

RESEARCH ON POLAR BEARS IN CANADA 1976-78

Ian Stirling¹, R.E. Schweinsburg², G.B. Kolenosky³,
Ian Juniper⁴, R.J. Robertson⁵, and S. Luttich⁶

INTRODUCTION

Most polar bear research in Canada continues to be carried out by federal, provincial, and territorial governments. This situation has arisen largely because of the cost involved, but also because of the management responsibilities of those governments. Some research, such as the physiological studies at Churchill, is carried out by universities with private funding. Such projects are coordinated with government research through bilateral discussions and the Federal-Provincial Polar Bear Technical Committee but are not included in this report.

A wide variety of both coordinated and independent research projects, several of which are continuing, were conducted during 1976-78. This report summarizes the cooperative studies, studies conducted by individual jurisdictions, and lists reports completed between 1976 and 1978.

¹Canadian Wildlife Service, 5320 - 122 Street, Edmonton, Alberta T6H 3S5

²NWT Fish and Wildlife Service, Government of NWT, Yellowknife, NWT X1A 2L9

³Wildlife Research Section, Ontario Ministry of Natural Resources, Box 50, Maple, Ontario L0J 1E0

⁴Department of Tourism, Fish and Game, Box 7200, Charlesbourg, Quebec G1G 5H9

⁵Manitoba Department of Renewable Resources and Transportation Services, Box 2250 The Pas, Manitoba R9A 1M4

⁶Newfoundland Wildlife Service, Box 376, Goose Bay, Labrador

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SINGLE AGENCY PROJECTS

Canadian Wildlife Service

Polar Bear Ecology in the Eastern Beaufort Sea

The population ecology study on the polar bears in the Western Arctic, with aspects that related to the Beaufort Sea Project, was completed and reported on (Stirling *et al.* 1975).

However, it was apparent from the studies of both polar bears and seals that their populations had undergone marked declines in numbers, productivity, and survival of young in 1974 and 1975. The decline apparently occurred because of natural causes that are not completely understood.

Up until the present, the numbers of seals and bears in relation to the marine ecosystem have been regarded as being fairly static. This is the first time that major changes in numbers and reproductive parameters caused by natural influences have been documented in populations of arctic seals and polar bears. If possible, it was decided to monitor these populations for two reasons: 1) hopefully, monitoring will provide some baseline information on the speed with which they can recover from lower numbers, in the absence of any additional environmental damage which might aggravate the situation. This could provide some guidelines as to what might be expected in the event of a major environmental disaster such as an oil blowout that went unchecked for a protracted period. Milne and Salliey (1975) theorized that it might take ten years for the marine system to recover but this was only a guess based on the limited information they had in hand. Also, because offshore drilling is taking place before the populations have recovered, and

are therefore more vulnerable to detrimental effects, it is essential that we monitor the status of those populations; 2) local management of polar bear and seal quotas has to be dynamic and may have to be altered in response to the present biological realities.

Budgets were limited from 1976-78 but mark and recapture studies were carried out each spring. Preliminary analyses indicate that the polar bear populations are into the recovery phase now.

A comprehensive review of population ecology studies from 1970-78, for management purposes, has been completed (Stirling 1978a).

In June 1977 and 1978, aerial surveys of ringed and bearded seals were conducted in the eastern Beaufort Sea so as to obtain results that were directly comparable to those conducted between 1974 and 1976. Analyses are not complete but there appears to be a marked increase in numbers in 1978. Independent unpublished data from other sources indicate that reproductive rates have also increased markedly from the low levels recorded in 1974 and 1975. Because seals reproduce more rapidly than polar bears, and are lower on the food chain, recovery of the marine ecosystem should be noticeable sooner in the seal population than in that of the bears. It is hoped that this monitoring can continue for at least two more years.

The Behavior of Free-Ranging Polar Bears

Behavioral research on polar bears at Radstock Bay on Devon Island in the High Arctic continued in 1977 and 1978. Significant progress was made in the study of the comparative hunting abilities of cubs of different ages (Stirling and Latour 1978). Cubs of all age-classes did almost no hunting during the spring. The proportions of time spent hunting by yearling and 2 year-old cubs and the duration of their lying "still hunts" were not

P O L A R B E A R S

Proceedings of the Seventh Working Meeting of the
IUCN Polar Bear Specialist Group

Held at the Arktisk Institut, Copenhagen, Denmark
30 January - 1 February 1979

and

Proceedings of the Sixth Working Meeting of the
IUCN Polar Bear Specialist Group

Held at IUCN Headquarters, Switzerland
7 - 10 December 1976

International Union for Conservation of Nature and Natural Resources
1196 Gland, Switzerland
1980