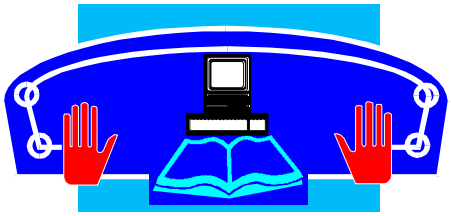

Arctic Development
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Arctic Wildlife Series - Polar Bear Of The Northwest Territories
Catalogue Number: 5-1-4

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WILDLIFE

5-1-4

Arctic Wildlife Series

Polar Bear

of the Northwest Territories

Polar Bear
of the Northwest Territories

Ursus maritimus

Ray Schweinsburg

Description

The polar bear evolved from the Pleistocene bear ***(Ursus etruscus) and*** probably spread to North America from Eurasia. The first recorded mention in North America was in 1794 by Captain Phipps in ***A Voyage towards the North Pole.*** Phipps called the bear ***Ursus maritimus,*** which is the scientific name by which it is known today. Other names such as Nanook, ice bear, white bear and ice king all identify the polar bear.

Polar bears have long bodies with a large neck and head. The tail is short and the claws are long with a slight curve. Polar bear **colour** ranges from the pure white of the new coat in summer to yellow or golden in late winter and spring. The coat consists of an outer layer of glossy guard hair overlying thick underhair which covers a **heavy** layer of sub-cutaneous fat. Short furry ears and soles of feet densely covered with fur complete the bear's perfect arctic survival suit.

Polar bears are among the largest members of the bear family. Females grow until they are about 4 years old **and** attain maximum weights of 300 kg, but males, which continue growing until about 8 years of age, may weigh from 500 to 600 kg and measure between 2.5 and 3.5 m from nose to tail.

Anyone who has seen polar bears around the garbage dump at Churchill, Manitoba, or congregating at whale or walrus carcasses can attest to their excellent sense of smell. The bears can pick up the scent of food for many kilometres and travel into the wind towards it, their heads swinging back and forth as they track the scent to its source, They are also able to sniff out seal dens covered by ice and snow up to depths of about 1 m. The bear digs through the snow with ease and excavates the seals within.

Habitat and Distribution

Polar bears are circumpolar in range. In Canada they are found from the permanent pack ice of the Arctic Ocean and arctic islands to southern James Bay. Distribution varies with the seasons and is governed by availability of food, suitable denning areas, breeding areas and ice conditions. Bears have been found as far as 88° N. and as far south as Newfoundland and the Gulf of St. **Lawrence. Although polar bears generally stay close to the coast they** have been sighted up to 150 km inland. A most unusual sighting was that of an old female shot at Peribonca, Lake St. John District, Quebec, in October 1938. Occasional sightings have been made of polar bears in the Great Bear Lake region of the N. W. T., which is one of the few places where their range is known to overlap that of grizzly bears.

