Polar bear off Northern Coats Island, N.W.T. Photograph courtesy of C. R. Harington.

Commentary

The Polar Bear: A Matter for International Concern

VAGN FLYGER[1]

The polar bear is an international resource of the frozen arctic seas. This is the essence of the initial statement of accord issued by the delegates of the First International Scientific Meeting on the Polar Bear. Delegates from Canada, Denmark, Norway, the U.S.S.R., and the United States met in Fairbanks, Alaska, for one week in 1965 to discuss and make recommendations for the intelligent conservation of this animal. It was the consensus that: (a) polar bear harvests should be conservative; (b) females and cubs should be protected at all times; (c) the nations surrounding the polar basin should engage in research to learn more about this animal; and (d) information concerning polar bears should be exchanged promptly.

There are several reasons for the recent build-up of interest in polar bears. For one thing, they are not as numerous in some areas as in the past and they have disappeared entirely from others. Conservationists have become alarmed at the increasing harvest by hunters in Alaska and have objected to the unsportsmanlike hunting carried out from aircraft in Alaska and from shipboard in Svalbard. The use of set-guns in Svalbard has also received unfavourable comment.

The reason for the decline in numbers of polar bears over the past 100 years is not entirely clear. It is true that the polar ice cap has receded and that the consequent disappearance of pack ice has caused bears to become a rare sight in areas such as southeast Greenland and Iceland. Pack ice is the habitat of the polar bear and the seals which are his food, so naturally, as the ice goes, so go the bears. But this cannot be the whole explanation for the general decrease; on some arctic islands, excessive hunting has definitely eliminated the animal or has sharply reduced his numbers. However, the overall picture is not clear, and the polar bear, perhaps the world's largest carnivore, may go the way of the world's largest mammal, the blue whale, if the nations bordering the polar basin cannot agree on a management policy for him. The blue whale is now close to extinction—a disgraceful reflection on the nations that have allowed it to happen by permitting selfish interests to govern their actions. Although it is the nations bordering the polar seas that demonstrate the greatest interest in the polar bear, he actually belongs to everyone. Surely the peoples of the world would want to assure this great animal a permanent place on the globe, not because he is something for hunters to shoot, but because he is a symbol of the Arctic and a worthy companion of mankind.

Frequently, those people harvesting animals (whales and deer, for example) assume exclusive rights to their prey and actively resent others taking even a passive interest. This attitude was evidenced by an incident

[1]Natural Resources Institute, University of Maryland, U.S.A.

that occurred in the spring of 1966. Five polar bears were killed in a research project which had the ultimate goal of preserving the species. Although they were not killed for pleasure and their deaths were truly regretted by the scientists concerned, hunters hearing of the incident greatly resented it because these five animals would no longer be available for them to shoot. Of course, the scientists could have kept the deaths of the bears a secret, but that would not have been consistent with their obligation to be honest in reporting their results.

Polar bears have considerable commercial value. Their hides, depending upon size and condition, have a retail value of between $300 and $800 apiece. Hunters pursuing polar bears for sport in Alaska or Norway may bring up to $1,500 or $2,000 into either of these countries for each bear shot, in the form of revenue from licences, food and lodging, guide fees, and other expenditures. Hunters travelling to Alaska and harvesting 300 or more bears bring into the state something like $500,000 every year. Because polar bears are one of the more easily exploited resources of the Arctic, serious consideration must be given to the economic aspect in any management plan concerning this species.

The annual worldwide harvest of polar bears is approximately 1,200, according to reported kills; unreported kills probably do not exceed 300 animals. Biologists have estimated the number of polar bears in existence to be in the range of 15,000 to 20,000. The annual harvest of about 1,500 animals, therefore, is somewhere between 5 per cent and 10 per cent of the population. According to the experts, such a harvest is not excessive; but the experts can be wrong! Some people may remember that one of the world's foremost whale biologists maintained for many years that there was no indication of a decline in whale stocks. This man's opinion weighed heavily in negotiations concerning whales; so heavily that today some of our whale species are almost extinct. The public surely would not wish to risk the possibility of the polar bear's extermination.

Although it is known that polar bears wander great distances, little is known about their population dynamics or movement patterns. Probably their constant journeying makes it impossible for local races to develop, and they mix too much to permit the development of racial strains. However, because the animal is highly mobile and observes no national boundaries, it is possible that excessive harvest in one or more sections of the Arctic could endanger the entire stock.

Local groups of polar bears are often distinct from each other with respect to age and sex composition. For example, the bears shot west of Kotzebue are larger and older than those shot in the Point Barrow or Point Good Hope regions, and the proportion of males among them is higher. We can only guess at the reasons for such variations, but they are probably due to differences in migratory habits between the sexes and between young and old bears.

