the management problem and we need to discuss options. We will go through Ian Stirling's presentation. It's in English. [Mitch presents the power point]

Raymond: You indicated that the number in Churchill in the dump area had decreased. You should also remember the population of people in Churchill has also decreased. Therefore there's not as much garbage. In the days when the population of Churchill was high, therefore the population of polar bears was also high. This should also be kept in mind. We live around a coastal area, we know the animals. Polar bears will only wander around if they smell seal or meat or garbage.

Thomas: I agree with Raymond. South of Arviat there used to be quota for belugas. In 2003 the number of polar bears was plentiful when the belugas were harvested to sell.

Gabe: In August, we had elders invited to a meeting about WH bears. The elders assume the quota will be going down in years to come. They said in the 1900s they didn't have any quotas. They hunted only be dog teams. When the population in Churchill was increased to 6000, they said they population in Churchill was also increased as a result of more garbage. That is when the biologists started their research. Garbage is now not as plentiful.

Jack: I used to live in Churchill. I started moving north in 1967. I would agree there was a lot of garbage there. The Metis used to go to the dump early to collect scraps. When they moved in the 60s the polar bears started to increase as the people were not collecting scraps anymore. No one could hunt polar bears. When I moved to Kivalliq area, polar bears were walking near the shore by the mine. I didn't watch movements when I was young. When I moved to Whale Cove, the population in Churchill increased as the polar bears increased. If a white person were to hunt seal with me, they would not eat the meat right away. An Inuit would eat the meat right away.

Gerome: When is the population counted?

Mitch: September and August.

Gerome: Do you survey every year in the same places?

Mitch: We'll cover this later.

Gerome: If you did the survey in the right place and the time of the month you would count more bears. You should survey where the seals are plentiful. Right now you are surveying in the wrong areas and at the wrong times.

David Let's go back and finish the presentation.

Mitch: They didn't include bears captured at the dump in their research. Manitoba DNR has not allowed polar bears to openly feed at the dump for about 15 years, so a reduced amount of garbage would not be a nutritional stress to the population.

Gabriel: Inuit are saying the numbers are at their peak and on the way down. They are saying the number of bears are too high above carrying capacity.

Mitch: It's possible. [continues presentation]

Gabriel: Conclusion could be made that the cubs could be healthy.

Mitch: All these data are saying is that the Manitoba captures and Nunavut kills have the same sex and age distribution. [back to presentation]

Gerome: For clarification: when you study the polar bears how can you tell the age of cubs?

Mitch: The canines of cubs of the year (COYSs) aren't fully erupted. Yearlings' canines are fully erupted but they are still with their mother. For 2 year olds and older, the teeth are sectioned and aged (Mitch explained the process). That's done for all bears harvested and captured.

Gerome: Right now bears are pregnant with cubs to be born in the spring. If the mother's eat the snow this is a sign of the cubs being born later in the spring.

David Aksawnee: Time for a break (10:50 am)

Meeting resumes at 11:00 Am

David: Jack had something to say.

Jack: I'm unclear on the dates of the polar bear surveys.

David A.: We'll answer that later in the presentation.

[Mitch continues with the presentation]

Thomas: As a hunter if we see more polar bears then it's true. If a collared bear is very skinny it is because of the collar. The collared bears lose more strength as they're no longer a perfect hunter.

Mitch: At times, collars and handling can cause problems, but that is rare. All evidence suggests that it is a minor effect.

Gabriel: One thing missing is the historic population of Churchill. They agree there is a decline in polar bears for Churchill. What the people are saying is that the distribution has changed.

Mitch: There are ways of detecting changes in distribution, and we'll cover it later in the talk.

Willie: We seem to be going in circles. The biologists need to get more information from the hunters themselves. When we keep hearing the polar bears are declining, and that they're not being seen in some areas according to IQ.

Mitch: I can agree with that.

Andrew Atik: –I've noticed when the polar bears are starting to wake up from the drugs they're not the same animals anymore. They act sluggish and usually try to leave the area where they were drugged.

Mitch: They're still affected when they first wake up, it's true.
[Mitch continues presentation]

Gabriel: I just want to get clarification. I'm originally from Gjoa Haven area. They haven't noticed any dens in the Gjoa Haven areas. We know that the polar bears have dens in the snow not just in the earth dens found in Churchill.

Mitch: A good point.
[continues presentation]

Gabriel: Referring to the graph (population estimate). In 1985 they were at 900, and now they're there again, so it's natural.

Mitch: In the early days of Churchill, I have heard suggestions that the US military was harvesting more polar bears than they were reporting.

Gabriel: In 1985 and 2000 the population was roughly the same and now the same.