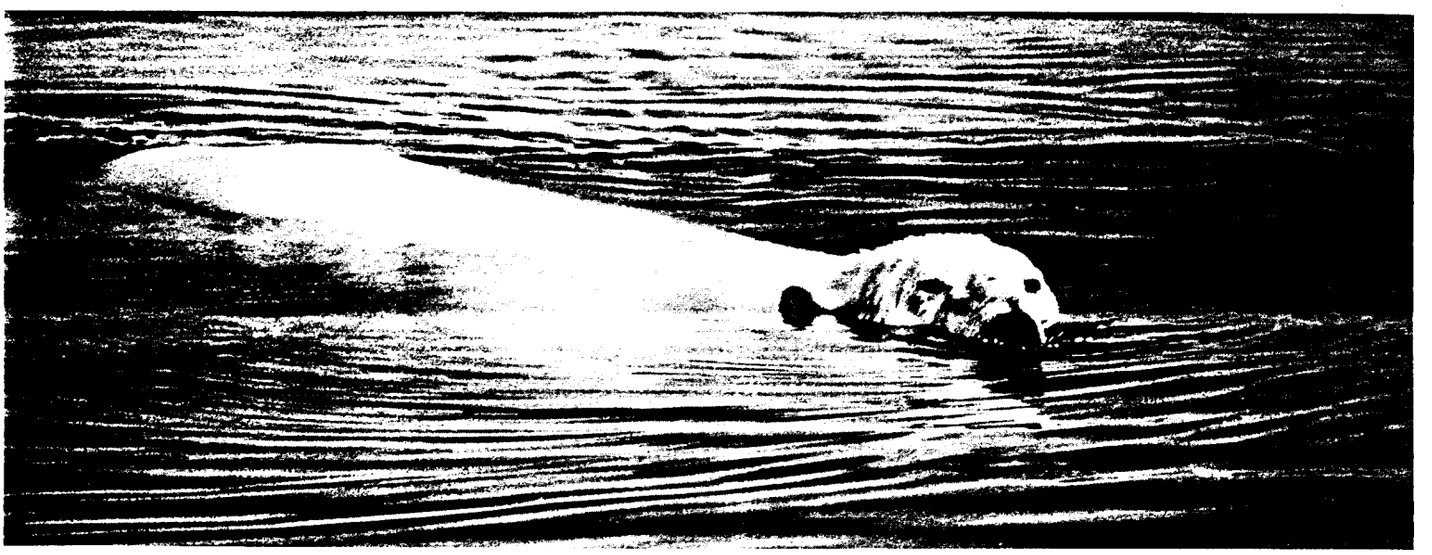
The bears are most abundant in areas of seasonally broken ice and may be found at any time of year throughout their range, but certain habitats are of particular seasonal importance. In summer for example, bears follow the ice as it melts, or come on shore at traditional land retreats. In the winter, denning areas are important. In the Northwest Territories, southern Banks Island, Simpson Peninsula, eastern Southampton Island and eastern Baffin Island are among the best known areas regularly used by denning females.

Behaviour

Polar bears are great travelers, always following the changing ice. Their normal gait when traveling appears to be a ponderous shuffle, but in fact allows the bear to cover long distances extremely efficiently. The legs arc outward and then inward as the bear strides along at about 3-5 km/hr.

If pressed, a polar bear will break into a trot or a gallop and at top speed can travel about 30-40 km/hr. However, most bears, particularly older well-fed ones, seem to tire quickly and take the first safe opportunity to lie down and rest. In climbing over hummocks of rough ice and dodging among jumbled ice floes, polar bears show remarkable agility for their size and weight and often resort to such places when pursued by humans or dogs. When descending hillsides, the bear assumes a semi-reclining position and uses its extended forelegs as a brake. If the slope has no obstacles, a bear may lie on its belly and slide down with its legs stretched out sideways.

Polar bears are most at home in areas which offer a combination of pack-ice, open water and land. They seem to prefer traveling on solid ground or ice, although their wide feet and webbed toes allow them to move with equal facility through deep soft snow. In water, they can swim at about 10 **km/hr** using only their forepaws as flip-



Polar bears are at home in the sea and can swim hundreds of kilometres.

pers. They can dive to depths of several metres and remain submerged for up to 2 minutes, keeping their eyes open and their nostrils closed. In this way, they hunt seabirds in the water by diving and coming up beneath them.

Bears use their swimming ability to hunt seals in open leads. They have been observed catching seals in water by floating motionless and gradually drifting to within striking distance. They also swim to escape from hunters or to move from floe to floe. When entering water a bear may jump in like a dog or slide in backwards from the edge of an ice floe. After emerging from a swim, it shakes itself to shed excess water and decrease chilling.

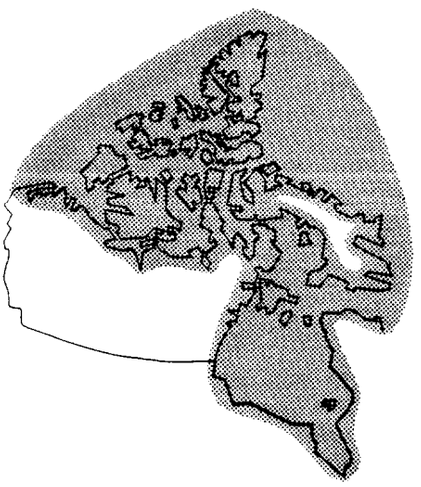
Food

Seals are the main food source of polar bears, and are usually found wherever there are bears. To catch seals the bear waits patiently at a breathing hole for the unsuspecting seal to surface, then kills it with a rapid blow to the head. When the ice begins to drift apart as summer progresses, bears stalk seals basking on the ice by silently crawling up to them and then pouncing. Ringed seals are the most common prey, and other species such as harp, hooded and bearded seals are killed occasionally.

