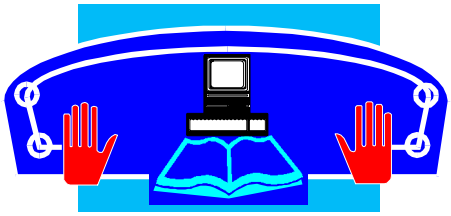

Wildlife Areas Of Special Interest To The Department Of Renewable Resources In The Nunavut Settlement Area

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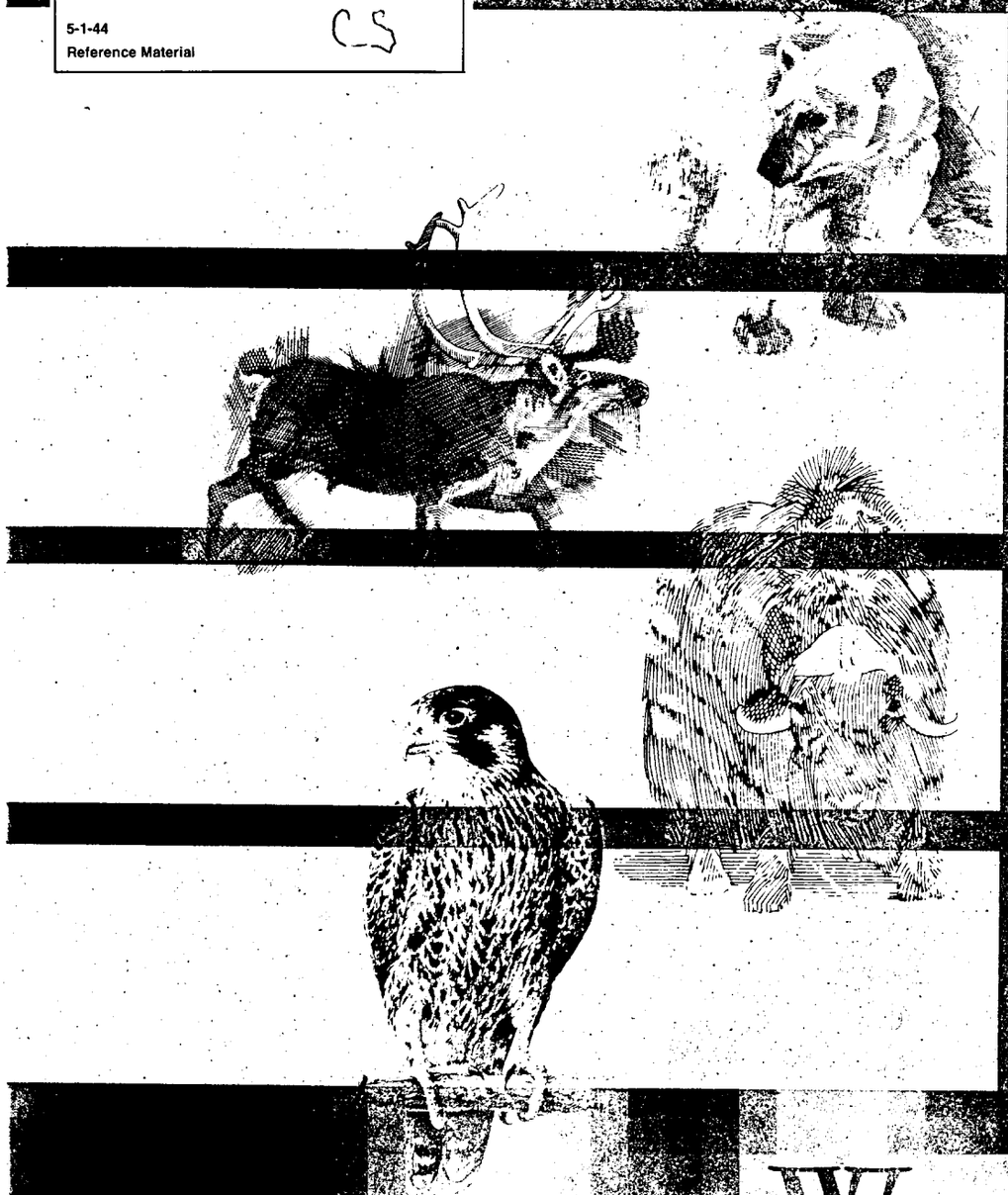

WILDLIFE AREAS

of Special Interest to the Department of Renewable Resources in the Nunavut Settlement Area

Adapted from the report
"Wildlife Areas of Special Interest
to the Department of Renewable Resources"
by RS. Ferguson (1987)

Wildlife Management Division
Department of Renewable Resources
Government of the Northwest Territories
Yellowknife, Northwest Territories

March 1995

Additional copies of this report are available
in Inuktitut (syllabics) and English from

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DISTRIBUTION

Wildlife Areas of Special Interest to Renewable Resources in Nunavut

Enclosed is the report *Wildlife Areas of Special Interest to the Department of Renewable Resources in the Nunavut Settlement Area,* which was produced by the wildlife Management Division following instructions in the Nunavut Land Claims Agreement. This Inuktitut/English document was generated by translating and printing the relevant portion of *Wildlife Areas of Special Merest to the Department of Renewable Resources,* which was produced by the Division in 1987. The report was delivered to the Nunavut Wildlife Management Board at its April 1995 meeting, where instructions for its distribution were given.

Please note the following:

- This report was produced primarily by excerpting text relevant to the Nunavut Settlement Area from the 1987 report. We made few modifications to the original text before translation.

- The English and Inuktitut versions of this report will be updated in approximately 5 years.

- Because place names were translated literally from the English names, many of the place names in the Inuktitut version of this report are apparently meaningless (for example, “Point of Eskimo” instead of Arviat). This is an unfortunate situation which we will correct in the next edition of the report.

- The information contained in this document has not been updated to reflect changes in wildlife populations or in land and resource adm’inistration (including changes resulting from the settlement of land claims) which have occurred since 1986. This information will be updated in the next edition.

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- Descriptions of candidate areas and location of their boundaries are based on the results of wildlife studies up to December 1986. More recent information will be used to update descriptions and boundaries **for these areas.**

- The areas. described in this report were **selected because they were** of interest to the Department of Renewable Resources as potential wildlife conservation areas in the mid-1980s. They reflect concern for wildlife species of high profile in areas frequented at that time.

- Before the Department pursues protective status for any of these areas, consultation with NWT communities and **other interested parties will occur.** No wildlife conservation areas will be established by Renewable Resources unless supported by local communities.

If you have questions concerning the information presented in this report, or about the Department of Renewable Resources wildlife conservation areas program, please contact Leslie Wakelyn (phone 403-920-6362 fax 873-0293). Additional copies of the report can be requested directly from the Nunavut Wildlife Management Board or from this office.

Derek A. Melton
Director
Wildlife Management Division

c: Jim Noble, Executive Director, NWMB

Preface

Article 9 of the Nunavut Land Claims Agreement instructs Government to produce Inuktitut translations of publications concerning conservation areas. Clause 9.4.3 of the Agreement obligates 'the Territorial Government to translate and print the relevant portion of the report *Wildlife Areas of Special Interest to the Department of Renewable Resources* (Ferguson 1987), and to update the Inuktitut version. after 5 years. This report fulfills the first part of this obligation.

The Northwest Territories Department of Renewable Resources has produced this report" primarily by excerpting text relevant to the Nunavut Settlement Area from the 1987 report: We made few modifications to the original text. The information contained in this document has not been updated to reflect changes in wildlife populations or in land and resource administration (including changes resulting from the settlement of land claims) which have occurred since 1986. Descriptions of candidate "areas and location of their boundaries are based on the results of wildlife studies up to December 1986.

It is important to note that the areas described in this report were selected because they were of interest to the Department of Renewable Resources as potential wildlife conservation areas in the mid-1980s. They reflect concern for wildlife species of high profile in areas frequented at that time. Before the Department pursues protective status for any of these areas, consultation with NWT communities and other interested" .parties will occur. No wildlife conservation areas will be established by Renewable Resource: unless supported by local communities.

We anticipate that the English and Inuktitut versions of this report will be updated in approximately 5 years. The list of proposed wildlife conservation areas produced in "the late 1990s will likely differ from the 1987 list. Important wildlife areas may be added to the list, and boundaries will be modified as our" understanding of wildlife populations improves. Important wildlife species and habitats, particularly in the central Arctic, will be examined as mineral development occurs in this area. Changes in land and resource administration, and other implications of land claims. and the new political structure of the Northwest Territories will also be incorporated into the revised report.

Consultation with the public, which includes identifying traditional and local knowledge concerning wildlife populations and habitats, is an important component of Renewable Resources' process for selecting candidate wildlife conservation areas. If you have comments or questions concerning the information presented in this report, or "about the Department of Renewable Resources wildlife conservation areas program, please contact:

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Yellowknife NT XIA 3S8

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"Canada has some of the world's most valuable wildlife resources It is in the interests of all Canadians that these be managed to yield their full social and economic benefits Despite the severity of habitat modification and loss, there are many ways to rebuild and strengthen the land base for wildlife habitat, and ultimately, protect and nurture the well-being of Canada's wildlife

Without habitat, there is no wildlife. It's that simple."

Wildlife Habitat Canada (1986)

Editor's Note

The original Introduction and Methods sections from *Wildlife Areas of Special Interest to the Department of Renewable Resources* (Ferguson 1987) are included in this report with minor modifications. Some of the circumstances described in these sections have changed, and settlement of land claims has had major implications for land and resource management and administration. in the NWT, including establishment of parks and conservation areas. However, the Introduction and Methods sections explain the context in which decisions were made for identification of candidate wildlife conservation areas, and provide valuable background information to thecatalogue of areas which follows.

Introduction

The Department of Renewable Resources, Government of the Northwest Territories, has legislative authority for the "preservation of game" in" the Northwest Territories (NWT) pursuant to Section 13(q) of the Northwest Territories Act (R.S.C. 1970). The Wildlife Act (S.N.W.T. 1978) and Regulations set out the provisions respecting the management of wildlife in the NWT. Under the latter Act, the Commissioner of the Northwest Territories may divide the NW'T into Wildlife Management "Units and may designate other areas within such units for wildlife management purposes.

The "Wildlife Conservation Area" designation is proposed by the Department of Renewable Resources for specific geographic areas which comprise important wildlife habitats.' As part of its mandate to manage wildlife, the Department has a responsibility for ensuring that the land's capacity to support wildlife is not impaired by land-use practices. Maintenance of wildlife habitat is a fundamental goal of wildlife management. Accordingly, the primary objective of establishing Wildlife Conservation Areas is to protect important wildlife habitats from other land-use activities which may reduce their 'value to wildlife. Secondary benefits of establishing Wildlife Conservation Areas include the provision of sites for ecological research; environmental monitoring and education, and other related purposes requiring a minimum of environmental disturbance.

'Designation of "Wildlife Conservation Areas will also fulfil part of Canada's international obligations to protect those wildlife resources which it shares with other nations. For example, the Agreement on the Conservation of Polar Bears (1973), which was signed by the governments of Canada, Denmark, Norway the Union of the Soviet Socialist Republics and the United States of America, states that, "Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns..."

Departmental policies and programs respecting Wildlife Conservation Areas are' in the early stages of development. Initial work has focused on three main tasks the selection and description of candidate areas; the" development of a cooperative approach to planning Wildlife 'Conservation Areas in the NWT with the Canadian Wildlife Service; and the development of a public consultation process for proposed Wildlife Conservation Areas. Other aspects of the Wildlife Conservation Areas. Program, including the identification of administrative and legislative options for managing Wildlife Conservation Areas, are being addressed as part of the Northwest Territories Conservation Strategy (J. Bastedo pers. comm.).

The following report presents the results of the" first task, the selection and description of candidate areas. " It summarizes the Department's primary interests in NWT lands for wildlife conservation purposes, and is intended to serve three main functions

(1) The 'report is "intended for use by land-use planners. Basic resource information (such as which areas are important to wildlife, where they are located, when they are occupied) will enable planners to identify potential wildlife / lan"d-use conflicts and to make recommendations concerning the allocation of lands for. multiple land-use purposes.

(2) The report may be viewed as a first step in the public consultation process because it conveys to other governments and conservation agencies, and to the general public, the Department's primary interests in NWT lands for the purpose of wildlife' conservation. Lands which compromise important wildlife habitats and which already receive an adequate level of protection, such as the Thelon Wildlife Sanctuary Polar Bear Pass National Wildlife Area and national park reserves, are not described in this report.