Mitch: The earlier estimates were not as reliable because of sampling problems as the current information. This sampling problem might explain why the values are low prior to about 1994.
[continues presentation]

Jack: It is very hard to hear that the polar bear population is declining. I can say that the polar bear cubs, if a hunters' total kill is 26 and 26 were born, this would mean a stable quota. We seem to forget about this. I don't like what I'm hearing unless 26 cubs are not being born and you have proof of that.

Mitch: A good point and I'll talk about this a little later on. [continues presentation, talking about marked bears and distribution]

Gabriel: Another conclusion could be that the distribution has shifted north.

Mitch: For that to effect the population estimates in a way that would give a false decline, you would need to see just the marked ones shifting their range to the north.

Gabriel: If the marked ones had shifted their range north that would explain the lower recapture by CWS.

Mitch: Yes, if that were happening it would be an explanation for why the scientific information is indicating a decline and the Inuit information is indicating an increase. Good point.

Gabe: So this finding supports what Inuit are saying.

Mitch: No, what the ratio of marked to unmarked bears indicate is that the ratio of marked to unmarked bears stays about the same for the CWS captures and the hunter kill throughout the population. It does not appear that marked animals are moving north, or that there are a large number of unmarked animals in the north that were not sampled. The marked to unmarked ratios in both the capture sample and the hunter kill suggest that both groups are seeing the same bears.

Gabe: That's what we're saying.

Mitch; This concludes the CWS presentation. This study would have been stronger if it had included Nunavut hunters. I apologize for that.

Richard: The way we look at it, what the CWS is looking at, when CWS marks these bears they move further north and are missed.

David Lee: I haven't seen this graph and spoken to Ian. We shouldn't be seeing these differences.

Gabe: It's interesting how you've concluded this. Do we have access to these files?

Mitch: Yes, the data are available no problem. I have presented the scientific information. Now I would like to hear the hunters' perspective and learn about Inuit knowledge. Perhaps we should break until 1 pm.

Lunch break

Meeting resumed 13:08.

Gabe: The info I have can be viewed through computer. I will go through it briefly. The documents prepared by biologists and wildlife people have been done for almost a year. We just recently prepared our IQ information from elders into documents. We interviewed elders last summer in Churchill.

Within 200 years the elders told us what they learned from their great grand parents. We taped them with a tape recorder and video tape. We can distribute these to the public. In Arviat between 1930 and 1970 the number of polar bears weren't that many, but after the 70s they increased and they have been increasing every since. The polar bears are seen throughout the year. Females with cubs are often seen in the Rankin area. In 1950 they weren't seen in great numbers but more are being seen now than ever before. In the 1930s and 40s there weren't many bears in Chesterfield Inlet area. In Wager Bay area they were hunting bears from Foxe Basin area. Bears are increasing and nuisance bears are increasing, especially in the fall. They are seen around communities. In the 50s WH Bay didn't have many polar bears right down to the Churchill area. When the Churchill population was high, polar bears were high, because there was more garbage. Polar bears had different uses from today.

The climate is changing, the climate is getting warmer. Bears are moving where the climate is colder, away from the Churchill area. More sightings are seen by hunters, in this they agree with biologists. The hunters believe that there are more bears than before. In areas where biologists do surveys in Churchill, they should also include Rankin, Chesterfield and Seal River area. The research boundary is way too small to get an accurate population estimate. The elders say they should do their own research. The meeting we had with elders is still being processed into documents and video tapes. The elders don't know the exact population, but they say the population is stable.

Willie: What was brought up was very informative. The elders' research should be distributed to the communities as there is not much of this documentation now. We still need to use IQ from the elders as a tool to show outsiders this information.

Mitch: The information provided about a population increase through the 50s and 60s is consistent with scientific information. Only the last 10 years seem to be different.

Gabe: One of the elders (Gabe asks Mitch to project the movements slide from his presentation) made a motion to expand the study area to include areas that are currently outside of the study area. It should be in the whole area of Hudson Bay. They walk past Rankin Inlet as the ice forms in that area. The islands around Coates Island have lots of walrus and therefore lots of polar bears. There is no research done in this area. The animals follow what they eat. This depends on ice conditions.

Mitch: We did a study of those islands around Coates Island We marked the bear we encountered with tetracyiine. We checked the harvest in WH to see if any of these

tetracycline marked bears were recovered by WH hunters, but these bears apparently did not mix with the WH bay bears, except perhaps in spring on the active ice. For the open water season the two populations are separate (i.e., Foxe Basin and WH Bay). We think CWS should have covered the entire shoreline like we do in our studies, however it is clear that there is little mixing between Foxe Basin and Western Hudson Bay.

Jack: In the Churchill area coming from Whale Cove before the ice freezes up. If the biologist was there he would be surprised how many bears I see before I shoot one. This is what most hunters go through. Not only once, but regularly. When I travel through Seal River area you can spot them anywhere.

