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***Polar Bear Management Agreement For The  
Beaufort Sea***

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# BEAR MANAGEMENT AGREEMENT

## FOR THE SOUTHERN BEAUFORT SEA

INUVIALUIT GAME COUNCIL

AND

NORTH SLOPE BOROUGH FISH AND GAME

MANAGEMENT COMMITTEE

JANUARY, 1988



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**POLAR BEAR MANAGEMENT**  
**IN THE SOUTHERN BEAUPORT SEA**

**AN AGREEMENT BETWEEN**

**INUVIALUIT GAME COUNCIL**  
**INUVIK, N.V.T., CANADA**

**AND**

**NORTH SLOPE BOROUGH FISH AND GAME**  
**MANAGEMENT COMMITTEE**  
**BARROW, ALASKA, U.S.A.**

**JANUARY, 1988**

**MANAGEMENT AGREEMENT FOR POLAR BEARS**  
**IN THE SOUTHERN BEAUFORT SEA**

**PREAMBLE**

The International Agreement on the Conservation of Polar Bears addressed the issue of shared populations by stating in Article VII **that parties shall . . . 'consult with other Parties on the management of migrating polar bear populations, and exchange information on research and management programmed, research results and data on bears taken.'**, while Article 11 states that parties shall... 'take appropriate action to protect the ecosystems of which polar bears are a Part, . . .<sup>a</sup>

In 1983, scientific evidence began to emerge indicating that the population of polar bears occupying the southern **Beaufort** Sea from about Icy Cape in Alaska, U.S.A. to **Baillie** Islands in the Northwest Territories, Canada, was a discrete and shared population which transcended international boundaries. Because of differences in management systems which exist in Alaska and Canada, there was a need to unify management of this **important** shared natural resource.

Recognizing the mutual concerns of Alaskan and Canadian users and the stated intent of the International Agreement on the Conservation of Polar Bears, the respective local user groups, North Slope Borough Fish and Game Management Committee (**F&GMC**) and **Inuvialuit Game Council (IGC)**, embarked upon a coordinated **management** approach.

Initial polar bear **management** concepts were discussed along with **other issues** of mutual concern in a meeting at **Inuvik** on the Porcupine caribou herd. Those in attendance represented the North Slope Borough and the **Inuvialuit Game Council**. In August, **1985**, **representatives of IGC attended a meeting** of the **F&GMC** in Point Barrow and outlined their concerns about current problems with management and harvesting of polar bears in the Beaufort Sea. After consideration of this information, on April 4, 1986, the **F&GMC** passed Resolution 86-01, Protection and Use of Polar Bears. Then on September 17, **1986**, representatives from **F&GMC** and **IGC** developed and initialed a Draft Memorandum of Understanding (**MOU**) regarding the management of Beaufort Sea Polar Bears. The **MOU** specified that a Joint **Commission** and Technical Committee be formed and charged the **Commission** with developing a **Management** Plan for polar bears in the Beaufort Sea. The principles and objectives of the plan were specified. On November 6, 1986, by unanimous resolution, the **F&GMC** ratified the terms of the **MOU**. On **March 3, 1987**, members of the Joint Commission and Technical Committee were named and a preliminary draft management plan was advanced for review. After further discussion in the fall of 1987, both user groups agreed to ratify the Agreement. Resolutions adopting the draft **management** plan were passed by the **F&GMC** on October 16, 1987 and by the IGC on November 19, 1987.

In the following **text**, a brief overview of the current status and knowledge regarding polar bears in the **Beaufort** Sea is presented for background along with a description of identified management needs. That information (**Section I**) provides the justification and framework for the **formal** user's agreement between the **F&GMC** and **IGC** (**Section II**). The agreement sets out management objectives as defined by users of the polar bear resource and describes how those objectives are to be achieved.

## **SECTION 1**

### **POPULATION STATUS**

Polar bears inhabit most ice-covered seas of the northern hemisphere and are **circumpolar** in distribution. In the Beaufort Sea, they occur most commonly within 300 km of shore. When ice forms in the fall, polar bears that have spent the summer on drifting **ice** north of Alaska and western Canada move to the south. As the ice breaks up and recedes north in spring and early summer, the bears move north. They remain on the drifting pack ice through the summer. A large proportion of the pregnant females enter maternity dens on the drifting multi-year pack ice of the **Beaufort** Sea.