Other polar bear food includes walrus, white whales and narwhals, although bears do not often kill these animals. Usually they are found as carrion washed up on the coasts which the bears patrol in late August and September when much of the ice has melted. If sea birds are nesting nearby, the birds and their eggs may be included in the bear's diet. Lemmings are eaten when available and occasionally the carrion of caribou or muskoxen.

In late summer, polar bears eat more vegetation than at other times. Like all bears, they are fond of berries and feast on bilberries, crowberries and cranberries which grow in abundance on the tundra in early fall. Seaweed, lichens, mosses, sorrel, sedges and grasses are also part of the summer diet.

Polar bears have a great curiosity and tolerance for many diverse foods. Since European man arrived in the arctic, the bears have expanded their taste to include such delicacies as bacon, cheese, tea, fruit, engine oil, rope, rubber boats, tents, skidoo seats and nearly everything else associated with camp life.



Range of the poiar bear in the N. W. T.

Reproduction

Female polar bears first start to breed between 3 and 5 years of age. Mating takes place from late March until early June with the time of oestrus for individual bears lasting about 3 weeks. Polar bears have a characteristic known as delayed implantation. This means that the fertilized egg does not immediately implant in the wall of the uterus and embryonic development does not begin until September.

Denning usually begins about mid-October or early November. During the winter any polar bear may dig a den and use it for a few days during a storm. Pregnant females, however, den for extended periods and their cubs are born in the protected den.

Dens are often situated in snowbanks on south-facing hill slopes near the coast. The largest dens are excavated by females with cubs over a year old, and may be as roomy as 1 metre high, 2.5 metres wide and 3 metres long. Temporary dens occupied by single bears usually have just enough room for turning space. A variety of features such as porches, lairs, sills, alcoves and ventilation holes may be built into the den. Temperatures inside the den vary according to the depth and density of surrounding snow, but are always much warmer than the outside air.

Sometime between late November and January, the female bear gives birth to a litter of cubs. Twins are most common, but sometimes, especially in first pregnancies, only a single cub is born. Occasionally there are triplets and ex-

tremely rarely, quadruplets. The cubs are about 40 cm long and weigh no more than 0.7 kg. They are blind and deaf and completely dependent on their mothers. The first few weeks after birth are spent in the den suckling, sleeping, and gaining strength and weight.

By mid-March the cubs weigh about 9 kg and are ready to leave the den. For several days after emerging, the family stays near the den while the cubs play and acclimatize to the outside. They then begin the journey to the sea ice, the tiny cubs bravely following their mother in single file. Eskimos call the cubs "ah tik tok" which means "those that go down to the sea". The mother bear shows great concern for the cubs, stopping frequently to allow them to rest or suckle. She rarely leaves them alone for even a short time as the danger of wolves or large male bears killing the small cubs is very great.

Since the family group cannot travel far, seal pups in their lairs on the ice are the most accessible food source. The mother bear scoops the seal out of its den, kills it and gulps down fat and skin stripped from the carcass. The cubs are then nourished indirectly through her milk. By July, the cubs have acquired a taste for seal blood and fat and although they continue to nurse until nearly 2 years old, they begin hunting lessons during their first summer.