Gabe: [Asks to go to all populations slide] In WH Bay there are different boundaries, I mean other populations have trouble with the present boundaries as the elders say, the animals don't have a boundary. Right now they are using their own DNA research. The study they will be doing is for 3 years. The research they do they want to show it is the same animals –MC and GB populations.

Jack: When you travel the areas, you see the animals to understand it. Animals are always on the move.

Gabe: Too bad there aren't members here from Repulse Bay. They would like to express that their polar bear population is also affected. Their spring camps are also being destroyed.

Mitch: Animals do travel long distance. [review of radio collar slide]. Animals travel, but they mostly stay within their own areas. No WH bears went to Repulse Bay.

Gabe: These studies done by CWS are mainly of females. The males are not collared due to the neck size. Most hunters know females do more land coverage than the males.

Jerome: I was going to ask what is the difference between Foxe Basin and WH population? Why do they need different zones?

Mitch: In the 1960s the management zones were created based on the harvest. To learn about them ear tags, lip tattoos and radio collars were put on. People noticed bears were caught in the same areas they were marked in. We learned bears are from different populations. They do not just roam around like people once believed.

Jerome: I do know that some females look like a male bear. Sometimes a female bear will have a huge head. Most hunters can tell the sex by looking at the head.

Mitch: When doing studies in Resolute and Grise Fiord area, people in this area said bears in the Norwegian Bay (NW) area were different. We did DNA studies and confirmed they NW bears were genetically distinct.

Thomas Ubluriak: I want to share with you the number of polar bears are away from the Arviat area. One time I was coming from Churchill to Arviat. I came to a small island with more than 5 on the island. They are affected by climate change.

Mitch: [clarified the survey areas on the Cape Churchill map] Are you telling me there are quite a few more bears further north?

Thomas: Yes. There are bears around Arviat, around that time, though not many.

Mitch: Is it just later in October they come north?

Thomas: We usually hunt west and south of Arviat early in August. Bears were spotted towards Fergeson River area. Quite a few. Hardly any from McConnell to Churchill.

Willy: Can you show the population map? You mentioned that WH polar bears don't go as far north as Repulse?

Mitch: No.

Willy: Where do the large marked bears that are sometimes seen in Repulse come from?

Mitch: Perhaps from the Gulf of Boothia? I'm not saying that no polar bear ever travels outside of its population area. I am only saying that such movements are very rare.

Willy: I'm just saying that it does happen from time to time. The big large males can travel anywhere. You don't believe this but IQ says it's true. Did you ear tag and lip tattoo bears in Foxe Basin?

Mitch: We haven't done very much ear tagging and lip tattooing in Foxe Basin. The next study will begin in 2008.

Dan: [looking at the WH movements] I think the way things happen – the bears are on the ice in the spring. Ice melts, they get off the ice and migrate up the coast until the ice forms and it starts again. Does everyone agree with this?

Jack: I'm not sure where the ear tags are put on, but most of the bears we harvest have been marked. I wish they could tell us where these bears are marked so we can tell the movement.

Mitch: We used to send a letter of thanks for the tag returns but haven't had the capacity of late. We will continue this as soon as possible.

Willy: I have never harvested a tagged bear as we try to avoid tagged bears as they have been drugged. A bear tagged in Coral Harbour was once harvested in Clyde River.

Gabe: In answer to Dan's question. I agree that that's what the bears do. However, we're just saying that there are bears north of CWS's study area in July and August possibly a few hundred. And there is scientific information that those bears are related to Baffin Island.

Mitch: The real question is are these bears always going to the same areas every year, or are they mixed with other populations.

Gabe: Back 40 or 50 years ago the bears at Churchill are going back to these numbers.

Richard: This past summer, I've traveled 20 miles NW of Chesterfield. We've noticed a mother with 2 cubs in that area all summer. Are they FB or WH?

Mitch: Good question. We would expect they are probably from the WH population.

David Lee: Elders made the same comment, are there bears living in this area all summer?

Jerome: Where were the ear tags put on?

Mitch: [using map of Churchill area] These red lines are the areas they look for the bears.

Thomas: When the wildlife office said the polar bears travel beyond Churchill, I saw no footprints SW of Churchill. This suggests they won't stick to the boundaries. In spring 2002, there was nothing between Seal River and Arviat.

Mathew: Polar bears years ago started hanging around the dump. Last year Marble Island had more than one bear all summer.

Andrew: Maybe the biologists' data should be shared amongst the hunters so we can start understanding movements of polar bears more. In 1978 I shot a goose tagged in Boston.