There are no physical barriers to prevent polar bears from moving across international boundaries. However, information from mark-recapture studies indicates that polar bears show a high degree of seasonal fidelity to the general area where they were originally marked. Studies of polar bears with radio collars indicate that animals move back and forth along the southern coast of the Beaufort Sea between **Alaska** and the mainland coast of western Canada, but not between Alaska and the rest of Canada, Greenland or **Svalbard**.

**Recent** radio tracking studies indicate considerable **movement** of animals within the Beaufort Sea. Polar bears radio-tagged off the coast of Alaska between Point Barrow and Barter Island were later located as far **east** in the Canadian Beaufort Sea as Cape Bathurst, Northwest Territories. Movements of radio-tagged bears also occurred in the opposite direction, from the Canadian Beaufort to Point Barrow. In summary, the available evidence indicates that polar bears between the vicinity of Icy Cape and Cape Bathurst constitute a single management unit. Although there is some overlap in the distribution of polar bears from the Banks Island and **Amundsen** Gulf population during the late winter and spring feeding period when the annual ice is most extensive, for management purposes **it** appears that the two populations can be treated separately.

In a recent review and analysis of the available data from multi-year mark and recapture studies conducted between 1971 and 1983 in the Alaskan and Canadian portions of the Beaufort Sea, a mean population of 1,776 animals (SE 274) was estimated. It is noted that this is only a best approximation since somewhat different methods were used to collect data in Alaska and Canada and the amount of effort varied between years and geographic areas. Estimates of the number of polar bears in the western Canadian Arctic in the late winter and spring, from both the southern Beaufort and Banks Island and Amundsen Gulf populations, ranged from 1,700 - 1,800 polar bears.

Although the data are not conclusive, It appears that the number of polar bears in Alaska in 1956 and 1984 were probably similar. However, the data also indicate that the population may have declined in the late 1950s and 1960s in response to hunting pressure. The population appears to have recovered during the late 1970s and early 1980s, and may have been stable since then. Recovery likely occurred in response to the establishment of quotas in Canada in 1968 and a sharp reduction in hunting of polar bears in Alaska brought about by the enactment of the Marine Mammal Protection Act (MMPA) in 1972.

Although the available evidence suggests that the polar bear population in the Beaufort Sea is healthy at present, it probably cannot absorb much of an increase in mortalities of females. If the estimate of about 2,000 bears in the Beaufort Sea is *correct* and the age structure is accurately represented by available catch data, then it is possible that as few as 56 breeding age females are recruited into the population each year. Concurrently, the estimated annual mortality is 61 breeding females. These estimates may be subject to some error. However, there clearly has been little or no excess recruitment of females to the Beaufort Sea population in recent years.

#### SUMMARY AND CONCLUSIONS

Radio-tracking data suggest that polar bears occupying the area between Point Barrow, Alaska, U.S.A., and **Baillie** Islands, Northwest Territories, Canada, are members of the same population. The available data suggest that the current number of polar bears in the Beaufort Sea is similar to the number in 1956 and likely totals about 2,000 animals. Numbers of polar bears in the Beaufort Sea apparently declined by the end of the trophy hunting period in Alaska in 1972. Analysis of the age structure of hunted bears in Alaska and Canada suggests that survival declined in both areas as a consequence of intensive hunting but that it has now recovered, likely to normal levels. Recovery of the population occurred during the mid- and late 1970s. Although the population presently appears to be healthy, it is not known if *it is* stable or changing.

There are several reasons for concern about the future of polar bears in the **Beaufort** Sea. First, estimates suggest that although the population is small, it may be approaching stability, or at least has not declined in recent years. A small population with low reproductive potential is vulnerable to natural and human-caused perturbations. Also, hydrocarbon exploration and development have facilitated increases in human numbers in coastal areas of the Beaufort Sea, and habitat is being influenced at an accelerating rate. As a result of the former, opportunities for encounters between polar bears and humans are increasing. There is potential for a change in the impact of hunting by an increasingly numerous and mobile local people, a change in the value of polar bear parts (e.g. hides, gall bladders), or development-related phenomena (such as an oil spill) to increase the human-caused mortalities of polar bears in the Beaufort Sea. Recent analyses suggest that the Beaufort Sea polar bear population can sustain little if any increase in the mortality rate of females. Despite many years of study, our detailed knowledge of polar bear population dynamics is rudimentary, but it is clear that a cautious approach to the management of polar bears would be wise.