(3) The report is intended for use by Departmental planners to assist in setting priorities for allocation of financial resources and management effort. For example, a "proposed Wildlife Conservation Area that supports several wildlife species of socio-economic importance is likely to receive earlier and greater attention that an area supporting fewer species, assuming all other, factors are equal. Similarly a stronger case for protective status "may be made 'if an area is important to both migratory birds and big game, and is jointly supported by the Canadian Wildlife Se"rVice and the Department of Renewable Resources.

The Department of Renewable Resources is continuing' its investigations of wildlife populations and their habitats throughout the NWT. Accordingly as new information is collected and synthesized, additional "areas of special interest" may be identified from time to time and added to the list of proposed Wildlife Conservation Areas. The information presented in this report is based on the results of wildlife studies up to December 1986.

ethods

onceptual Approach to lentification of Candidate Areas

ne of the greatest challenges to proponents of con-. nation lands concerns the identification process self. Differences in professional opinion as to what onstitutes "important" habitat for wildlife, and lack of objective standards for qualities of "ecosystem representativeness" and "environmental sensitivit y" make it difficult to derive a simple, universal formula that can be used as a basis for selecting candidate areas. Accordingly proponents usually have to rely on subjective evaluations and value judgements 'n lieu of conclusions based on the formulation and testing of hypotheses. This is often an uncomfortable role for professionals whose academic training extolled the virtues of the Scientific Method-

A second fundamental obstacle' relates to the latitudinal diversity of the NWT and the pronounced, regional differences in wildlife distributions and population levels. These factors frustrate any attempt to define a single "'level of importance" for general application throughout the NWT. Furthermore, wildlife populations are neither static in time nor space. Consequently the basis for evaluation of candidate areas'- animal abundance in a specific area - changes with time.

In southern jurisdictions within Canada, the concept of "critical wildlife habitat" 'has frequently been used as a basis for identifying lands of major importance to wildlife (Stelfox 1980). The term generally refers to discrete geographic" areas containing specific habitat elements (e.g., landform, topography vegetation) with consideration given to proportions, interspersion and other ecological relationships. The "critical wildlife habitat" designation has merit. when applied to the agricultural landscapes of the south because most habitats for major game species appear as "islands" surrounded by cultivated lands. They are "critical" in the sense that, if they were removed, local wildlife populations would undoubtedly suffer because alternative areas of suitable , habitat are generally lacking.

n the NWT, circumstances are notably different ecause land-use activities and their resulting modifications to wildlife habitats tend to be site-specific ather than extensive. Most lands remain in an unaltered state. Consequently the "critical wildlife . abitat" approach used in southern Canada is cur ently of limited value in the NWT. Furthermore n a territorial scale, we lack sufficient information . o attempt to evaluate areas on the basis f geographic differences in habitat quality or quantity. For these reasons, a more generalized approach to selection of candidate areas is necessary at this time.

At, *the* simplest level of differentiation, an area may "' . ,. be categorized as either occupied or unoccupied ange on the basis of presence or absence of particular wildlife species. However, as a means of establishing priorities for planning purposes, delineation of a species' range in its entirety provides little meaningful information. Thus, it is necessary to strike a balance between attempting to identify specific habitat types which are deemed to be "critical", and delineat ing broad geographic areas which encompass a species' entire range.

Guidelines for Identifying Candidate Areas

1. Species of Primary Interest

The Department of Renewable Resources has legislative responsibility for many species of wildlife, as specified in schedule "A" of the Wildlife Act. All species are ecologically important but some areof greater interest to the Department because of their socio-economic importance to residents of the NWT. As a general rule, management priorities are set according to socio-economic considerations. The selection of areas nominated for Wildlife Conservation Area status reflects those priorities. Species of primary interest to wildlife managers . and users in the NWT include caribou, polarand grizzly bears, muskox, moose, furbearers, wood

bison, birds of prey Dall's sheep and waterfowL The featured species approach to identification of areas is sometimes criticized because of its apparent disregard "for other "less valuable" species 'and for the ecosystem in general. Although areas are . . , selected on the basis of the presence of high . priority species, 'this should not be interpreted as a general lack of interest in other wildlife. The Department is committed to the well-being of all. wildlife in the NWT, and will continue to address their habitat requirements by participating in the Environmental Assessment Review Process and in' the routine review of land-use permit applications. As an active member of the Land Use Advisory Committee, the Department attempts to ensure that wildlife and wildlife habitats are protected by recommending that mitigative and restorative measures are practised by land-use operators.

A second good reason for focusing on featured species is that our information base for socio-economically important species is more extensive than for other wildlife. Non-game species, 'for example, receive relatively, little attention, not because they are unimportant, but because they must "compete" with, higher priority species for limited financial and human resources. As a result, attempts to nominate Wildlife Conservation Areas for lower priority species are seriously hampered by lack of biological data.

2. Distribution and Abundance of Primary Species

Wildlife is rarely distributed uniformly throughout . the environment. Rather, animals tend to occur in greater numbers in some areas than in others as a result of, man y environmental factors, including spatial differences in habitat quality quantity and availability Ideally a complete understanding of the distribution of different habitat types, and of their relative importance to various wildlife species, would make the task of selecting Wildlife Conservation Areas an easy one. However, in the NWT, detailed habitat inventories are incomplete *or* lacking altogether, and our knowledge of habitat relationships is at best fragmentary Alternatively wildlife biologists generally have to rely on information describing seasonal distributions and abundances of animals as an indirect "measure" of the relative importance of areas. Inferentially an area which consistently supports a large part of a population probably contains those habitat features which cm-tribute in some way to the animals' well-being.

Selection of candidate areas on the basis of animal abundance is not without precedence. For example, this approach has been used by the Canadian Wildlife" Service for identifying Key Migratory Bird Terrestrial Habitat Sites in the NWT. The severity of an environmental disruption is often measured in terms of the resulting numerical decline in a population; consequently the importance of a par- " titular area is. partly a function of the number of animals it supports "(McCormick et al. 1984).

The second guideline serves a useful, discriminative function because it divides the species of primary interest into two categories. The first category is characterized by species which gather in a relatively discrete area for all or part of the year. This category includes gregarious species "which form herds or colonies (e.g., barren-ground caribou, wood bison, DaU's sheep and some geese), and species with clus- tered distributions at certain times of the year owing to the patchy nature of seasonal habitats (e.g., muskox, polar bear, moose and some birds of prey).

The second category comprises 'solitary species which are widely dispersed throughout suitable habitat; they tend not to form groups larger than the family unit. Most of the fur-bearing animals, including beaver, marten, lynx, fox, wolf, ermine and wolverine, fall into this category

Management practices that focus on protection of discrete areas of habitat by formal designation of conservation lands are most efficient for dealing with species in the first category It would be impractical to attempt to secure and manage habitat for widely dispersed populations through formal designation of lands because of their dispersed distributions. For these reasons, this' . . . report focuses on species in the former category

3. Frequency and Duration of Use

An area that is used consistently over a period of years is generally regarded as playing an important, functional role in the annual cycle of a population. Accordingly frequency or, duration, of use may provide an indirect measure of the relative importance of areas, but such information should be used with caution. For example, when sampling periods are brief or widely separated in time, data respecting animal distributions may merely reflect survey effort and may not "necessarily indicate the actual extent of important seasonal habitats. Regular "surveys with consideration given to habitat stratification are preferable to one-time efforts with the sole purpose of estimating population size.

A'second important consideration is that the extent of occupied range is intimately tied to population levels, and whether a population is increasing, decreasing or stable. Supporting information respecting population trends is helpful when attempting to interpret range-use patterns. Several species of primary interest, including muskox, wood bison and barren-ground caribou, have experienced notable population increases in the past few years.

4. Regional Importance

A regional approach to identification of areas permits relatively simple comparisons of population levels and range-use patterns within relatively uniform environmental settings. A regional approach also represents a workable compromise between attempting to identify areas of local importance and those of territorial or national importance. If "standards of importance" were applied on a territorial scale, sites in the Queen Elizabeth Islands, for example, would consistently be evaluated as "less important" than mainland sites because of latitudinal differences in the lands capabilities to support wildlife. From a biological perspective, selection of candidate areas on this basis would be hard to justify

The Department of Renewable Resources recognizes the importance of local wildlife populations to resource users, but identification of areas on the basis of local importance is beyond the scope of this study Other ongoing Departmental studies, , including the compilation and analysis of harvest statistics and the resource inventory surveys associated with Northern Land-Use Planning, will document important areas of wildlife use. For the purposes of this report, it was necessary to differentiate places of biological significance from places of. cultural significance.

Since identification of areas is based on their biological importance, regions were delineated ," according to recognizable ecological gradients (Figure 1) as opposed to admi.nistrative boundaries, which have little relevance to wildlife distributions. The six regions serve no other purpose than to " . assist in the selection of candidate Wildlife Conservation Areas., Selection of an area signifies that it is the most important sites for a given species within a particular region. It does not imply absolute importance of areas nor a degree of "criticalness" to a species or population..

Listing of Candidate Areas

Two categories are used for the listing of wildlife areas of special interest: Schedule'1 Areas and schedule 2 Areas. Assignment of an area to either category reflects the completeness of information and our level of preparedness for recommending Wildlife Conservation Area status.

We know much more about some wildlife areas and populations than others. A few populations have been surveyed repeatedly over the last few decades, and their seasonal distributions and abundances are well documented Areas with relatively complete and recent documentation are assigned to Schedule 1.

Man y other populations have been surveyed less frequently and their characteristics are poorly known. Although such incomplete and. often outdated information isless than ideal, it maybe' used to generate a list of areas requiring closer examination and, therefore, serves a useful planning function. Areas identified on the basis of historical and/or incomplete information are assigned to Schedule 2 Additional surveys designed to document current levels of use by wildlife are needed before we can make reasonable recommendations proposing Schedule 2 lands as.' Wildlife Conservation Areas.

Many other populations are so poorly documented that biologists are unable to identify with any degree of certainty discrete areas of biological importance. In the past, woodland caribou, Peary caribou and grizzly bear have received cursory attention, while Dan's sheep and moose populations have been surveyed infrequently and in only a few areas. Important wildlife areas for these and other species may be added to the list of proposed Wildlife Conservation Areas at a later time as our understanding of their populations improves.

