POLAR BEAR DENNING AREA AT GATESHEAD ISLAND NORTHWEST TERRITORIES

WAYNE SPENCER

R. E. SCHWEINSBURG

N. W. T. WILDLIFE SERVICE

1979

File Report No. 1

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

High density or important polar bear (Ursus maritimus) maternity denning areas are known in Greenland, Svalbard, Franz Josef Land, Novaya Zemla, Severnaya Zemla, northern Russia (Harington 1968, Uspenski and Kistchinski 1970) and in Canada on western Hudson Bay (Jonkel et al. 1970), Southampton Island and Simpson Peninsula (Harington 1968). In most of the Canadian Arctic Archipelago however, denning surveys have disclosed only scattered den sites (Stirling et al. 1978, also unpublished N.W.T. Wildlife Service data). This is probably a reflection of the widespread and abundant denning habitat available along the coastlines of the Arctic Islands.

Because of the present widespread industrial development in the Canadian Arctic Islands, delineation and protection of high density maternity denning areas is an important part of the conservation of polar bears. This survey, in the Gateshead Island area in M'Clintock Channel (Fig. 1), is part of the continuing effort by the Northwest Territories Wildlife Service to discover important polar bear denning areas.

The Gateshead Island area, some 250 kilometers northeast of Cambridge Bay, is a favoured polar bear hunting area for the hunters of Cambridge Bay. Hunters had reported denning on Gateshead Island. This survey was initiated to determine the extent of denning and hence the importance of the area to polar bears.

STUDY AREA

Gateshead Island is low (maximum elevation 40.5 m) and flat. It is near several smaller islands. The largest, locally named Tingauyalik Island (70 15'N, 100 50'W), is to the southwest, while the majority are to the north. Although the area is ice covered year round, the ice is unconsolidated during the warmest months.