Break 2:15 pm

Meeting resumed 2:30

Gabe: Since 1993 the Government (wildlife) said the beneficiaries had to be included. If we have a legitimate concern we have a right to have a say. The elders' knowledge is very true. The scientist and the hunters/elders must come to a consensus agreement. I don't believe we'll be using the IQ right away for the WH. It's obvious that the bears outside the WH study area could be above 250. The elders are also concerned about the polar bear population which we will soon publish in the elders' report.

Willy: I've been involved with polar bears for some time now, what about honouraria and per dia.

David: In regards to receiving honouraria.

Gabe: For honouraria and travel we need your name and travel arrangements.

Thomas: Both of us did not receive per diem or meals.

Mitch: Everyone should have been paid already through their HTO. Because you were not paid by your HTOs we will have to go thru the secretariat.

Willy: You should write the cheques as soon as you know there will be a meeting.

Mitch: I would like to talk about management options now. We can start with the MOU. Let's look at the MOU. The target number is 1400, see 2.3 of the MOU. When new research was available, see 5.7.1, that's the pertinent section we have agreed to use the new information to identify an appropriate TAH. If the population declines to less that 90% of the target number, 90% of 1400 is 1260, if it is 1260 or less we said we would have a moratorium until the population returns to the target number. We are not saying this is what we will do, but this is what the MOU says.

We can now look at how to incorporate birth and death rates. [Mitch explains how RISKMAN works on the computer].

Birth and death rate estimates are accurate and precise for this population. Survival rates are high. High survival for adults (males and females) and subadults. Survival rates decline after 20 years old. [demonstration on how different initial population values plus mortality values affect population levels.] It would take a 12 year moratorium to increase the population from 950 back to the target of 1400. Right now we are harvesting around 54/year. If we harvested 26/year the population would continue to grow slowly. If we continue to harvest 54/year the population over 20 years would be down to a couple of hundred animals. IQ might say this is not correct and there wouldn't be a problem. This may be true, but according to the science the population is declining at a rate of about 25 per year at the current harvest removal rate.

Willy: How many cubs are produced each year?

Mitch: When the RISKMAN system is used the number of cubs produced are factored into the calculation. There are only about 125 cub-producing females in the population in any given year, so there are about 187 cubs produced each year. If people were just hunting the cubs, you could take 187 cubs, but people don't just take cubs. They mainly take the adults. The more adult females taken, the fewer cubs in future years.

Willy: I just wanted to bring this up.

Gabe: The study area –this is true for the study area. We have to take into account that the distribution has changed. Inuit are abiding by MOU but DOE is not following section 7.7, no compensation.

Mitch: Let's estimate there are 200 to 250 additional bears north of the study area. Plug that into RISKMAN. The quota could then be up to 36. 54 is still too high. The old sustainable estimate of 54 was based on my work, in the mid 1980s. We pooled all the data from various populations across Canada (MC, FB, DS, etc) we did not include WH,. The 1 ½ % that was used to estimate sustainability did not contain data from WH because the other data was mainly collected in spring.

Based on the 1996 CWS estimate of 1200 that was listed in the 2001 IUCN report, the average WH harvest was deemed to be sustainable. In 2001, the population was thought to be 1200. The population estimate has since been updated and the population is now estimated to be 950.

Gabe: There are mistakes in science, bad science.

Mitch: There have been mistakes made, ex. The initial estimates for the MC population. This is not my study, but many researchers have reviews this information. The consensus of scientists is that the science is good.

Gabe: We are trying to tell you it is going to be proven, but you are disregarding it.

Mitch: I am not disregarding it. What I am trying to communicate to you is that even if there are a couple of hundred more bears than CWS says, there is still a problem because the harvest is still too high.

Gabe: IUCN said 47 was sustainable, but now you are saying it is not. You have to make up your mind.

Mitch: You were at the last PBTC meeting and the last IUCN meeting in June 2005.. You are looking at old (2001) information. I am giving you the current (2005) information.

Gabe: Inuit are trying to give you a new system. Don't disregard it.

Mitch: How many bears are missed?

Gabe: We will tell you when we are concerned. We'll tell you when there is a problem. You were in Davis Strait Inuit are telling you there are lots of bears and now you know.

Mitch: There are problems with just waiting until everyone can see that there is a problem. Polar bear management decisions affect the NWMB, DOE, the federal government, and most important … future generations. This information will be

reviewed by the PBTC and they will be expecting that something will have happened as a result of this new information.

Jerome: Just last year we agreed to an increased quota for WH. We had 2 options to determine if these were an overharvest or not. There is not.

Willy: There was a population of 1400 down to 1200 at a quota of 47. Now at 54 according to my calculation that should be sustainable, so why would this cause the population to decline?

Mitch: Two things. We thought that there were 1400 bears based on Inuit information that the number had increased. However, CWS's recent information suggests only 950.

Willy: CWS gave the tags to Manitoba.