## POLAR BEAR MANAGEMENT IN THE BEAUFORT SEA

### MANAGEMENT IN ALASKA

Polar bear management functions in Alaska are currently vested with the **U.S. Fish and Wildlife Service** under the terms of the **Marine Mammal Protection Act (MMPA)** of 1972. The State of Alaska may assume management of marine mammals as allowed by amendments to the Act in 1981 which streamlined the process to transfer management responsibilities. The Act specifies that in Alaska, coastal-dwelling Natives may take marine mammals for subsistence purposes or for the creation of authentic handicrafts so long as the population is not depleted and is maintained within the range of optimal sustainable population levels as defined within the MMPA. Enabling legislation requiring sealing and reporting occurred in 1981. The MMPA is scheduled for reauthorization in 1988.

The current harvest monitoring program began in *November* 1980. The objectives of this program were to determine the number, sex, age and chronology of the harvest. Annual recorded harvests in the area have ranged between 20 and 59 bears. The villages of **Kaktovik (4.4)**, **Nuiqsut (.9)**, **Barrow (15.1)** and **Wainwright (13.6)** harvested an average of 34 bears per year during the past seven years. Based upon the **first** five years, the male to female sex ratio of the harvest was **60:40**. The approximate average age of males harvested was 5.5 years and the average age of **females** harvested was 8.7 years. The harvest was comprised of males four years of

age and greater (**44%**), females four years of age or greater (**34%**) and cubs (22%). Some bears in their third year of life are classified as cubs when they are independent animals. The chronology of the harvest favors fall months with **52%** of the harvest occurring in October and November, while the months of **March-May account for 25.5% of the take.**

The sex ratio of the harvest reflects the availability of bears near coastal communities. Sport hunting is not practiced and the main products of polar bears harvested are meat for consumption and hides used for clothing and handicrafts. The sale of raw uncrafterd hides is prohibited. The average polar bear harvest in Alaska has declined since passage of the **MMPA**. However, available evidence indicates, at least for the Beaufort Sea population, that the annual loss of females is a concern.

Under the current management regime, an unregulated number of **polar bears**, of any age and **sex**, may be taken by native hunters in Alaska, **so long as** the population is not found to be depleted. Currently there are no seasonal or area closures to protect pregnant females as recommended by the Agreement on the Conservation of Polar Bears. Implementation of mandatory reporting requirements appears to be imminent.

#### **MANAGEMENT IN CANADA**

In Canada, the annual harvest of polar bears is regulated by a quota system which has been in effect since 1968. Since the 1978-79 hunting season, **the** quota in the eastern Beaufort Sea has been 97, of which 38 are estimated to come from the shared population between the Canada-U.S. border and **Baillie** Islands, Northwest Territories. The Canadian settlements that harvest bears from this population, and their quotas, are: **Aklavik** 5; **Inuvik** 1; **Tuktoyaktuk** 26; and **Paulatuk** 6 (an estimated proportion of their total of 17) for a total of 38. The hunting season extends from 1 December to 31 Hay, bears in dens are protected, and family groups are protected until the cubs are 150 cm in straight line body length. From 1979-80 to 1982-83, age and sex information is available for 154 males and 94 females killed in the western Canadian arctic (both Southern Beaufort and Banks Island and Amundsen Gulf populations). The average ages of males and females greater than 1 year were  $6.70 \pm 4.66$  (SD) and  $6.70 \pm 4.30$  (SD) respectively and for males and females greater than 5 years were  $8.61 \pm 3.89$  (SD) and  $8.96 \pm 3.66$  (SD). The majority of the harvest was taken in the months of February through April.

In Canada, a small number of the tags allocated **to** the annual quota are used by Inuk hunters to guide non-resident sport hunters. This allows for a greater economic return than does the sale of the hide alone. Because not all of the guided hunters succeed in killing a polar bear, and the tags cannot be reused, in most years not all the bears in the allowable quota are taken. Since the International Agreement permits the hunting of polar bears by local people using traditional means, Canada requires that dog teams be used for transportation in the guided hunts.

FUTURE MANAGEMENT OF POLAR BEARS IN THE  
SOUTHERN BEAUFORT SEA

The harvest of polar bears in the Beaufort Sea has a long history, and polar bears must be recognized as a valuable renewable resource. During the period of trophy hunting in Alaska, 75% of the polar bear harvest was comprised of males, demonstrating that a managed hunt can protect females and concentrate on males. Reducing the potential losses of females to hunting will decrease future vulnerability of the population to both natural and human-caused perturbations and allow for a sustained harvest.