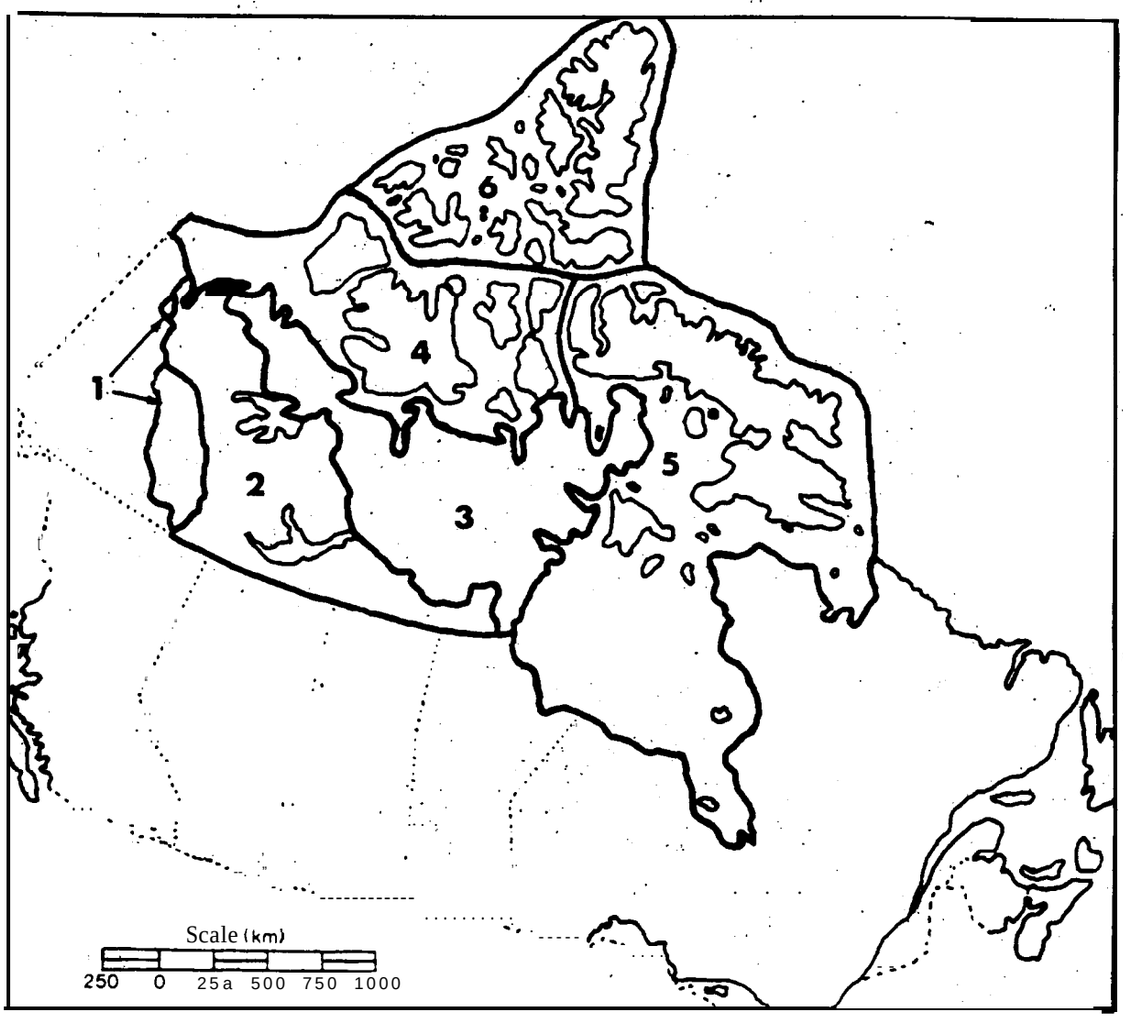


FIGURE 1. Regional division of the Northwest Territories according to major ecological gradients

1. Mackenzie and Richardson Mountains
2. Boreal Forest/Subarctic Woodland
3. Mainland Tundra
4. Victoria Lowlands
5. Baffin Island
6. Queen Elizabeth Islands

Catalogue of Proposed **wildlife** Conservation Areas

Twenty-eight proposed Wildlife Conservation Areas are mapped and described on the following pages: eight areas for barren-ground and Peary caribou, six areas for gyrfalcon and peregrine falcon, five areas for muskox, and nine areas for polar bear (Table 1). A summary map (Figure 2) shows the general locations of all proposed areas in the Nunavut Settlement Area" ,.

Format for Candidate Area Descriptions

Name and Reference **Number:** Each area is named after a prominent geographic or topographic feature, or after a well-known herd or population of animals (e.g., Qamanirjuaq Caribou Calving Ground). Area names and numbers are designated in the original report *Wildlife Areas of Special Interest to the Department of Renewable Resources* Ferguson 1987), Area numbers refer to locations on the summary map (Figure 2) and correspond to Table 1.

Size: The approximate area (including water bodies, unless stated otherwise) in square " kilometres.

Schedule: Areas with relatively complete and recent documentation are assigned to schedule 1. Areas identified on the basis of outdated or incomplete information are assigned to Schedule 2. (Additional information is needed to document current levels of use by wildlife before we can recommend Schedule 2 lands and waters as Wildlife Conservation Areas.) Within each taxonomic group (e.g., caribou), Schedule 1 'Areas are listed first in alphabetical order, followed by Schedule 2 Areas in alphabetical order.

Location: The approximate geographic centre of each area is expressed in degrees latitude and longitude, and its distance and orientation from the nearest community 'are noted.

Table 1.

Wildlife Areas of Special Interest to the Department of Renewable Resources in the Nunavut Settlement Area.

Species	Area No.[1]	Area Name (Schedule)	Area (km
Barren-ground and Peary Caribou	1	Bathurst Caribou Calving Ground (1)	9,50(
	2	Beverly Caribou Calving Ground (1)	14,7a
	3	Bluenose Caribou Calving Ground (1)	12,70(
	4	Qamanirjuaq Caribou Calving Ground (1)	33,40(
	5	Colville Mountains (2)	2,80(
	6	Dewar Lakes (2)	23,70(
	7	Northeastern Keewatin Caribou Calving Grounds (2J	28,00(
	9	Wrottesley Inlet (2)	4,100
Gyrfalcon and Peregrine Falcon	12	Coppermine River (1)	10,500
	13	Melville Sound (1)	15,000
	14	Rankin Inlet (1)	1,150
	15	Ford Lake (2)	17,700
	16	Foxe Peninsula (2)	15,600
	17	Msta@l@taWsl.is(2)	28,800
Muskox	20	Back Lowland (1)	25,500
	23	Fosheim Peninsula (2)	3,600
	24	Horton Plain (2) - #24a - Rae/Richardson Rivers[2]	4,800
	25	Mokka Fiord (2)	3,100
	26	Truelove Lowlands (2I	425
Polar Bear	27	Bellot Strait (1)	10,30Cl
	28	Gateshead Island (1) "	2,000
	29	Hadley Bay (1)	28,300
	30	Hoare Bay (1)	11,600
	31,	Hone Bay (1)	23,000
	32	Maxwell Bay (1)	5,300
	33	Southampton Island (1)	14,000
	34	Wager Bay (1)	6,300
	35	Bylot Island (2)	8,000

Area numbers and names were designated in the original report *Wildlife Areas of Special Interest to the Department of Renewable Resources* (Ferguson 987), which describes areas important to wildlife throughout the NWT.

2 Three areas important to muskox occur on the Horton Plain, but only one of them (#24a) is in the Nunavut Settlement Area. See the description of the Horton Plain area (#24) for more details.

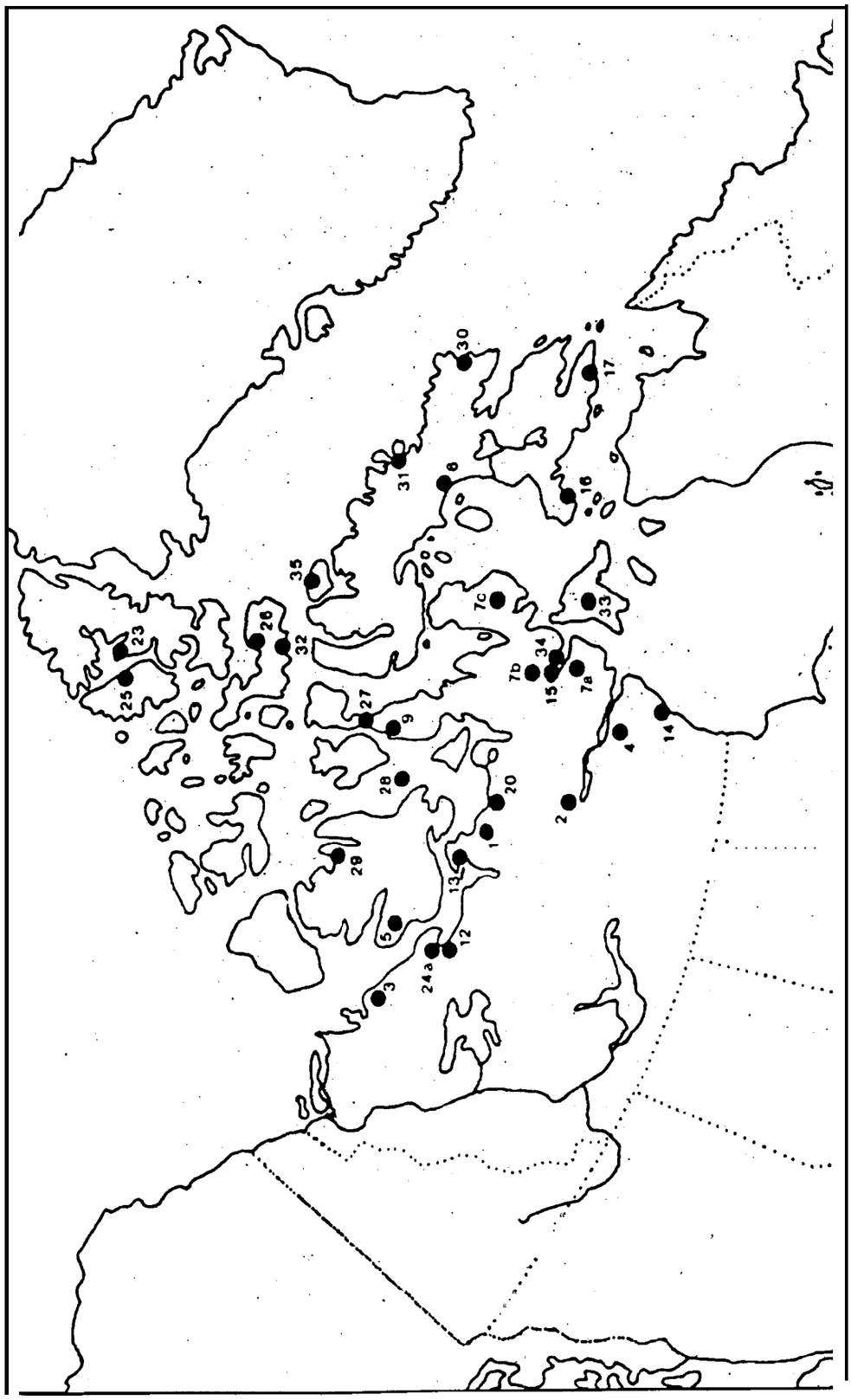


FIGURE 2: General locations of wildlife areas of special interest to the Department of Renewable Resources in the Nunavut Settlement Area.

Boundary. A brief paragraph describes the kinds of iriformation used to delineate the boundary (e.g., whether the boundary follows habitat features, or whether it depicts a more general area where animals congregate). For most areas, the boundaries are considered to be preliminary in that they 'refer to general areas of interest. They are not intended to represent functional boundaries for management purposes and are subject to change as new information is collected and synthesized, They may require considerable refinement before the Department is prepared to advance specific proposals calling, for the formal designation of areas.

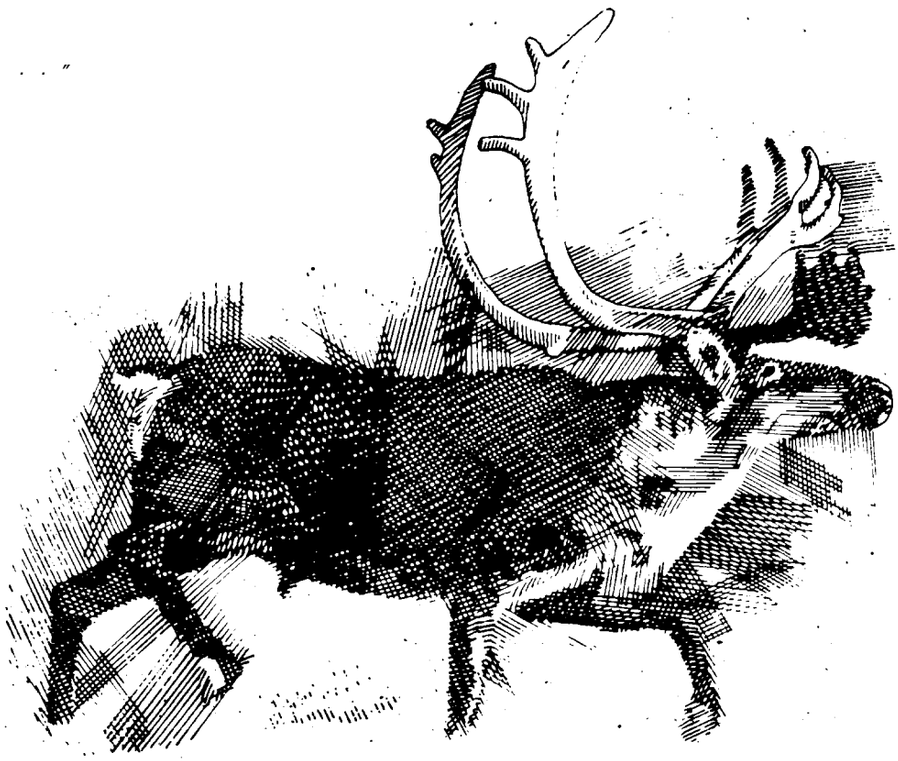
Very general boundaries were drawn intentionally around nesting areas of gyrfalcons and peregrine falcons. These species are highly prized on international markets and individual birds command high prices. Wildlife managers and enforcement officials in Canada are cognizant of illegal trade in Canadian falcons. For this reason, the Department of Renewable Resources is taking a cautious and conservative approach to the release of information respecting falcon nest-site locations. However, individuals with legitimate interests in falcons may obtain further information by contacting the Wildlife Management Division, Department of Renewable Resources, in Yellowknife.