Mitch: No. There's nothing binding on either jurisdiction concerning quotas. Manitoba takes approximately 8 bears. How they manage polar ebars in their jurisdiction is up to them. We must follow the process identified in the land claim for wildlife management in Nunavut. We do try to work with all jurisdictions that we share polar bears with for good co-management.

Willy: When was this study done?

Mitch: 2005. It's recent.

Willy: We're seeing only Manitoba research, not all of Western Hudson Bay.

Berni: It's obvious that you want your surveys based on Manitoba itself. You don't want to change your position. How do you come up with the numbers? How are they counted? In the MOU you indicated 1450 as the target population. Where did the information come from?

Mitch: I see. It's a typo. There's a couple in the document.

Berni: I would like you to clarify the number, 1200, 1400, 950. How did you determine this? What will happen if we follow the agreement?

Mitch: The 1400 was from IQ. It came out in MOU consultations. People wanted to see a quota increase becasie they believed the population had increased. We were supporting IQ. We didn't know until last year, after the MOUs were accepted, about the results from the CWS research.

Animals are captured and marked. They are then released and more are captured in the second year and those that are not marked get marked. Then the next year the proportions of marked to unmarked are figured out. We're not here to force a quota reduction; we're here to consult and to explain this information.

Gabe: The number coming from the Inuit, 1400 animals. We were advised that there were approximately 1200 bears.

Jack: The allocation of quota for each community. We're allowed 4 females for Whale Cove. If we were to reduce the number of females caught to less than 4 then this will help the population recover. We abide by the rules put on the table for us to follow. The local HTOs could encourage the membership to conserve females for this purpose.

Mitch C.: What are the national and international implications of not acting on the CWS results?

Mitch T: Nationally there is an expectation that action will be taken. The U.S. sport hunting will almost certainly be in jeopardy if there is no response from Nunavut to this information. In the U.S. polar bears may be listed as "threatened" under the US Endangered Species Act. If they are listed as "threatened" in the US, trade would be banned which would end the economic value to Nuanvut traditional economy fromteh US sport hunt. A change in status in the U.S. could also trigger a CITES review, and polar bears could be uplisted from Appendix II to Appendix I, which would mean no international trade in hides or sport hunt trophies.

Break 3:30 pm
Meeting resumed 3:40 pm

Gabe: From what I gather, science is saying the bear population has decreased and they are less fat. We do agree that this is true in Churchill. What do we do with the international concern? If the food source is not out there, then the fat decreases. Inuit think holistically while science looks at one species at a time. The animals were at a peak in the 1970s, 1980s. If a species' numbers go too high, then it crashes. What is the carrying capacity of WH? The number 1400 or 1200 is too high for this population. The population is decreasing but we are not concerned. Inuit are not concerned. The carrying capacity is lower than 1400 so the population needs to be decreased.

Mitch: There is a proposal to look at the whole ecosystem in WH. This is being done by DFO. They predict there will be more whales and fewer seals and polar bears.

Gabe: In the 50s what was proposed we still follow today. Those departments gave us numbers (quotas) as that was in their line of work. If Inuit weren't conservative ourselves the polar bears would be lower. Inuit consume animals the bears eat. If it goes below 1000 we would have to reduce the take by science. If we were to use the Inuit culture the problems with population would decline.

Mitch: Gabe has said some serious things because if the bears are decreasing and that is okay with everyone, then there will be fewer bears for our children. If you don't want to have 1200 or 1400 then we should change the target number. Future generations should

know why the number of bears in this population was reduced, and who was responsible for that decision.

Gabe: In Gulf of Boothia, 950 then to 1500. Mathematics right? MC?

Mitch: It's another population but I met with Taloyoak and I asked them if we needed to put radio collars on the bears to determine if the two populations were the same or separate. They said the two populations (MC and GB) were distinct, and that radio collars were not needed.

Dan: Gabe, you acknowledge that the population is decreasing at a quota of 56 bears/year. If you don't agree that the population is 950, do you agree that the quota should go down? If you keep harvesting at current rates there is a risk. If there are problems later people will ask if this could have been prevented.

Thomas: Thinking about older people and the declining quota. Maybe we should take it back to the public. The allocation to Arviat will dramatically hurt the hunters and sport hunters. For those around this table, we will have to ask the people in our communities. None of the communities will be satisfied with this.

Mitch: One option is to do nothing now and go back to the communities to share this information with them.

Gabe: At whose cost are we going to make a decision for the future? The management system we have used for the past 40 years, there were no real questions. Inuit now asked questions. Science studies the same area for 20 years but only the last 10 are valid. That is like 0.1 seconds in time. Inuit knowledge is much vaster. My dad used the quota system and there was no question. We now question and critique the information. Inuit says there is no problem this time.