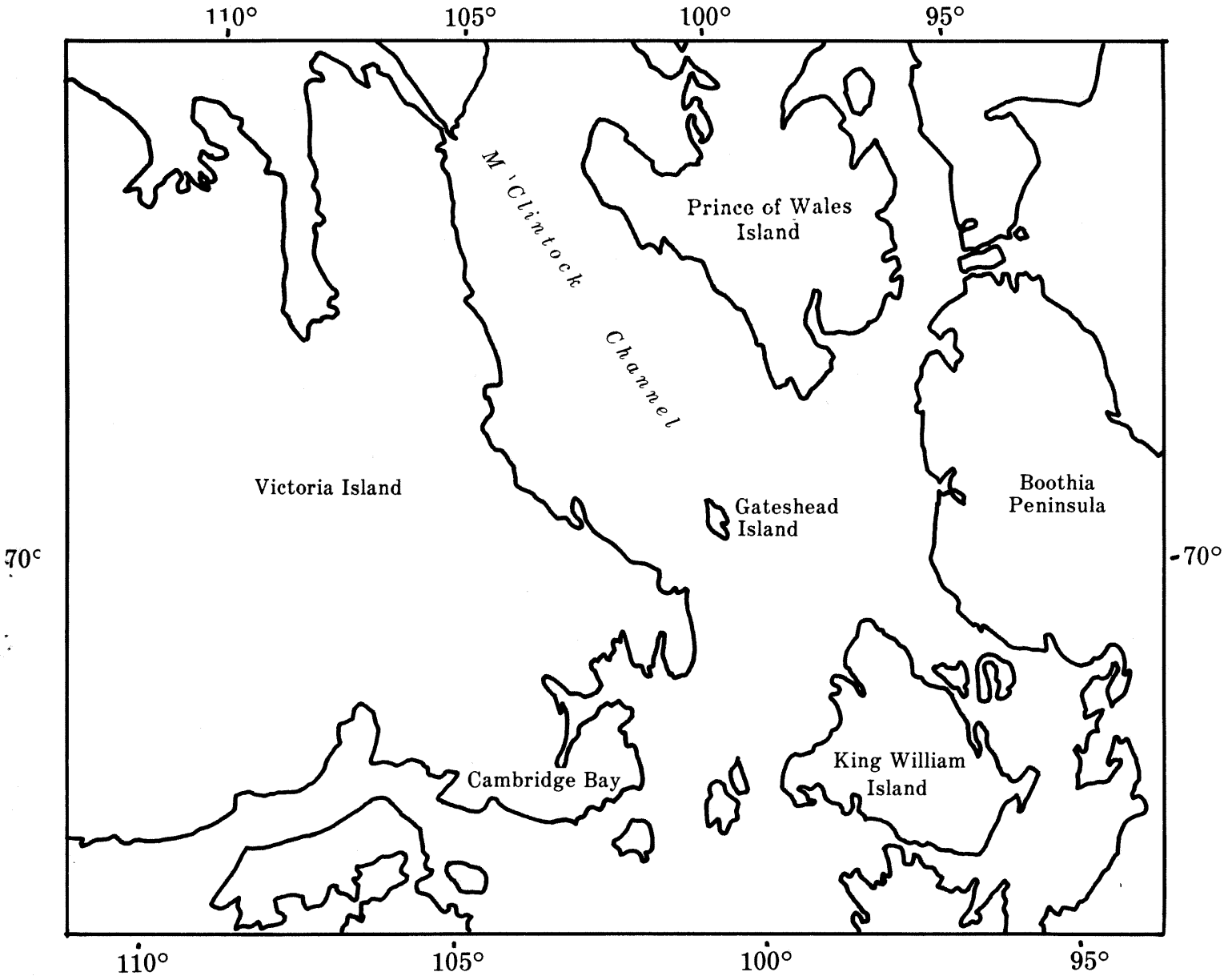

Figure 1. The Gateshead Island study area.

METHODS

Observations of bear dens were made from motorized toboggans from 7 to 20 April, 1977 (Figure 2). Four days were spent searching for dens and incidental observations were also taken during travelling days.

Dens were usually found by searching for the "porches" (Harington 1968) of excavated snow, which were very visible in an otherwise flat and uniform terrain. Because of the uniformity of the land, it was possible to note the "porches" at a distance from any elevation either with binoculars or the naked eye.

Once dens were located, we determined their characteristics. The area of the den was probed with an iron rod and then excavated where possible.

RESULTS

Nine of the possible 19 sites were identified as bear dens (Figure 2). A snow storm during the survey buried many of the suspected dens under deep drifts making positive identification or excavation impossible.

Three dens (1, 4 and 6) were identified as maternity dens. New-born cubs and tracks of adult bears were noted. Considerable icing on the inner ceilings and walls of the dens indicated a long occupancy.

The remainder of the dens were probably not maternity dens. Van de Velde (1957) and Harington (1968) report denning of non-breeding bears of both sexes. There were few tracks around the dens, and superficial snow crystallization on the interiors indicated relatively short stays. Only den No. 3 was suspected to be occupied, but because a bad storm was in progress, occupancy was not confirmed.

All the dens were facing in a southerly direction except dens 8 and 9 which faced northwesterly. This corresponds to the findings of Harington (1968) and Uspenski and Kistchinski (1970) who state that most dens occur on south facing slopes presumably because of deeper snow built up by predominant storm winds from the north, and to more intense solar radiation.