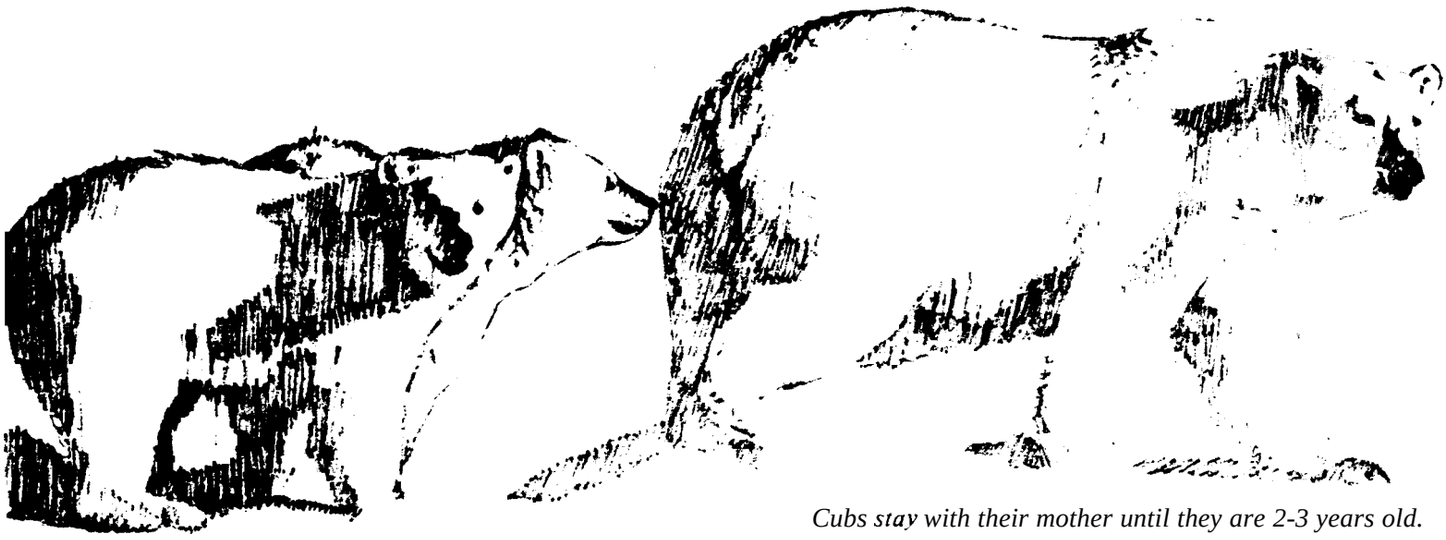
By August the cubs weigh over 45 kg and are larger than a German shepherd dog. However, they are still dependent on their mother and den with her again that winter. **A** family stays together until late in the summer or autumn when the cubs are approaching 3 years of age. Some families may den together for a fourth winter.

When the family ties are broken, usually as the mother bear is coming into oestrus in spring, the half-grown cubs are abandoned. They may stay together for a short time, but eventually each goes its own way. The inexperienced young bears face many dangers such as starvation, human hunters and old male bears. Other causes of mortality of polar bears of all ages are injuries, disease, occasional wolf predation, death from encounters with adult male walruses, and old age.

Watch out! Polar bears are dangerous!

Economic Status and Management

Eskimos have always killed polar bears for their hides, for self-protection and as an indisputable sign of honour. Because such a powerful and dangerous prey was difficult to kill and because weapons were primitive, there was no question of over-hunting. However, after explorers, whalers, sealers and fur traders began to penetrate the arctic in the early 17th century, bears were hunted in ever increasing numbers. Inquisitive bears were easily killed as they approached whaling ships or camps, being little match for men with rifles and dogs. Bear numbers steadily declined, but it was not until 1935 that concern for their apparent over-exploitation was heard. As a result the federal government limited the season for polar bears in Canada from October 1 to May 31.



Cubs stay with their mother until they are 2-3 years old.

In 1949, the N.W.T. Game Ordinance required that every hunter or trapper be licenced. The polar bear could then be taken only by General Hunting Licence holders, which include all Inuit and Dene, most Metis and a few other long-time residents. During the early 1950s, it was estimated that hunters were taking about 400 animals a year, but in the late 50s and early 60s the commercial demand for hides increased. At about the same time, mechanized snow vehicles and more sophisticated weapons became available to the Inuit and kill statistics for bears escalated alarmingly. It was feared that such hunting pressure might lead to the depletion of bear numbers and eventually to their extinction.

In 1967, scientists from around the world met to discuss the future of the polar bear. Russia and Norway opted to end polar bear hunting entirely, and the United States and Denmark limited killing of bears to subsistence hunters. In Canada, because it was felt that polar bear populations were not in danger, and because polar bear hunting is an important part of Inuit culture, management by a quota system was decided upon. Under the quota, a total of approximately 600 bears may be killed per year by residents of settlements in areas where polar bears have been traditionally hunted.

To ensure the continued effectiveness of the quota system, polar bear research is carried out in the Northwest Territories by the N.W. T. Wildlife Service and the Canadian Wildlife Service. Studies to identify discrete populations and to determine abundance and distribution of polar bears are done annually through tagging and radio-tracking programs. Native hunters are encouraged to send the jaws of killed polar bears to the Wildlife Service so that biologists can age the bears and thus determine whether populations are increasing, decreasing or stable.