Mitch In a nutshell that is it. Science and Inuit knowledge don't agree in this instance. We have various options. Maybe we should break and talk it over and get together tomorrow and go over the options to see if there is one we can agree on. We can go over the information again, or we can go over a mark and recapture example. We have to face that Inuit knowledge says there is not a problem and that bears have just changed their distribution while the science says the population is decreasing.

David Lee: One option is that, especially for Arviat, maybe there should be compensation for each bear that is reduced.

Mitch: The land claim is clear that no compensation is required for conservation measures.

Willy: I would be afraid of making a decision now without going home and discussing it first.

Dan: In response to Willy, the distribution numbers don't mean anything at all. They will be decided by the RWO. Could we go through each community to see what they think?

Willy: The numbers are too heavy for the boards to consider without thorough discussion.

Jack: Maybe in the morning we can come up with a consensus on the next step.

David A.: What people want to hear from all of you is what the next step is.

Gabe: Thank you Mitch and everyone around the table. We would like everyone to be confident of their choices as we want to conserve. From 47 to 56 is what we were allocated this year. It's up to the communities what we should do by say next July and keep that for 5 years. Perhaps the communities can vary the quotas based on informed direction.

David A: Let's have a spokesperson to reveal the results of tonight's brain storming and come up with a consensus agreement tomorrow morning.

Silas: We need to protect the polar bears given to us by our creators we need to conserve them.

Jack: We'll try to come up with some agreement by tomorrow morning, perhaps teleconference tonight.

Jerome: I am not in favour of accepting the numbers without going to our communities.

Thomas U: If we're going to be making changes we'll need number from each HTO and the communities. We're conservative, and can go along with what is being recommended.

Bernie: I would like to review the documents handed out to us and come up with some concerns tomorrow morning. We can brain storm tonight. The biologists should also listen to both sides, IQ and science.

David A: We'll wrap up early this evening to brain storm to come up with some concerns tomorrow morning.

Meeting adjourned 16:30

December 2nd 2005. 9:00 am

David: We can proceed with the meeting. Good morning [prayer]. This morning we are discussing the actions concerning the quota. Mitch, can we review the credits?

Mitch: No problem. The credits on the books are Arviat Males: 8.17 and females: 14.17; Baker males: 5.33, females 4.67; Chesterfield 2.5 males, 0.33 females, Rankin: Males 23.33, females 16.67. Whale cover: 31.33 males and 10.67 females. You have been very conservative in your harvesting.

Dan: Does the new study affect the credits?

Mitch: Yes. The MOUs are clear that when we begin to manage based on new study results, the credits go to zero. We have not adopted the new research results as yet, so you could harvest the entire credits this year if you wanted. However, it would be detrimental given the indication of a current decline. You can call Francis for details of your credits. [referred to presentation to examine the effects of maintaining the current quota, showing a decline].

There's not agreement regarding the numbers or status of polar bears between science and IQ. So I put down some options on the board [table 1] so perhaps we can work through these options and others to see how far we get.

	Option	Pros	Cons
1	Do nothing	• Data are insufficient, • decline is slow • Gives us time to think	• Lose Canadian/Nunavut PB management credibility • Risk losing the US sport hunters
2	Talk to communities	• Good to get community support	• Takes time and money • Will it happen? • Lose Canadian/Nunavut PB management credibility
3	Moratorium re MOU	• Strong conservation response • Shows responsible management	• Loss of hunting for 12 years • Maybe population won't recover to the target number
4	Reduce harvest from 56 to sustainable 16-18.	• Strong conservation response • Shows responsible management	• IQ disagrees with restricting harvest • Not entirely clear restriction is needed
5	Phased reduction	• Easier on harvesters • Strong conservation response	• Will reduce population • May affect future quotas
6	Go to NWMB	• They are the instrument of wildlife management	• They rarely initiate • Mgmt. Action will be delayed
7	Additional research	• Shows management action • Investigates IQ claims	• What new information will be found? • Delays action, may affect future quotas

Jerome: We had discussions and with these options we had to come to the conclusion to stay the same for this time until we can take it back to the communities.

Gabe: We found, through the IQ workshops, that more research should be conducted. To either validate or not validate the IQ. It will be costly but everyone should work together.

Mitch: It's good to collect and document the IQ. And I congratulate you for the work you have done, though I feel further IQ studies would yield the same results.

Thomas U.: As Jerome indicated, most of us as board members want to take the options back to our communities. We have work to do to discuss the proposed numbers and study the MOU. Perhaps we can make changes ourselves.

Gabe: I am representing the Inuit throughout Nunavut. What I'm asking from you, we can't go ahead with options that may not be suitable to some communities. For 2005, 2006, I understand that the current quota is not to change. However, for 2007 what options would you like us to take back to our communities for decision? What numbers will be suitable for the communities?