Natural Setting This section provides a brief cascription' of the" natural features of the area, including bedrock and glacial geology landforms, topography, drainage patterns and vegetation.

Importance to **Wildlife:** This section gives pertinent information respecting the area's importance to 'wildlife species of "primary interest. Data are presented concerning the functional significance of areas (e.g., denning, calving, feeding, etc.), population estimates, seasonal use of areas, key habitat features and other relevant information.

Other Conservation interests. Reference is made to other agencies and interest groups that have formally expressed interest in the area for, conservation purposes.

Protective Status: This section indicates the legal status of the lands (as "of December 1986) and the applicable statutes pertaining to the regulation of land use.



Barren-ground & Peary Caribou

Bathurst Caribou Calving Ground" (I)

Size 9,500 km'
Schedule: 1
Location: 67° 15'N 104° 10'W
Geographic centre is 240 km east of the community of Baychimo.

Boundary: The boundary is based on known, high density areas for calving caribou. Between 1966 and 1984, the calving ground was surveyed in eight years. During the last four surveys (1977, 1980,1982 and 1984), two concentration areas were document-" ed. The first area, used in all four years by large numbers of caribou, extended from the Angimajuq River in the west to the Ellice River in the east, and from south of Brichta Lake in the north to Wailer Lake in the south. The second concentration area, used in 1977 and' 1980, was located east of the Ellice River as far as 102°30'W, and from 67°05'N in" the south to 67°35'N in the north. The Bathurst Caribou Calving Ground boundary encompasses both of these concentration areas.

Natural **Setting:** The Bathurst. Caribou Calving Ground lies within the Back Lowland physiographic region (Bostock 1970), and is underlain by gneissic, granitic rocks enclosing narrow volcanic belts (Fleck and Gunn 1982, Fraser 1964). The dominant glacial landforms include drumlin fields, eskers, outwash plains, end moraines and ground moraines. Marine silts and sands occupy low-lying depressions among glacial landforms and bedrock outcrops. Elevations are highest in the southwest comer of the area (215 m above sea level [asl]), and lowest in the northeast (60 m. asl). Tundra ponds and small lakes are scattered throughout the area with drainage to the north into Queen Maud Gulf. "' Three plant associations are recognized. in this area. of the mainland tundra marsh tundra, lichen-' heath and dwarf shrub-heath (Nettleship and Smith 1975).

Importance to Wildlife: The area is of special interest to the Department of Renewable Resources because it represents the core calving ground of the Bathurst Caribou Herd. A calving ground survey in 1984 resulted in a population estimate of 220,000 -290,000 caribou (by visual survey techniques) and 320,000-450,000 caribou (by photographic survey techniques) (D.' Heard pers. comm). Calving generally occurs during the first two weeks of June. By mid-June cows with calves are forming nursery bands, but the timing of their departure from the calving ground and the locations of post-calving areas are poorly documented (Fleck and Gunn 1982). Post-calving groups of caribou have been observed on" the lowlands around Bathurst Inlet by early July

The calving ground and surrounding area is an important nesting and moulting area for waterfowl, particularly Ross' goose (45,000 pairs) and lesser snow goose (53,000 pairs), but also for Canada goose, brant, white-fronted goose and tundra swan (McCormick et al. 1984).

The area south of Queen Maud Gulf is also an important mainland area for muskoxen (see Back. Lowland area description). A systematic aerial survey in 1982 yielded a population estimate of about 8,500 muskoxen in the Queen Maud Gulf area (Gunn et al. 1984).

Other Conservation Interests: The delineated area falls almost entirely within the boundaries of the Queen Maud Gulf Migratory Bird Sanctuary [McCormick et al. 1984). The sanctuary has also been designated as a Wetland of International Importance (Canada Department of the Environment 1982c, UNESCO 1971), and was proposed as an International Biological Programme (IBP) site (Nettleship and Smith 1975).

Protective Status: Land-use activities are regulated under the Territorial Lands 'Act and Territorial Land Use Regulations, and the Migratory Bird Sanctuary Regulations pursuant to the Migratory Birds convention Act.

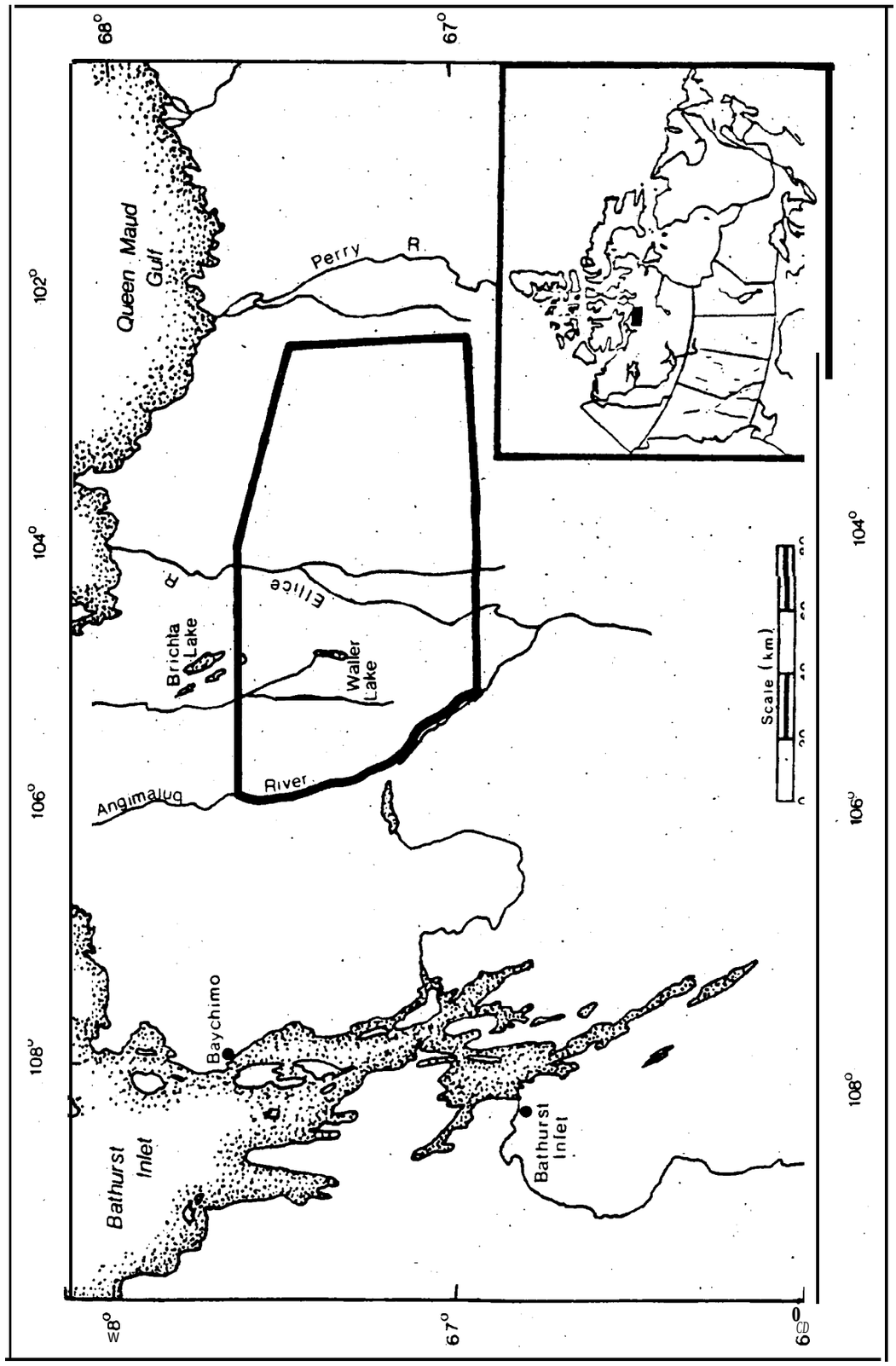


FIGURE 3: Bathurst Caribou calving ground.

Beverly Caribou Calving Ground (2)

Size: .14,700 km²
Schedule: 1
Location: 653(YN 99'30'W
Geographic centre is 225 km northwest . of the community of Baker Lake.

Boundary The boundary. is based on known concentration areas for calving caribou During the period from 1957 to 1984; the calving ground of the Beverly Caribou Herd was surveyed in 14 different yearn usually in early June. Shifts in the location of concentration areas have occurred from year to year and some caribou have calved outside the boundary, but the highest densities of calving caribou have consistently been recorded within. the delineated area. Since the mid-1970s calving has generally occurred within the northern part of the delineated area

Natural **Setting:** The Beverly Caribou Calving Ground lies within the Back Lowland and Thelon Plain physiographic regions.(Bostock 1970). Glacial landforms include drumlins and drumlin fields, eskers, outwash plains, ribbed moraines and till plains (Fleck and Gunn 1982). Flat-lying "sandstone underlies most of the area, with scattered outcrops projecting above the glacial till (Wright 1967). Vegetation is variable according to substrate, moisture regime and snow depth, and includes many species of lichen, moss, sedge, forb and low shrub. Fleck and. Gunn (1982) identified 11 plant associations within or near' the calving grounds; a. species list for each association is presented in their report. The area contains many small and a few large lakes, most of which flow northwards into the Back River.

Importance to Wildlife The area is of special interest to the Department of Renewable Resources because it represents the core calving ground of the Beverly Caribou Herd The most recent population estimates for this herd, obtained in 1984, are 120,000 -170,000 caribou (based on visual survey techniques) and 250,000-420,000 caribou (based on photographic survey techniques) (D. Heard pers.comm.). Comparisons with earlier population estimates indicate that herd size is presently stable or increasing.

Minor variations in the timing of calving occur from year to year, but most calving generally takes place between 1 and 15 June. During the period from 1978 to 1982, the earliest recorded date for the commencement of calving in the Beverly" and Qamanirjuaq herds was 29 May and the latest date ", for the peak of calving was 13 June (Clement 1983, Gunn and Decker 1982, 'Mychasiw 1984). Dispersal of cows and calves from the calving ground generally occurs in early July to areas west and' . southwest of the calving ground (Mychasiw 1984).

The Back River, including Pelly, Upper Garry, Garry and Lower Garry lakes, forins the northern boundary of the calving ground This area is a Key Migratory Bird Terrestrial Habitat Site, primarily for moulting flocks of Canada geese, which use the area from mid-June until mid-August (McCormick et al. 1984). The lowlands south of Garry Lakes also provide year-round range for approximately 200-300 muskoxen (R. Decker pers. comm.). "

Other Conservation Interests The southern" part of this area (Tibielik River) was proposed as an IBP site (Nettleship and Smith 1975). The Canadian Wildlife Service has expressed interest in the area immediately north of the calving ground (Middle Back River) for reasons noted above (McCormick et al. 1984). The southwestern part of the delineated area overlaps with the Thelon Wildlife Sanctuary

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and the Territorial Land Use Regulations. Since 1978, the Department of Indian and Northern Affairs has imposed. additional controls on land-use operations in the form of the Caribou Protection Measures. The main thrust of these measures is to prevent the potentially harmful contact between caribou and land-use activities during the calving and post-calving seasons (Mychasiw 1984). The Caribou Protection Measures apply to the Beverly and Qamanirjuaq caribou herds. Lands within the Thelon Wildlife Sanctuary have been withdrawn from disposition pursuant to the Territorial Lands Act.