There is evidence that in bear populations, large numbers of adult males may suppress survivorship of subadults. Therefore, a harvest concentrating on males may have some compensatory benefits, including the possibility of an increased take. These conclusions are based largely on the results of research done on black bears and their applicability to polar bears is not clear. These conclusions are worth investigation, since recent studies suggest that a population of polar bears can sustain a harvest of no more than 1.5% to 2% of the adult females per year and that as few as 56 females may be recruited into the Beaufort Sea population each year.

Polar bears have long been a high profile species which capture the imagination of the public. Because of public and user groups attention and concern for the welfare of polar bear-populations and the fact that polar bear populations grow relatively slowly, management of this important resource must be conservative. It is clear that the most important segment of the population is the adult female component.

Because of the mutual concerns for the future of Beaufort Sea polar bears outlined above, the user groups in Canada and Alaska initiated a cooperative effort to unify management of the resource. Management concepts to be incorporated in the plan are in some cases more stringent than in the MMPA, although they are consistent with the terms of the International Agreement. In other instances, such as the exchange of meat and by-products, the relaxation of export provisions allowing shipment from Canada into the USA and the sale of polar bear hides and by-products by the traditional users of Alaska, the management concepts are inconsistent with those of the MMPA under Federal management. The intent of the drafters is to develop a management plan which provides protection for the habitat and the polar bear resource and equity in user opportunities for the Beaufort Sea area in full recognition that requirements of existing legislation in both the United States and Canada take legal precedent. The drafters are hopeful that future legislative amendments may allow greater flexibility in regulating managed uses of polar bears.

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**MANAGEMENT AGREEMENT FOR POLAR BEARS IN THE SOUTHERN BEAUFORT SEA**

**SECTION II**

AGREEMENT BETWEEN:

**THE INUVIALUIT GAME COUNCIL  
OF INUVIK, NWT, CANADA**

AND

**THE NORTH SLOPE BOROUGH FISH AND GAME MANAGEMENT COMMITTEE  
OF BARROW, ALASKA, USA.**

The **Inuvialuit** of Canada and the **Inupiat** of the United States

NOTING that both groups have traditionally harvested a portion of polar bears from the same population in the southern Beaufort Sea; and,

NOTING that the continued hunting of polar bears is essential to maintain the dietary, cultural and economic base of the groups; and,

NOTING that the maintenance of a sustained harvest for traditional users in perpetuity requires that the number of polar bears taken annually not exceed the productivity of the population; and,

NOTING that the International Agreement on the Conservation of Polar Bears makes provision for cooperation in the research and management of shared populations; and,

NOTING that nothing in this Agreement shall be read to abrogate the responsibilities of Federal, Provincial or State authorities under existing or future statutes; and,

NOTING that the **Inuvialuit** and the **Inupiat** will have a long-term fundamental influence on the **maintenance** and use of this resource and that the efforts of other parties will also be required to ensure effective conservation;

HAVE AGREED AS FOLLOWS:

ARTICLE I

**Definitions**

- a) The species considered in this Agreement is the polar bear (**Ursus maritimus**).
- b) The area covered by this Agreement is the southern Beaufort Sea from approximately **Baillie** Islands, Canada, in the east to Icy Cape, USA in the west.
- c) The people covered by this Agreement are the **Inuvialuit** of Canada and the **Inupiat** of the North Slope of **Alaska**.
- d) The settlements whose hunting practices may be affected by this Agreement are Barrow, **Nuiqsut, Wainwright, Atkasuk** and **Kaktovik** in the United States and **Inuvik, Aklavik, Tuktoyaktuk** and **Paulatuk** in Canada.
- e) Sustained yield is a level of taking which does not exceed recruitment and **is** consistent with population ranges determined to be optimal and sustainable.
- f) The Joint Commission shall consist of two **(2)** representatives designated by each of the **Inuvialuit** Game Council and the North Slope Borough Fish and Game **Management** Committee. The Technical Advisory Committee shall be appointed by the Joint Commission.

ARTICLE II

**Objectives**

- a) To maintain a healthy viable population of polar bears in the southern Beaufort Sea in perpetuity.
- b) To provide the maximum amount of protection to female polar bears.
- c) To minimize detrimental effects of human activities, especially industrial activities, on important polar bear habitat.
- d) To manage polar bears on a sustained yield basis in accordance with all the best information available.
- e) To encourage the collection of adequate technical information on a timely basis to facilitate management decisions.
- f) To further refine the eastern and western boundaries of the population **of** polar bears.
- g) To encourage the wise use **of** polar bear products and by-products within the context of management on a sustained yield basis.