Thomas U: I support what Gabriel has said. Do nothing with it at this time. Take it back to the communities for discussion and decision and consensus.

David A: I believe it would be wise to stay stable for 3-5 years and if the numbers are declining then we can do some studies and re-adjust the quotas if necessary. Let's come up with a consensus. I agree with Gabriel.

Andrew: I also agree with Gabriel. Do nothing and stay stable for the moment.

Mitch: This will mean a decline to about 800 bears which would mean a further drop in the quota from 18 to 15. We're going to take this back to our senior people but there's no guarantee they will accept your choice of action.

Gabe: Mitch is correct. The Minister can override this decision. We want to be clear that we agree to be stable for the next 3 to 5 years.

Willy: Your department is not the only one that knows the numbers. IQ also knows the numbers. I would like to be more confident with IQ.

Jerome: We will obey the rules. If you give us guidelines we will follow them. We are conservative.

Silas: Because the hunting season is not year round, I don't think we will exceed the quota.

Mathew: The MOU was signed recently. There are few people going along with this MOU. As hunters we can't make decisions for ourselves. I don't think the current quota is excessive.

Mitch: If we were to stick with the MOU we would have a moratorium now. You don't want a change in quota now from what I hear. I understand you are indicating that if you see something changing in the future you would take a reduction if you see a problem.

Gabe: Let's review the graph again at 950 population level.

Mitch: Over 15 years it would be down to around 600 in 15 years.

Gabe: We won't run out of bears in 15 years.

Mitch: We are lacking a shared management goal. Most of the world will not be happy with a decline in the population to half of what we started with.

Gabe: We are not starting from A to Z. We are starting from S to Z. The data started when the population was at its peak. If the world listened to Inuit they would understand. This is an experiment. If Inuit ways were practiced we wouldn't have this problem. The target number is an experiment.

Mitch: What Gabe is saying is correct. A group of people want to see management decisions based mainly on IQ. Another group thinks we should use mainly science. People think science works well down south, and they are comfortable with it. What we are doing in the early years of the Land Claim is to decide what approach to we want to take. Senior people in our co-management system will have to make a decision. We just can't take studies and IQ when we like the results, but ignore them when we don't like it.

Gabe: I was born out of the polar bear quota system. I believe in this. We have abided by polar bear quota system. I think we can have it both ways.

Bernie: You are going over footprints over and over. We try and support you. Let's make some new footprints. Since we created our own government we have tried to stay conservative, that is our goal. We try to support you, but try to turn the ideas around to your liking. You seem to be afraid of your superiors, maybe in Ottawa. We are trying to assist you. In less than a year we are changing the decisions that we agreed to in the MOU. You seem to be working in the back, and you can't walk at the same place. You have information you are not saying.

Mitch: I am afraid, you are correct. I know this information will not be accepted by southern people, if we don't do anything. We can wait a few years, but we are really under a microscope here. I expect within a few years that polar bears will be a federal "species at risk". We (GN) may end up right out of the polar bear management business if this happens, because the responsible Minister for "species at risk" is the federal Minister.

Dan: This population is shared by Nunavut and Manitoba. Manitoba gives Nunavut 19 tags right now. They have a multi-million dollar industry in Churchill right now.

Andrew A: When the research is done in Manitoba, are Baffin numbers included?

Mitch: No, just WH.

Andrew: For most of us if we hunt polar bears we can't go past Chesterfield Inlet.

Break 10:05am
Resumed 10:22 am

Jack: Ever since we abided by the government we have been following things we don't like. They impose it on the settlements. We used to follow our own thoughts and we were conservation minded. If we work together we won't be over-killing wildlife.

Mitch: There are mistakes in the handouts. On page 1, where it says the quota was changed from 32-41; it is actually 47-56. This needs to be changed. Where it says 16 (90% risk management) it could say 18 (MSY). Where it says 32 it should be 32%. Where it says 1450 it should say 1400. Take out the part that suggests how the quota could be divided. It should be 18 and the RWO figures out how it is to be divided. We will type up the transcripts and you can review them for accuracy.

Jack: If we take that road the transcripts need to be sent ASAP.

Richard: Was there any scientific research done before the quota increase?

Mitch: The last research was in 1996. Based on that old 1996 estimate of 1200 that is where the 47 was deemed to be sustainable. The way the SARA stuff works, is through COSEWIC and the federal minister. I expect polar bears to be designated as either "threatened" or "special concern" soon. The management plans for SARA "species at risk" come from the federal government. NWMB decisions on SARA "species at risk" management plans are with the federal Minister, not the Territorial Minister. We (GN) are not involved.

Richard: We had the same person come to Baker Lake to talk about wolverines. She didn't have any research from Baker Lake. She had everything from B.C.

Mitch: We prefer to keep management of Nunavut's terrestrial species within the territorial mandate, and not have managed as species at risk by the federal government.