Polar bears can be controlled on a practical basis only if we possess knowledge of their population dynamics, and ascertain the importance of

their migratory habits. Until recently, the only information available was that gathered by Eskimos, hunters, trappers, and arctic travellers, and this was so mixed with folklore that it was almost impossible to separate fact from fantasy. A standard method of collecting data from bears harvested by hunters and trappers should be used so that information gathered in one area could be compared with that gathered in other areas. Such data could yield the age-sex composition of the annual kill, which would be valuable in controlling the polar bear harvest.

Conservationists are rightly concerned over the possible immoderate harvest of the animals and object, in some cases, to the manner in which they are killed. Actually, if a portion of an animal population can be harvested, it matters not how they are harvested, unless the method is a cruel one. However, the potential of the animals to give maximum recreation and aesthetic pleasure is not realized if the animals are hunted as they are at present. All true sportsmen recognize this, and their attitude is reflected by two of America's outstanding sports clubs: the Boone and Crockett Club and the National Rifle Association. Both have removed polar bears from their list of animals that can be submitted as trophies. These organizations are dedicated to the highest sporting standards, and their action will certainly have some effect on hunting in Alaska.

In Alaska, hunters fly out with a guide in small ski-equipped aircraft from several points and search for polar bear tracks. Upon finding tracks, one plane flies on ahead and the hunter and his guide land, get out of the plane, and hide behind a pressure ridge. The other plane drives the bear towards the men waiting on the ice, and when the bear comes within close range it is killed with a high-powered rifle. The hunter usually gets back into the warm airplane while the guide skins the bear, and they then return with the hide and skull, leaving the carcass on the ice.

In Norway, hunters depart from Tromso in sealing vessels. These vessels work through the loose pack ice around Svalbard, and when polar bears are sighted, the ships approach as close as the hunters wish. All a hunter has to do is to pick up a rifle and shoot the bear while it is swimming in the water (see frontispiece) or running over an ice floe. The dead bear is hauled on board using the ship's boom, and the crew skins the animal. As in Alaska, only the hide and skull are saved and the rest of the animal is discarded.

The above-described methods of hunting polar bear are certainly not sportsmanlike, and serious consideration should be given to improving the ways of hunting the animals for recreation. One possibility is to encourage the use of bows and arrows. Although only one or two bears have actually been killed by bow and arrow, this method offers considerably more sport. The archer must be nearer the bear and frequently, upon being hit, the animal attacks and must be shot with a rifle at close quarters by the guide Another exciting type of hunting is the Eskimo's method, which involves dogs and a long chase over the ice.

But the most exhilarating way to hunt is with a gun that fires a syringe

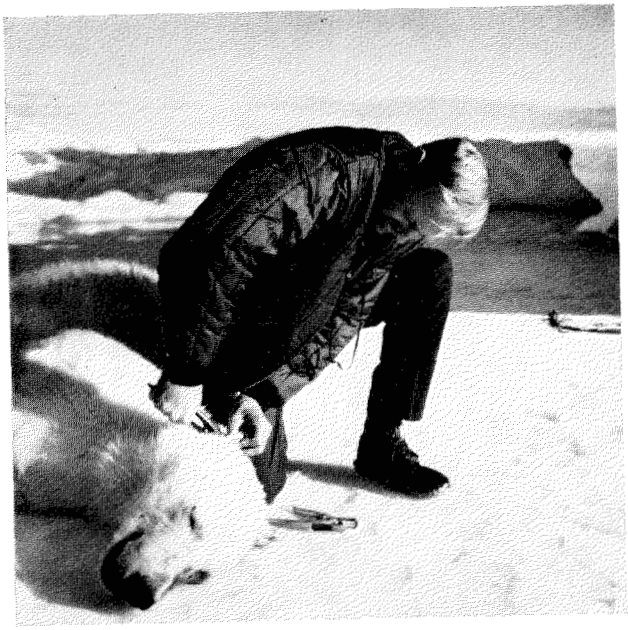

FIG. 1 Tagging a polar bear, Svalbard, 1966.

filled with an immobilizing drug. With this weapon the animal is not killed, but is merely drugged into unconsciousness for a short period (Fig. 1). In contrast to hunting, where the excitement ends with the squeeze of the trigger, most of the fun here begins after the syringe-gun trigger is pulled.

I have experienced many types of hunting, but nothing matches that of catching a live animal. I recommend this as one of the most rewarding sports anywhere in the world. Now modern science and technology have given us new tools and instruments to add to the sportsman's enjoyment, and the time is ripe to switch from lead bullets to projectile syringes.

Catch-them-alive hunters could bring back photographs as evidence of their prowess and, at the same time, contribute to science by marking the polar bears with ear tags before releasing them (Fig. 2). Naturally, some of the animals would be killed, because the method is not yet foolproof; but the annual toll would be greatly reduced.