- h) To facilitate the exchange of polar bear meat and products between traditional users in Alaska and Canada (Enabling legislation required).
- i) To legalize the sale of polar bear hides and by-products by the traditional Alaskan users in Alaska (Enabling legislation required).
- j) To facilitate the export of polar bear hides and other polar bear products from the Western Arctic of Canada into the USA (Enabling legislation required).
- k) To consider at a later date a limited legalized Alaskan sport harvest of polar bears which emphasizes benefits to local hunters of the area (Enabling legislation required for Federal management).

### ARTICLE III

#### Regulations.

To conserve this population of polar bears, the **Inuvialuit** and the **Inupiat** have agreed as follows:

- a) All bears in dens or constructing dens are protected.
- b) Family groups made up of females and cubs-of-the-year or yearlings are protected. The birthdate of cubs is fixed at January 1 and cubs less than five feet (152 cm.) in straight line body length are protected.
- c) The hunting season shall extend from December 1 to May 31 in Canada and from September 1 to **May** 31 in Alaska.
- d) The annual sustainable harvest shall be determined by the Technical Mvisory Committee in consultation with the Joint Commission and shall be divided between Canada and Alaska according to annual review of scientific evidence. Allocation agreements shall be negotiated and ratified prior to September 1 annually. Each signatory to this Agreement shall determine for itself the distribution of the harvest within its jurisdiction.
- e) These regulations do not preclude either party from unilaterally introducing additional conservation practices within their own jurisdictions.
- f) Any readjustment of the boundaries pursuant to the above may necessitate a readjustment of user allocations under the management plan.
- g) The use of aircraft or large motorized vessels for the purpose of taking polar bears shall be prohibited.
- h) Each jurisdiction shall prohibit the exportation from, the importation and delivery into, and traffic within, its territory of polar bears or any part or product thereof taken in violation of this Agreement.
- i) Polar bears in villages during closed seasons should be deterred from the area.
- j) Polar bears threatening human safety or property may be taken at any time of the year and may be counted against the village allocation as ascribed by the Joint Commission.

ARTICLE IV

Collection of Data and Sharing of Information

- a) The following data will be recorded for each bear killed: sex, date and location of kill, and hunter's name.
- b) The following shall be collected from each bear killed: an undamaged post-canine tooth, ear tags or lip tatoos if the tags are missing, other specimens as agreed to by the hunters of either jurisdiction for additional studies.
- c) A summary of all harvest information from each jurisdiction shall be exchanged annually.
- d) The number of collars deployed for research purposes shall be limited to the minimum number necessary to provide accurate population information.

ARTICLE V

Duration of Agreement

- a) This Agreement shall enter into force when it has been signed by the representatives of both parties.
- b) This Agreement shall remain in force unless either Contracting Party requests it be terminated.
- c) Amendments to the Agreement may be proposed by either signatory and accepted or rejected by mutual agreement after consultation with the membership of the Inuvialuit Game Council and the North Slope Borough Fish and Game Management Committee.

The Alaskan signatories of this document have no authority, to bind and do not purport to bind the North Slope Borough to any agreement which would otherwise be in violation of the exclusive federal treaty power established by the United States Constitution, but are acting solely as representatives of the local traditional user group of the polar bear resource in furthering the consultation, management, and information exchange goals of the International Agreement on the Conservation of Polar Bears.

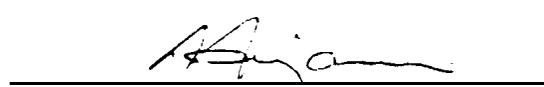
SIGNED on this the 29th day of January, 1988 in the Town of Inuvik, Northwest Territories.

On behalf of  
the North Slope Inupiat



**NOLAN SOLOMON**  
Chairman  
North Slope Borough  
Fish and Game Management  
Committee.

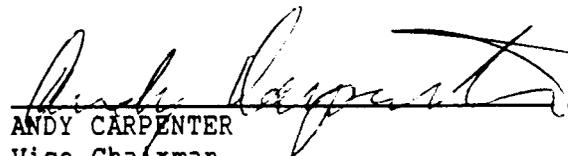
On behalf of the  
Inuvialuit Game Council



**ALEX AVIUGANA**  
Chairman  
Inuvialuit Game Council



**BENJAMIN P. NAGEAK**  
Director  
Department of Wildlife Management



**ANDY CARPENTER**  
Vice-Chairman  
Wildlife Management Advisory  
Council (N.W.T.)