David A: Mitch Campbell do you have any concerns?

Mitch C: I have looked at the studies. I agree with IQ that there are some areas that could be improved on, but my main concern is that while we believe IQ is important to

use, if we don't find a way to use IQ and science together it is a problem. They both need to be functional. The world is watching and expecting us to do something. This is a tough issue to deal with. I am a little scared, politically and biologically about what the future holds. We really need to think about this, yet act as quickly as possible so we can keep this management regime working properly.

Jack: I'd like to get more information about what the boundary is around Chesterfield. Is it right outside the town? If you are a biologist are you able to tell what population that animal is from as the animals don't have a home. We can't say that to any species.

Mitch: We understand some bears can cross back and forth population boundaries . Our polar bear populations are groups of bears that are more like each other than like bears in other groups. If you come from Baker Lake, turn north and it is Foxe Basin, if you turn south it is WH. This was to make it easier for hunters. There is a 30 km overlap in the boundary area to accommodate hunters chasing a bear.

Bernie: We just abide by the boundary that is imposed on us. Just outside of Chesterfield. This is the boundary between WH and FB. We have not been able to make any changes. The department says they are two different populations. It goes near the Baker Lake River. Going back to Mitch. Does that answer your question Jack? Going back to the communities to get consensus on a plan of attack.

Mitch: The new COSEWIC status report on polar bears is supposed to be done in two years. After it is submitted to the minister there will be more consultations. Following this the federal minister will decide if it is a species at risk, likely not before 2008. Wildlife officers would still be responsible for enforcement, but the feds would handle management.

Bernie: We then have 2 years to resolve this issue. Please keep in contact with us along the way. Also, I have some problems with your present numbers on how the quotas for WH is distributed to the communities.

Mitch: We'll be making changes to the documents you handed out, and will keep you informed.

Bernie: How old are the presentation slides? The picture of the drugged bears, when were they taken? They look like they were taken long ago.

Mitch: Some of them were old and not the way things are now.

Bernie: Your slides should be taken recently as they're poor advertising to the outside world. You should be showing attractive pictures to the outside world, especially sport hunters.

David Lee: A follow up to Mitch's comments. At the elder's workshop they recommended community monitoring by local hunters. Until such a time as the information will be questioned.

Thomas U: I believe that both the biologists' and the hunters' information is the true information. We shouldn't have to guess. The biologists' information need to be more precise.

Jerome: To Mitch: I feel we are seeing the same things.

Mitch Campbell: I don't have enough experience to be able to tell that difference. I don't hunt them, I don't look at them. Caribou and muskox, no problem.

Jerome: I am able to tell the difference between a yearling and a cub.

Mitch: While they're not 2 species, there are genetic differences between different populations of polar bears.

Jerome: I want to end the discussion now.

Gabe: What Mitch said with the scientific information is that this information will be handed over to the minister for decision with IQ. When the people are asked to meet again I will be involved and will be able to submit the IQ. The scientists only look at the numbers. We as Inuit look at the habitat, climate, and this is what we pass on to the Minister.

David: Anything more?

Mitch: No, I think the message of the group is clear. Everyone was congenial, no arguments, and I thank everyone for that.

Mathew: Are we allowed to use the quota tags given to us outside of Foxe Basin?

Mitch: WH tags can only be used in WH and FB within FB. You can exchange tags as long as they're used within the appropriate areas.

Gabe: You misunderstood. He meant bears that are the same height as the mother, can they be harvested?

Mitch: In the MOU, we protect all family groups. This is done as family groups are important to the population and keep the hunters from an over-harvest.

Jack: You said we would be receiving the transcripts of this meeting. The answer you gave to Mathew is not acceptable. You're twisting our arm. We want to be able to harvest the three tags outside of WHB. Am I being clear?

Gabe: 4.42 in the agreement states that HTO members can request the harvesting of a yearling or a cub.

Mitch: Yes, you can get cubs, you just have to get a special permit.

Jack: If our request is not denied then the hunters will be happy. The hunters know not to harvest all the animals.

Gabe: Can the cubs be harvested if they haven't got a mother?

Mitch: Yes, it's in the MOU.

Jerome: The cubs could be together even after the mother has died. I understand this.

Gabe: What the MOU is trying to say is that a yearling or a cub could be killed as long as they are not with a family group.

Willy: We're getting off track. What Jack is trying to get at is different from what we are talking about.

Gabe: If the family group is 3 the MOU says you can't harvest them if they're with their mother.

Mitch: You actually can get a member of a family group if you get a special permit and make sure the mother is not hurt.

David A: We're going in circles. The transcript will be circulated next week. I would like to thank the DoE for sharing their information and listening to the Board and their concerns. Thank you.

Jack: Thanks and goodbye.