To insure minimum mortality, it would be necessary to give considerable training to the guides. Although many hunters have greatly exaggerated opinions of their own ability, very few know much about their quarry or the out-of-doors; they get their bear because of the knowledge and efficiency of their guide. For this reason, the use of syringe guns would necessitate the training of the guides only.

The present regulation of polar bear harvesting by individual governments is variable and impractical. For example, Alaska tries to exert control by requiring a licence to hunt and then restricting the number of licences sold. The bears are shot on the high seas and all the licence does is permit the hunter to bring his trophy into the state. A hunter could

actually shoot as many polar bears as he wished as long as he brought back only one trophy. Perhaps some enterprising hunters will test this possibility in court by shooting bears and returning home without going through Alaska. Anyone with enough money could charter a ship and hunt bears off the ice outside of any country's territorial limits and violate no laws.

In Canada and Greenland, only natives are permitted to hunt polar bears. Hunting for sport is entirely forbidden and non-natives may shoot only in personal defence. At some DEW Line sites there are signs warning the operating personnel: "If you shoot a polar bear in self-defence, remember, he has a better lawyer than you have." All polar bear hunting is forbidden in the U.S.S.R. They may, however, be taken for zoological gardens under special conditions.

Polar bears can be managed and studied only through co-operation between nations, especially those bordering the polar seas. A treaty would be necessary, and perhaps the harvest could be regulated by the United Nations or by one of its specialized agencies. Action on this matter must come soon and must be decisive if it is to insure that this big animal will remain one of the inhabitants of the earth. Financially-interested countries must not be the only ones concerned, because the whole world has a stake in the polar bear. Perhaps the best initial step would be to establish a commission with a permanent secretary, made up of representatives from nations bordering the polar basin and other interested states. UNESCO might be the appropriate agency to appoint the commission, so that the educational, scientific, and cultural aspects would be stressed rather than the political.

FIG. 2 Ear tags used for identifying the polar bear and following his movements after release.

Adequate practical research can only be carried out in an effective and efficient manner if all the nations surrounding the polar seas collect similar types of data on all aspects of the problem and work together in studying them and acting upon them. Of course, research wold turn up many more questions than it answered, but this is one of the advantages of such work. It would also be highly desirable to establish a series of biological stations throughout the Arctic from which research on the polar bear and on other problems could be conducted by scientists regardless of nationality. This would be an excellent opportunity to train students in polar biology and to acquaint young scientists with their colleagues from other countries.

Recent technological developments now make it possible to study the movements of polar bears by the use of transmitter-receivers attached to collars around their necks. Telemetry studies on other animals, including black and brown bears, have contributed to an understanding of the habits of these animals, but because of the inhospitable environment in which the polar bear lives, it is not possible to employ the tracking systems used with other species. However, with a polar-orbiting satellite, signals could be picked up from polar bears and relayed back to a tracking station on earth. With such a technique, theoretically, the movements of about 100 bears could be checked every 2 hours for a period of 6 months, and precise information could thus be obtained on how this animal lives in its forbidding environment. The radios could also transmit data on blood pressure, heart beat, respiratory rate, and internal and external temperatures. This information would also make it possible to relate the activities of the polar bear to conditions in the Arctic such as storms and their location.

Close co-operation among nations bordering the polar basin is also necessary in order to take the fullest advantage of satellite tracking. Bears could be fitted with these transmitter-receivers throughout the Arctic and followed for the life of the satellite (6 months), regardless of where they travel. A number of bears carrying such devices would certainly cross international boundaries, and it would be necessary for scientists of all nations to understand completely the nature of this work. Of course, the data received from these bears should be available to all participants.

If the peoples of the world feel that the polar bear should be preserved, they must take immediate steps to ensure its preservation. They must decide whether they are willing to permit hunters and trappers to assume the responsibility of controlling the animal. If they are not willing to do so, an international agreement on research and control would seem to be necessary.

Calling a total halt to the harvest of polar bears is not recommended at this time. It would be unfair to hunters, because there is no clear evidence that the harvest is at present excessive. Furthermore, if the bear were to receive absolute protection, it would be difficult, if not impossible, to put the animal back on the list of species permitted to be hunted. The

experience of various game departments with other species supports the wisdom of this.

The polar bear is part of the world's heritage and has an aesthetic value probably far in excess of his economic value to hunters. Nevertheless, both values must be considered if and when an international regulating body is formed to set management policy and to co-ordinate research on the polar bear. The important thing, now, is to set the wheels in motion for the formation of the international commission mentioned above. The First International Scientific Meeting in 1965 was a good beginning, but it was not enough; a permanent body is needed. The polar bear definitely merits international concern—and action.