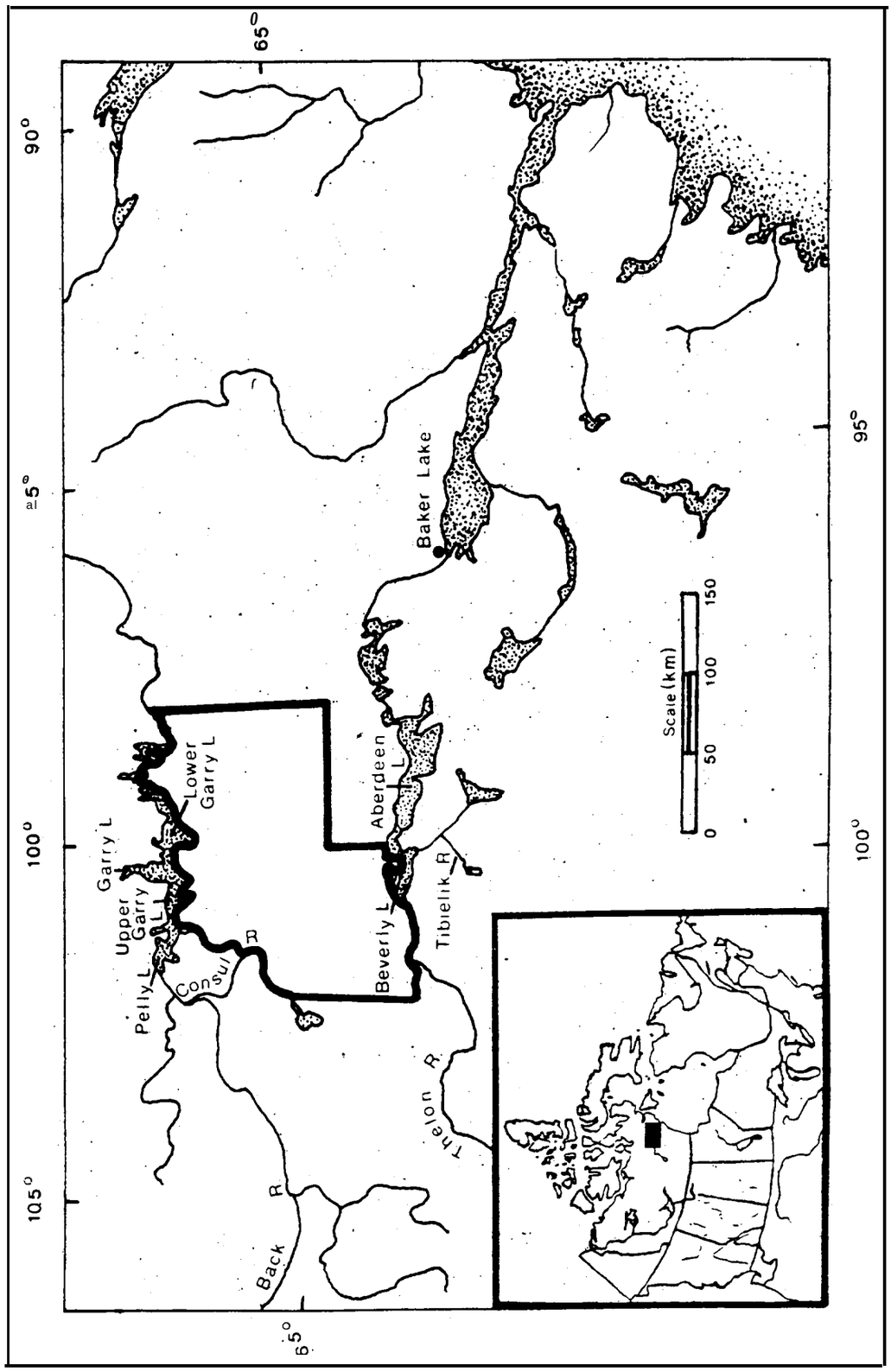


FIGURE 4: Beverly Caribou calving ground.

Bluenose Caribou Calving Ground (3) "

Size: 12,700 km²
Schedule: 1
Location **68°50'N 121°00'W**
Geographic **centre** is 135 km southeast of the community of **Paulatuk** and less than 10 km west of the boundary of the **Nunavut** Settlement Area **(NSA).** Almost half of the calving ground is in the NSA.

Boundary: The **boundary** is based on known concentration areas for calving **caribou.** During the last four calving ground surveys (**1978,** 1979,1981 and 1983), the delineated area consistently supported the **highest** densities of calving caribou. Earlier surveys (**1974** and 1975) also **indicated large** concentrations **on** the peninsula" south of Cape Bathurst, 200 km to the **northwest. Bluenose** caribou **favour** the high, rugged terrain north and northwest of **Bluenose** , Lake as their traditional **calving** ground (**Latour** and Heard 1985).

Natural Setting: The Bluenose Caribou Calving Ground lies within the Horton Plain" physiographic region (**Bostock** 1970). The general topography is a **rolling,** rocky, plain with patches of till veneer and **other** glacial features, including drumlins, outwash **deposits** and ridge moraines (Canada Department of Fisheries and the Environment **1977a).** Large **areas** of tundra polygons occur on the outwash **deposits** south of the **Roscoe** River. The area is **dissected** by tributaries of the **Hornaday,** Brock and Roscoe rivers. The Melville **Hills** border the **northern** part of the area, and are characterized by rolling uplands. with bedrock outcrops,. **glacio-fluvial** terraces and extensive deposits of **hummocky** moraine. The. vegetation consists primarily of lichen tundra and open shrubland, with sedge tundra in wet, low-lying areas.

Importance to Wildlife The delineated area comprises the .core calving ground of the Bluenose Caribou Herd In 1983, a calving ground survey yielded a population estimate of 30,000-50,000 by visual survey techniques and 50,000-80,000 by photographic survey techniques (D. **Heard pers. comm.).** In **July 1986,** a **post-calving,** photographic survey yielded a preliminary population estimate of 80,000 - **100,000** caribou (B. McLean **pers. comm.).** Calving occurs during **the** first **two** weeks of June. The post-calving movements of **Bluenose** caribou are poorly documented, but dispersal from the calving ground is believed to occur in July (Hawley et **al. 1979).**

The delineated area lies within an important **year-round** range for muskoxen, which extends south of the arctic coastline to Horton and Dismal lakes, and from the **Horton** River watershed in the west to the Rae and Richardson rivers in the east (see Horton Plain area description): Case and Poole (1985) estimated a population of approximately 3,300 muskoxen in this area in March 1983. Major concentrations occurred along **the** upper reaches of the Horton River, in the **Gilmore** and **Delesse lakes** area, and along the Rae and Richardson rivers.

The deltas of the **Brock** and Hornaday rivers, **northwest** of the calving ground, provide nesting **habitat** for thousands of **swans, geese and** ducks from late May until mid-August (Canada Department of Fisheries and the Environment 1977a).

Other Conservation **Interests:** The **northwestern** comer of the" **Bluenose** Caribou Calving Ground has been identified by Parks Canada as part of a Natural Area of Canadian Significance (Canada Department of the Environment **1984d).**

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

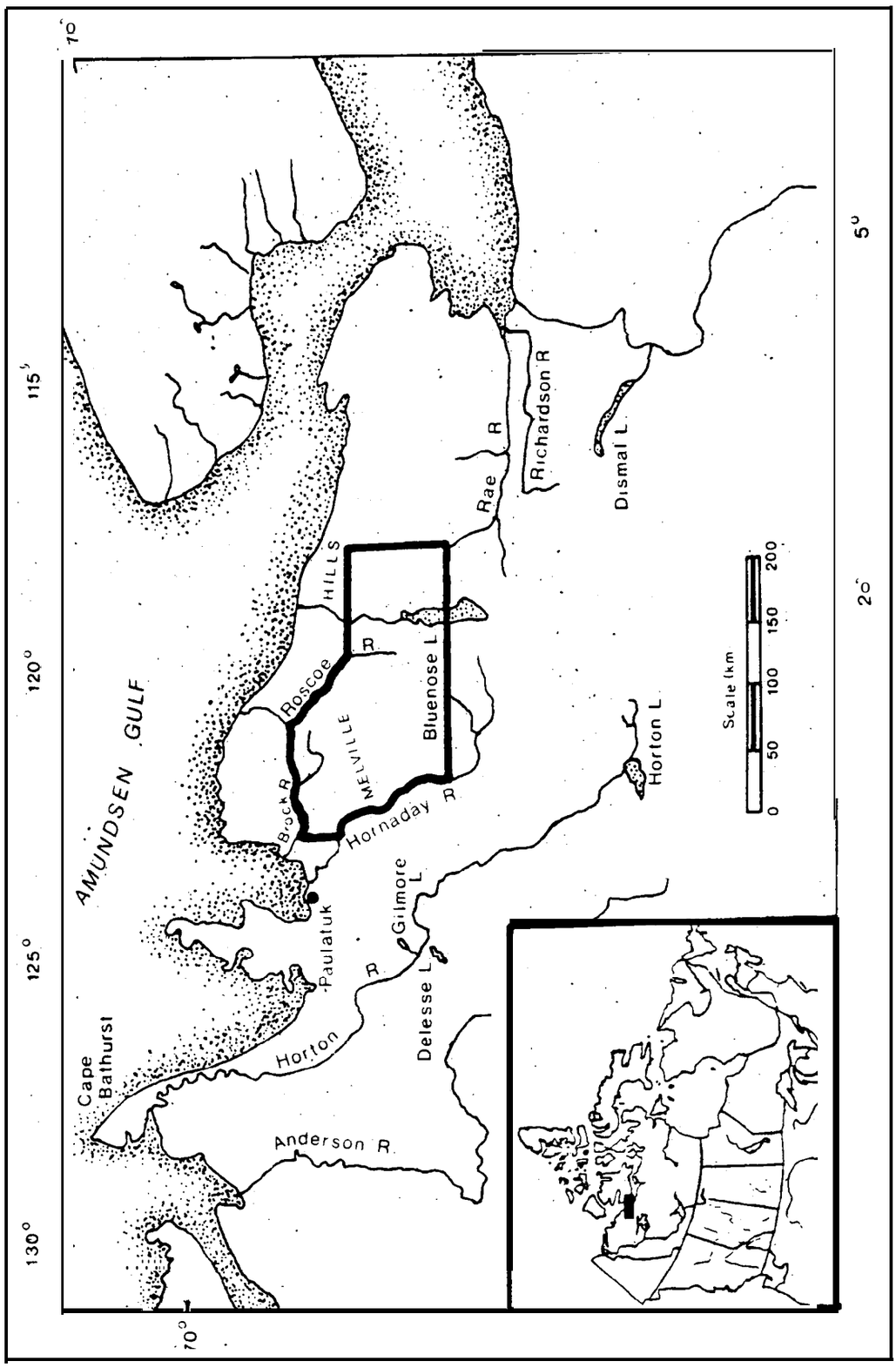


FIGURE calving ground.

Qamanirjuaq Caribou Calving Ground (4)

Size 33,400 km'
Schedule: 1
Location: 63°00'N 95°10'W
Geographic centre is 150 km south of the community of Baker Lake.

Boundary The boundary is based on known concentration areas for calving caribou During the period from 1%3, to 1984, the calving ground of the Qamanirjuaq Herd was surveyed in 18 different years, Shifts in the location of concentration areas have occurred from year to' year and some caribou have calved outside the boundary but the highest densities of calving caribou have consistently been recorded within the "delineated area

Natural **Setting:** The Qamanirjuaq Caribou Calving Ground lies within the Kazan Upland physiographic region (Bostock 1970). Bedrock crops of volcanic "origin are widespread in the north and south and appear as low, rounded hills (Fleck and Gunn 1982, Wright 1%7). Granitic gneiss underlies the central portion of the calving ground, with many outcrops of varying size and shape (Wright 1955). Pockets of marine silts are scattered throughout the area, but there" are no extensive deposits of glacial origin. Average elevation is 100 m asl. Vegetation on the calving ground is characteristic of the southern Keewatin cover types rock barrens. lichen, steppe, lichen-heath tundra, dwarf shrub-lichen tundra, dwarf shrub-sedge tundra, tussock tundra, sedge meadow, and transition forest (Thompson et al. 1978). The calving ground is dotted with many lakes and ponds, most of which drain in a southeasterly direction into Hudson Bay

Importance to Wildlife The area is of special interest to the Department of Renewable Resources because it represents the core calving ground of the Qamanirjuaq Caribou Herd. The most recent (1983) calving ground survey yielded a population estimate of 100,000-140,000 caribou (by visual survey techniques) and 180,000-280,000 (by photographic. survey techniques) (D. Heard pers. comm.). Calving generally occurs between 1 and 10 June, with dispersal of cows and calves from the calving ground occurring in late June and in the first half of July (Mychasiw 1984). Post-calving movements of Qamanirjuaq caribou are variable and range from a southeasterly to northwesterly direction.
The coastal sedge lowlands south of the Qamanirjuaq Caribou Calving Ground are an ., important nesting area for lesser snow geese, and have been identified as a Key Migratory Bird Terrestrial Habitat Site (McCormick et al. 1984).