'he temperature inside a polar bear den is much warmer than the air outside.

Polar bears are an important source of revenue to the Inuit. Since 1970, sports hunters have been allowed to obtain bears on settlement quotas. For a 12-day hunt, the sports hunter is provided with an Inuk guide, a dog team (motorized vehicles are not allowed) and if the hunt is successful, he may keep the "fleshed" hide of the polar bear. The fee of several thousand dollars is distributed among the guides, helpers and community council.

Polar bear hides are currently in great demand in world markets. The maximum price paid for one hide was $3,600 in 1973. In 1975, prices decreased with an average hide bringing only $585. By 1978, prices had risen again to an average of $900 per hide. There is also some revenue in clothing made from hides and in artifacts fashioned from polar bear teeth.

Assuming hunting is controlled, the greatest danger to polar bears now is the advent of oil and gas exploration in the north. It is known from experiments that oil is fatal to bears and a major spill would likely result in the direct death of many. It would also lead to the

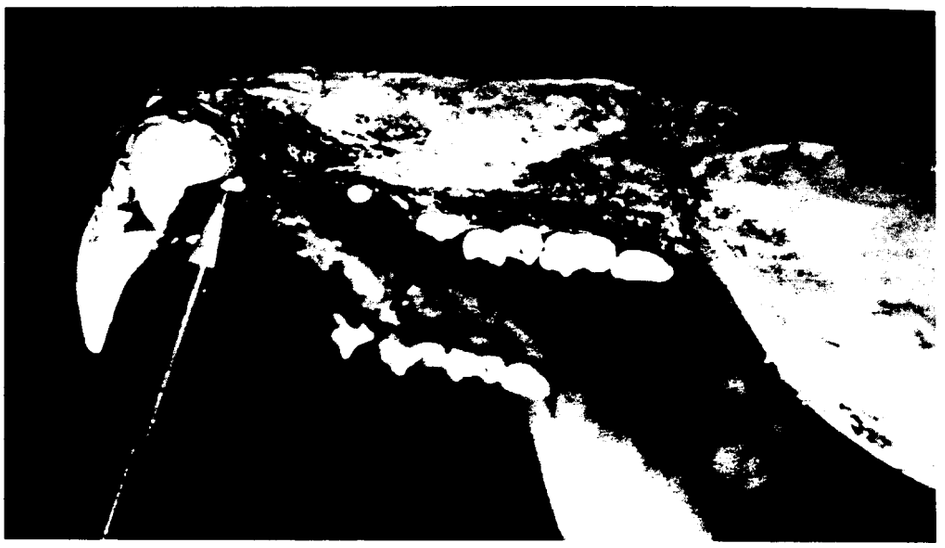
disruption of arctic food chains and polar bears, as carnivores at the end of the food chain, would suffer. Hungry bears, deprived of their traditional prey, would become nuisance bears in camps and settlements. The result would invariably be more dead bears.

Bears seldom regard man as game, but they are not afraid of him. A hungry bear may stalk a human and a surprised one will often attack in self-defense. Bears also approach humans simply out of curiosity and because they are attracted by smells of camps or garbage. Conflicts may result in either injury or fatality to man and inevitably, the death of the bear.

Even where polar bears and man are not directly competing for space in the bear's environment, man's technology is penetrating the bears' domain. DDT, dieldrin, mercury and other chemicals from urban centres are borne by winds, spring runoff and summer rains down rivers into Hudson Bay and the Arctic Sea. Bears from the most remote regions have been found to carry pollutants in their body tissue in astonishingly high levels. It is not yet known what effect such poisons will have on bears.

Canada has committed itself through the 1976 International Agreement on the Conservation of Polar Bears to manage its bears based upon research. The bears' survival, however, depends upon more than a commitment by scientific agencies to management and scientific studies. The need for effective management has to be recognized and accepted by all who are concerned with the arctic.

Jonquil Graves
Yellowknife
1980



NWT Wildlife Service

When polar bears are tagged, a small tooth is pulled so that age can be determined.

Berry Bergman

***This bear was fitted with a radio transmitter** in the **Lancaster** Sound area, and its movements monitored by satellite.*

7/81
Northwest Territories information©

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Northwest Territories Renewable Resources
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