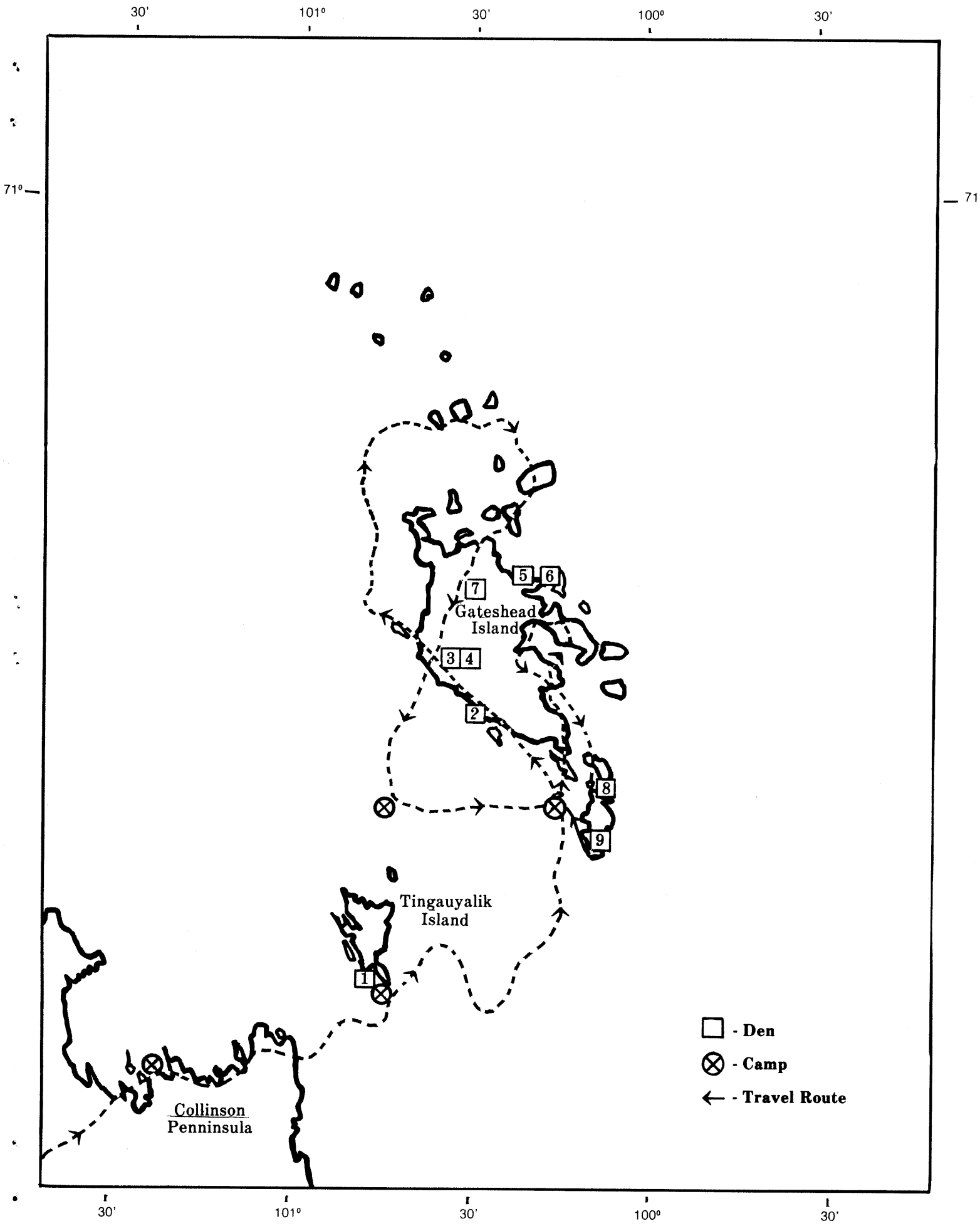

Figure 2. Sites identified as bear dens.

CONCLUSIONS

Because our survey was late, most of the dens we found were unoccupied. However, because of the large number of confirmed dens in a comparatively small area, and because there was evidence of numerous other storm-covered dens, we concluded that the Gateshead Island region was an important denning area in 1977. Further surveys should be done to determine if the area is consistently used by denning polar bears. In the meantime, the area should be considered important for denning polar bears.

ACKNOWLEDGEMENTS

Sincere thanks go to David Kaomayok, without whom it would have been difficult to conduct this survey. Thanks also to Ed Moniyogena, Charles Nakahook and James Paniyoak who helped with the survey.

LITERATURE CITED

Harington, C. R. 1968. Denning habits of the polar bear (Ursus maritimus Phipps). Canadian Wildlife Service Report Series No. 5 · 30 pp.

Jonkel, C. J., G. B. Kolenosky, R. J. Robertson, and R. H. Russell. 1970. Further notes on polar bear denning habits. In: Bears - their biology and management. Papers and proceeding of the International Conference on Bear Research and Management. Nov. 1970. Calgary, Alta. I.U.C.N. Publ. Ser. No. 23.

Stirling, I., R. E. Schweinsburg, W. Calvert, and H.P.L. Kiliaan. 1978. Popular ecology of the polar bear along the proposed Arctic Islands Gas Pipeline Route. Final Report to the Environmental Management Service, Department of Environment, Edmonton, Alta. 93 pp.

Uspenski, S. M. and A. A. Kistchinski. 1970. New data on the winter ecology of the polar bear (Ursus maritimus) on Wrangel Island. In: Bears - their biology and management. Papers and Proceedings of the International Conference on Bear Research and Management. Nov. 1970. Calgary, Alta. I.U.C.N. Publ. Ser. No. 23.

Van de Velde, F. 1957. Nanuk, king of the Arctic beasts. Eskimo. 45: 4-15.