Other Conservation **Interests:** The eastern portion of the delineated area overlaps with a proposed IBP site (Kaminuriak Lake Area) (Nettleship and Smith 1975), and the northeastern comer has been identified by Parks Canada as part of a preliminary area of interest for national park purposes (Canada Department of the Environment 1984d).

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations. Since 1978, the Department of Indian and Northern Affairs has imposed additional controls on land-use operations in the form of the Caribou Protection Measures. Their purpose is to prevent potentially harmful "contact between caribou and land-use activities during the calving and post-calving seasons (Mychasiw 1984). The Caribou Protection Measures apply to the Beverly and Qamanirjuaq herds.

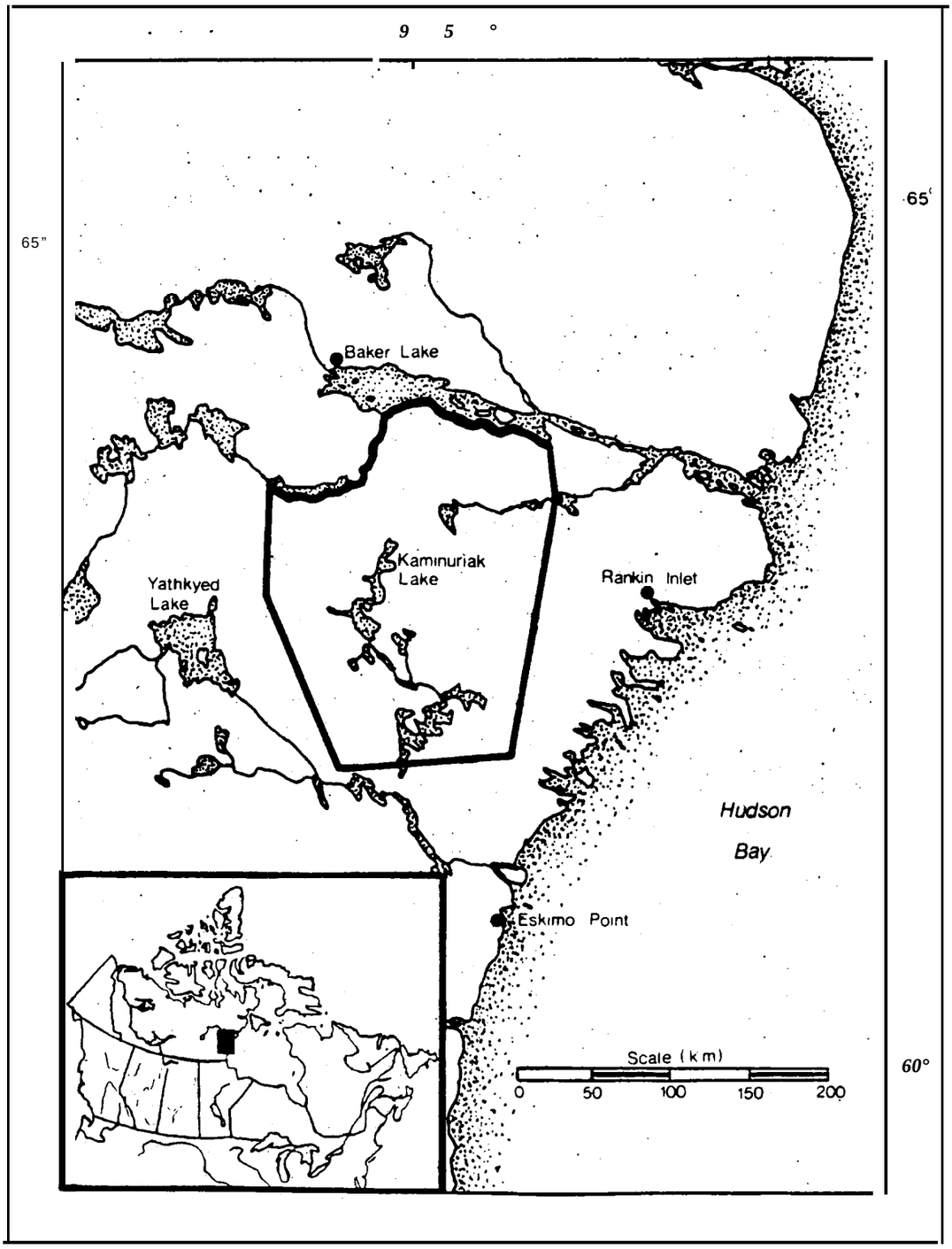


FIGURE 6: Qamanirjuaq Caribou calving ground,

Colvile Mountains (5)

Size: *2300* **km²**
Schedule: 2
Location: **69°35'N 115°00'W**
Geographic centre is 160 km southeast of the community of **Holman.**

Boundary The delineated area is a probable calving area for caribou, but aerial surveys during the calving **period** are required for confirmation. The most recent survey of Victoria Island was **completed in 1980** by **Jakimchuk and Carruthers** (1980), but their investigations, were, carried out during the latter part of the post-calving period They identified the **Colvile** Mountains as a highly probable calving area, **based** mainly on verbal reports from local residents and aircraft **pilots.** The boundary is subject to considerable change pending further study of Victoria Island caribou

Natural Setting: The **Colvile** Mountains lie within the Victoria Lowland physiographic region, a smooth, undulating lowland underlain by flat-lying sedimentary strata and covered by a variety of glacial deposits (**Bostock** 1970). **The Colvile** Mountains form part of the **Wollaston** Peninsula **morainal** belt, a very rugged and complex network of conical, ridge-like and irregular hills (**Jakimchuk** and **Carruthers** 1980). Other glacial **landforms,** including **meltwater** channels, **eskers** and raised beaches, are commonly associated with the **morainal** belt. Vegetation on **Wollaston** Peninsula is representative of the Low Arctic Ecosystem type (**Edlund** 1983). Plant cover is nearly continuous on all but the most coarse and dry materials. **and** is dominated by **Dryas** species, a variety of **legumes** and grasses, and dwarf shrubs. Wetlands support dense and diverse sedge meadows with an" abundance of **graminoid** species and shrubs, including willows, arctic heather, blueberry bearberry and dwarf birch.

Importance to **Wildlife:** Jakimchuk and **Carruthers** (1980) reported that the **Colvile** Mountains are a highly probable calving area for caribou. (The **taxonomic** status of these caribou is **undetermined; they** may represent an intermediate **form** between **Peary** caribou and barren-ground caribou **[A.** Gunn **pers. comm.]).** Post-calving movements are thought to take place east and northeast **of** the **Colvile** Mountains during **late** June and July towards post-calving areas at the head of **Prince Albert** Sound In August 1980, the highest densities and numbers of caribou on Victoria Island occurred on Prince Albert Peninsula. " Similar distributions were **observed** during 1958-59, (McPherson 1%1). The caribou 'population on Victoria Island was **estimated** at approximately 8,000 animals in 1980 (**Jakimchuk** and Carruthers 1980). '

The many **small** lakes in the central part of **Wollaston** Peninsula provide important habitat for a large number and **high** diversity of waterfowl and shorebirds (Canada Department of the Environment **1983c).**

Other Conservation Interests None has been identified

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and Territorial Land. " Use Regulations.

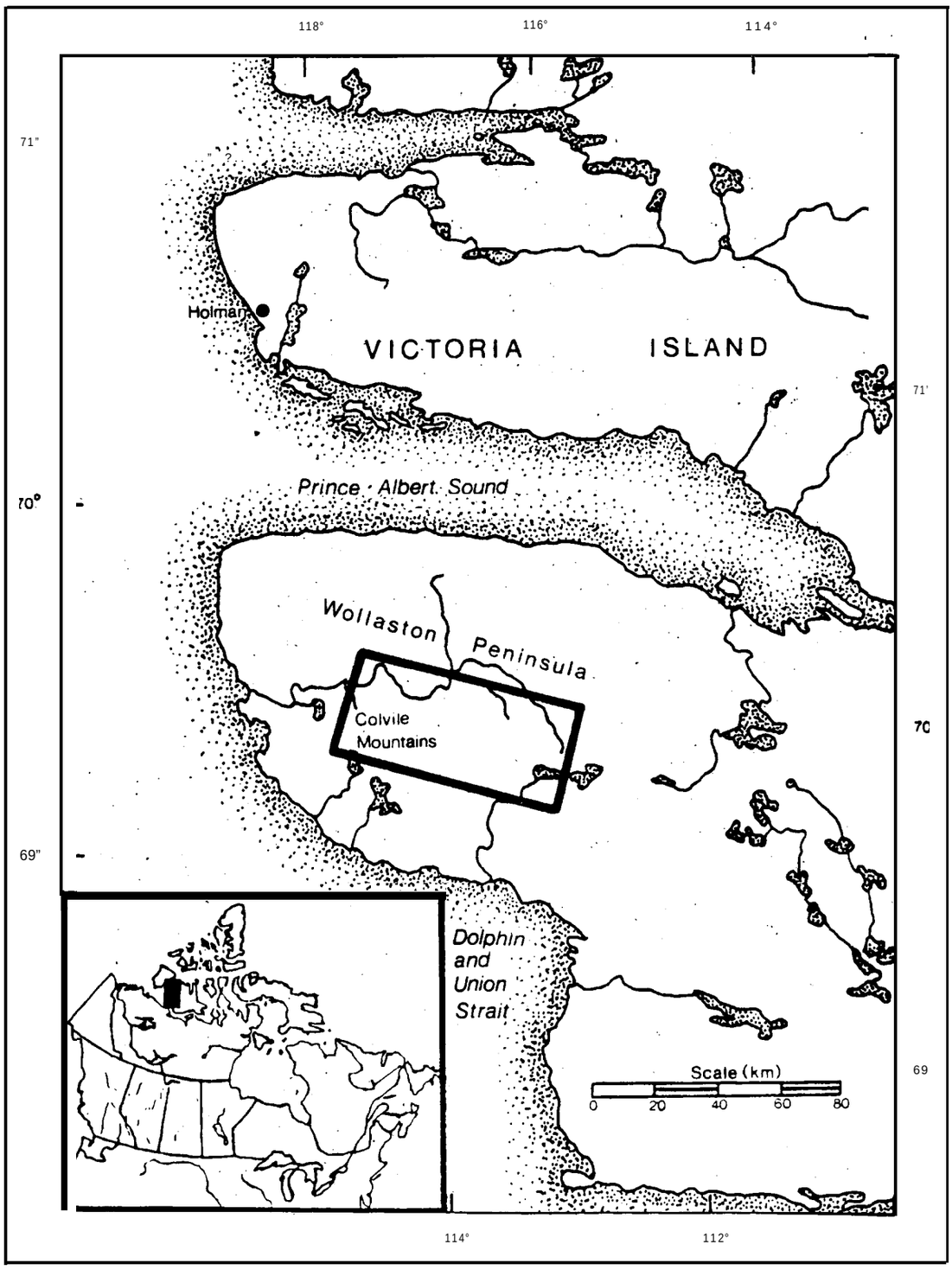


FIGURE 7: Colvile Mountains,

Dewar Lakes "(6)"

Size: *23,700* km'
schedule 2
Location: 68°40'N 73°00'W
Geographic centre is 260 'km south ' west of the community of Clyde River.

Boundary The preliminary boundary encompasses a large area in west-central Baffin Island and includes all of the areas in which caribou have been known to calve since the late 1960s. Baffin Island caribou have been surveyed less frequently than some Keewatin mainland herds; accordingly biologists do not know how calving distributions change from year to year. Caribou are likely to be concentrated within a relatively small part of the delineated area in a given year (M. Ferguson pers. comm.). Additional surveys are needed to determine the relative importance of discrete calving areas within the general area.

Natural Setting: The delineated area lies within two physiographic regions the Baffin Upland and Foxe Plain (Bostock 1970). Baird Peninsula represents a small part of the Foxe Plain; a low, smooth surface underlain by Paleozoic bedrock. Elevations on Baird Peninsula do not exceed 100 'm asl. The remainder of the delineated area comprises" part of the Baffin Upland, a rugged upland of Precambrian origin which slopes southwestward from 900 m asl near Barnes Ice Cap to near sea level around Foxe Plain (Bostock 1970). The delineated area contains many lakes of "variable size, and drainage patterns' are well developed in" a northeast-to-southeast direction. Glacial features include eskers, moraines, and U-shaped valleys; raised beaches are common near the Foxe Basin coastline (Elliott 1972). Vegetation ranges from, predominantly barren hills and plateaus in the eastern highlands, to lush growths of grasses and sedges on the coastal plains to the west (Elliott 1972).

Importance to Wildlife The delineated area includes the Longstaff Bluff, Baird Peninsula "and DeWar Lakes caribou calving areas; together, they probably support the greatest numbers of calving caribou on Baffin Island (M. Ferguson pers. comm.), but recent population estimates are lacking. Calving generally occurs during the second and third weeks of June (Elliott 1972, Redhead and Land 1979). Cows and calves disperse -from Dewar Lakes and Longstaff Bluff in July, with movements to the coastal lowlands. In early July 1984, R Decker (pers. comm.) estimated 4,500-7,500 caribou (excluding calves) within 4 km of the coastline between Piling Bay and Wordie Bay 'Post-calving groups of caribou arrive at the north shore of the Koukdjuak River in mid-to late July (Kraft 1984). Redhead and Land (1979) recommended that the calving grounds be protected from incompatible land uses from 15 May to 15 July.

Coastal 'areas of Ikpik Bay and Piling Bay, and the. lowlands' around Flint and Piling lakes, provide habitat for greater and lesser snow geese and brant [McCormick and Adams 1984).

Other Conservation Interests None has been identified

Protective Status Land-use activities are regulated under the Territorial Lands Act and Territorial Land' Use Regulations.

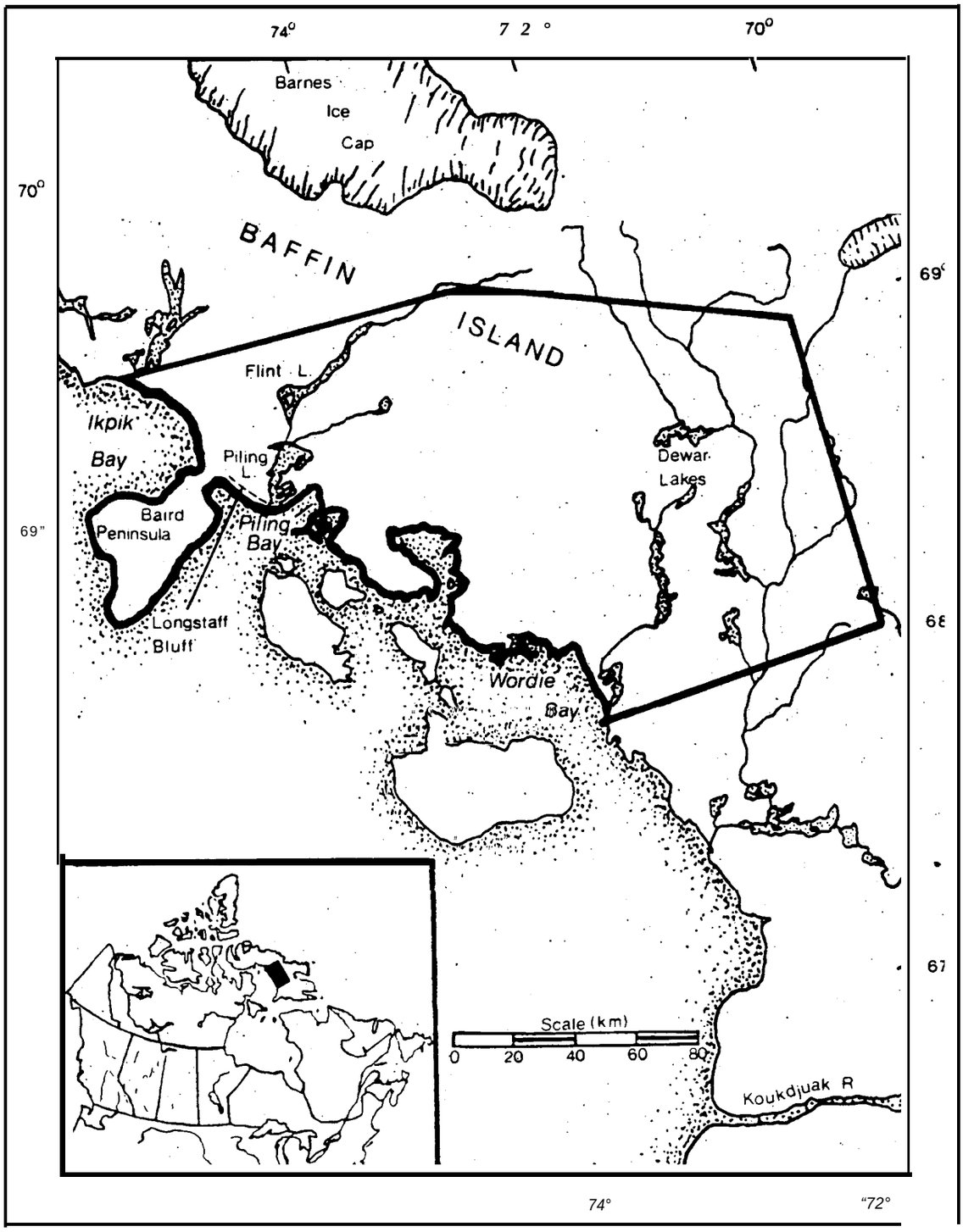


FIGURE 8: Dewar Lakes. -

Northeastern Keewatin Caribou Calving Grounds (7)

size 28,000 km² (total)

Schedule: 2

Includes calving areas for three caribou herds: Lorillard (7a) - 12,000 km'; Wager (7b) - 5,000 km'; Melville (7c) - 11,000 km².

Location: 66°30'N 87°30'W

Geographic centre is 55 km west of the community of Repulse Bay.

Boundary The boundaries of the three calving grounds are preliminary because they are based on limited data. They are derived from the distribution of calving caribou in two years, 1976 and 1977 (Calef and Heard 1981, Heard et al. 1986). Since then, attempts to survey these herds during the calving season have been hampered by poor weather and other logistical problems However, at least some calving occurred within the delineated areas every year that surveys were attempted (Heard et al. 1986). The most recent survey was conducted in May 1983, prior to calving, to take advantage of typically stable weather at that time of year (Allison and Peterson 1985). The highest caribou densities in 1983 corresponded to the locations of the previously documented calving areas (Heard et al. 1986).

Natural Setting The northeastern Keewatin lies within two physiographic regions the Wager Plateau and the Melville Plateau (Bostock 1970). The Wager Plateau rises gradually from sea level at the Roes Welcome Sound to 600 m asl inland. The mainland part of Melville Plateau is largely a 'featureless, smooth upland, 450-600 m asl, with rugged areas along its western border. The topography north of Wager Bay is characterized by a rolling to hilly upland with boulder fields, bedrock outcrops, and localized glacial features in the form of eskers, drumlinoid hills and fluted moraine (Canada Department of the Environment 1983a, 1984a). Marine deposits occupy low-lying sites. South of Wager Bay the topography is more variable and ranges from rolling to hilly to mountainous. Thick, glacio-fluvial deposits and kames occur along the length of the Gordon River (Ouimet In prep.). Vegetation consists mainly of lichens, mosses, heath and willow. Sedge, moss and grass communities occupy wet depressions. Rock outcrops are generally dominated by lichens or are barren.

Importance to Wildlife. The most recent (1983) population estimates for the Northeastern Keewatin Caribou herds are 23,300 for the Lorillard Herd, 15,200 for the Wager Herd and 38,000 for the Melville Herd (Heard et al. 1986). The seasonal ranges and movement patterns of the Northeastern Keewatin herds are unknown, but they are assumed to inhabit the tundra year-round (Allison and Peterson 1985). Further studies are required to address these data gaps Some cows on Melville Peninsula apparently move north after calving; cows with calves have been observed near Sarcpa Lake on northeastern 'Melville Peninsula in mid-July (Heard et al. 1986), Most calving probably occurs during the first half of June.

The Quoich River valley and associated wetlands, located west of the Lorillard calving ground, are important habitats for moulting Canada geese from mid-June to late August (McCormick et al. 1984). The coastal, areas of Wager Bay provide important seasonal habitats for polar bear (see. Wager Bay area description), and the Wager Bay area is important for nesting peregrine falcons (see Ford Lake area description).

Other Conservation Interests A large area centred around Wager Bay has been designated as a Natural Area of Canadian Significance and proposed as a national park reserve (Canada Department of the Environment 1984d). This area overlaps with parts of the Lorillard and Wager caribou calving areas.

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

Wrottesley Inlet (9)

size 4,100 km'.
schedule: 2
Location: 71°00'N 95°50'W
Geographic centre is 180 km northwest of the communit y of Spence Bay.

Boundary The preliminary boundary is based on "aerial survey data collected during the caribou calving periods in 1%'4 and 1975. During both '" years, concentrations of cow-calf pairs were consistently observed in the northwestern part of Boothia Peninsula between Pasley Bay and Wrottesley Inlet (Fischer and Duncan 1976). Russell et al. (1979) conducted field studies of caribou habitat use from 1975 to 1977, and suggested that calving may also occur on the north central highlands of Boothia Peninsula. However, they concluded that "further aerial reconnaissance during the month of June is required to clearly establish the locations" of caribou calving grounds on Boothia Peninsula" (Russell et al. 1979102).

Natural Setting: The delineated area lies within two distinct physiographic regions: the Boothia Plateau and the Victoria Lowland (Bostock 1970). The Boothia Plateau is a northward-projecting extension. of the Precambrian Shield and is characterized by rugged, rocky hills and ridges with elevations approaching 600 m asl. Portions of the plateau are covered by a layer of coarse, calcareous till (Boydell et al. 1975). The vegetation associated with the bedrock outcrops and ridges is dominated by mosses and crustose lichens (Russell et al. 1979). The Boothia Plateau is bounded on the southwest by the well-vegetated, Paleozoic lowlands of the Victoria Lowland (Fischer and Duncan 1976). These areas are mostly flat and consist mainly of limestones. Russell et al. (1979) provide detailed descriptions of various plant communities on northern Boothia Peninsula.

Importance to Wildlife: The delineated area is believed to be the major calving area for caribou on Boothia Peninsula. (The taxonomic status of Boothia Peninsula caribou is uncertain [A. Gunn pers. comm.]; the population may represent an intermediate form of Peary caribou and barren-ground caribou [Russell et al. 1979].). Fischer and Duncan (1976) estimated the 'Population size to be approximately 1,200 caribou in 1974-75. In June 1985, a population estimate of '4,500 caribou was calculated (A. Gunn pers. comm.). The population may be migratory moving from' the summer range on northwestern and northcentral portions of the peninsula to wintering areas on eastern and northeastern portions. In March 1975, all of the caribou observed were located in the northeastern half of Boothia Peninsula (Fischer and Duncan 1976). Most were on the flat, well-vegetated lowlands between Brentford Bay and Cape Nordenskiold Russell et al. (1979) also reported that the coastal lowland and beach ridge complex on northeastern Boothia Peninsula is prime wintering range.

The coastal areas of Boothia Peninsula are major concentration areas for polar bear in late winter, spring and summer (see Bellot Strait area description).

Other Conservation Interests: None has been identified.

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

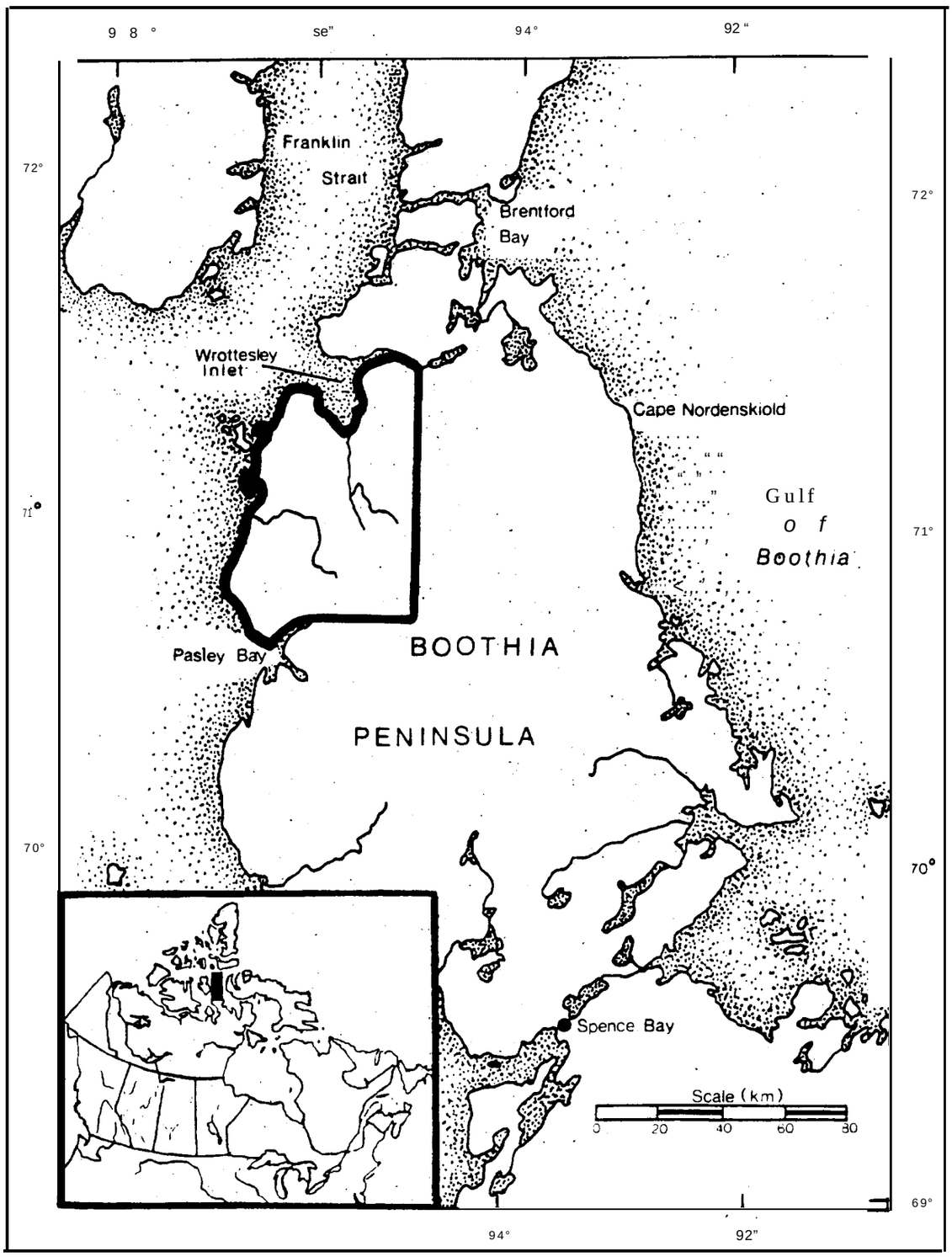


FIGURE 10: Wrottesley Inlet.

Gyrfalcon & Peregrine Falcon

Coppermine River (12)

Size: 10,500 km²
Schedule: 1
Location: 67°45'N 115°45'W
The designated area includes the community of Coppermine.

Boundary Aerial surveys from 1983 to 1986 revealed" a relatively high density of nesting raptors, particularly peregrine falcons, gyrfalcons, golden eagles and rough-legged hawks, within the delineated area. Survey effort was directed toward areas of prime potential habitat. Nesting habitat in surrounding areas is generally lower in quality and quantity (R Bromley pers. comm.). (Very general boundaries are drawn around raptor nesting areas.)

Natural **Setting:** The Coppermine River area lies predominantly "within the Coronation Hills physiographic region (Bostock 1970). The northern and southeastern parts fall within the Horton Plain and Bear-Slave Upland physiographic regions, respectively Along the Rae and Richardson rivers elevations are low (less than 100 m asl), but' in the southwest the Coronation Hills region rises to 600 m asl, forming dissected ridges and hills and broad, smooth-topped uplands. Northeast of Dismal Lakes, eskers, drumlins, bedrock outcrops and areas of glacial outwash are common (Canada" Department of Fisheries and the Environment 1978a). Vegetation ranges from lichen tundra and open shrubland on upland areas to open shrubland and scattered stands of black spruce in the protected valleys of the Coppermine and Kendall rivers. Shrublands and wet meadow vegetation are particularly lush on the' low-lying lacustrine sediments along the Rae and Richardson rivers.

Importance to **Wildlife:** The broad, open stretches of well-vegetated tundra, interspersed with cliffs 10 -40 m in height, provide excellent nesting habitat for a variety of raptor species, including peregrine falcons, gyrfalcons, golden eagles and rough-legged hawks (Bromley and McLean 1986). Approximately 115 nest sites (excluding those of rough-legged hawks) have been identified within the delineated area (NWT Wildlife Service unpubl. data). (This total includes raven nests because they are often used in subsequent years for nesting by gyrfalcons. [Poole and Bromley 19851). For gyrfalcons, egg-laying begins in the' first half of May with fledging in late July to early August(Bromley and McLean 1986). Egg-1aying by peregrine falcons occurs from early to mid-June, with fledging from mid- to late August. Prey species, including ptarmigan, arctic ground squirrels, waterfowl and passerines, are generally abundant within the delineated area

The western edge of the Coppermine River area overlaps with important" year-round range for muskoxen (see Horton Plain area description).

Other Conservation **Interests:** The Canada .- Department 'of the Environment (1982a) identified the Coppermine River - "Dolphin and Union Strait . area as one of Canada's "Special Places in the North'.

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use "Regulations. "

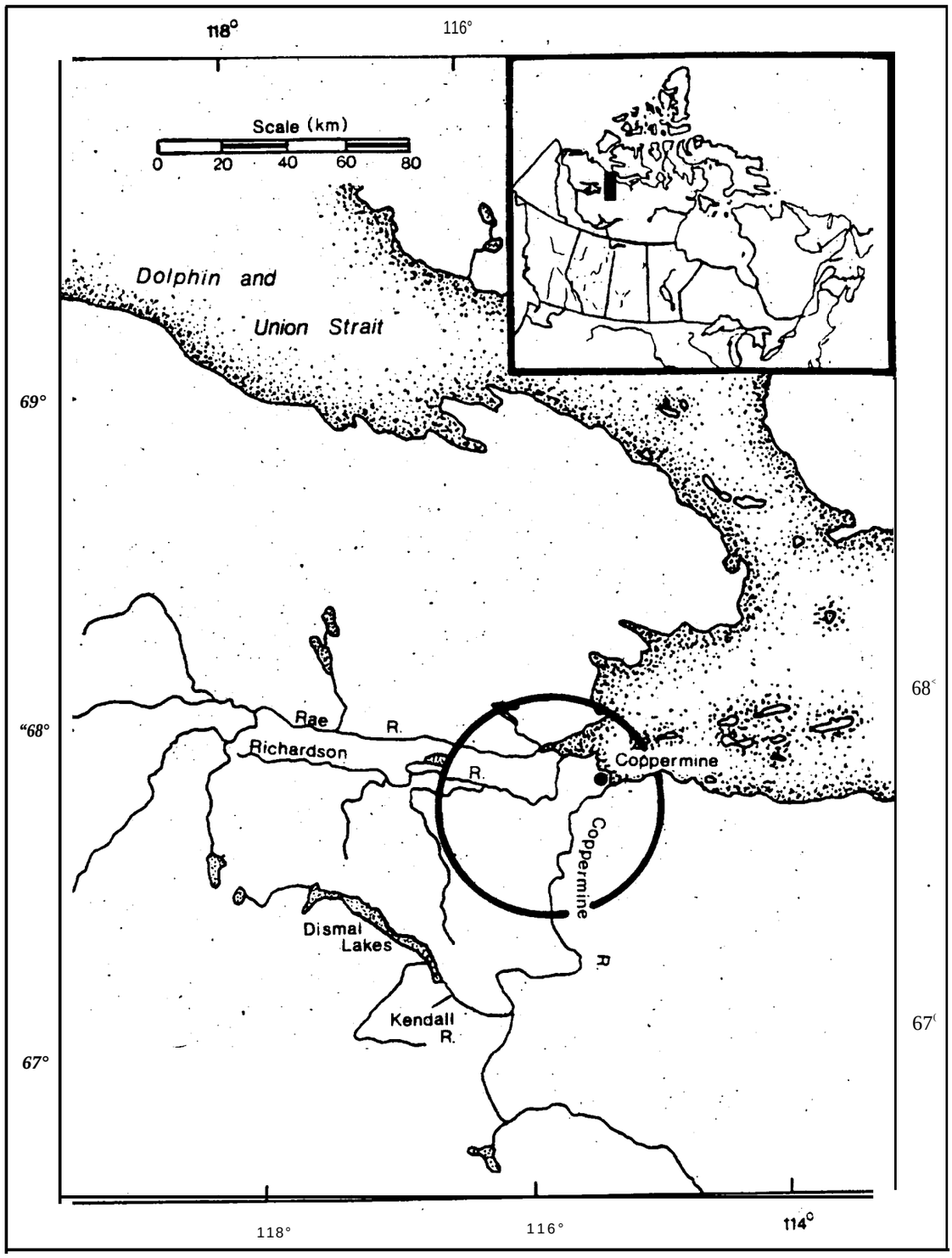


FIGURE 11: Coppermine River.

Melville Sound (13)

Size 15,000 km²
schedule 1
Location: 68°10'N 106"45'W
Geographic centre is 70 km northeast of the community of Baychimo.

Boundary: The delineated area provides important nesting habitat for several raptors, including gyrfalcons, peregrine falcons, golden. eagles and rough-legged hawks. The importance of this area to raptors was first recognized in 1982 (Bromley 1983) and later confirmed by aerial and ground surveys from 1983 to 1986 (Poole 1985, Poole and Bromley 1985, K Poole pers. comm.). Survey efforts focused primarily on gyrfalcons, although nesting information for all raptors (and ravens) was systematically recorded (Very general boundaries are drawn around raptor nesting areas.)

Natural **Setting:** The Melville Sound area lies 'within'. three physiographic regions the Back Lowland, Victoria Lowland and Coronation Hills regions (Bostock 1970). The Back Lowland is dominant and is characterized by rolling, rocky hills and ridges, numerous small lakes, and low-lying plains covered by marine deposits (Canada Department of Fisheries and the Environment 1978b). The southwestern part of Kent Peninsula is an extension of the Coronation Hills which areformed of gently northward dipping sediments intruded by sills and dikes of igneous rock (Bostock 1970). The remaincier of Kent Peninsula forms part of the Victoria Lowland and is characterized by level togently r'oiling topography covered by, a mixture of glacial till and marine deposits. Within the delineated area, elevations rarely exceed 200 m asl except for a small group of hills east of Buchan Bay Vegetation varies from open shrubland and lichen. tundra on inland areas to sedge meadows and salt marshes near coastal areas (Canada Department of Fisheries and the Environment 1978b).

Importance to" Wildlife The delineated area is of major importance to nesting birds of prey particularly gyrfalcons, peregrine falcons and golden eagles. Approximately 125 nest sites have been located within this area (including raven nest sites which are often used for nesting by gyrfalcons) (NWT Wildlife Service unpubl. data). Cliffs used for nesting by gyrfalcons and peregrine falcons averaged 24 m and 16 m in height, respective y (Poole and Bromley 1985). Nest sites generally have eastern, southern or western exposures and often are characterized by having complete overhangs above the nest (at least for gyrfalcons). Nesting begins in mid-to late April for golden eagles, early to mid-May for gyrfalcons, and late May to early June for peregrine falcons (Poole 1985, Poole and Bromley 1985). From 1982 to 1985, the number of active territories per year ranged from 18 to 26 for peregrine falcons, 11 to 18 for gyrfalcons, and 10 to 20 for golden eagles (Poole 1985). Rock ptarmigan and arctic ground squirrels are common within the delineated area and constitute the main prey of gyrfalcons during the nesting season (Poole 1985). There is some evidence to suggest that gyrfalcons may over-winter in the area (Poole and Bromley 1985).

The Bathurst Caribou Calving Ground is located immediately southeast of the delineated area. After a long absence, caribou have returned in recent years to the Kent peninsula during winter, and " muskoxen occupy the area around Elu Inlet (A. Gunn pers. comm.).

Other Conservation **Interests:** The eastern part of the delineated area overlaps the. Queen Maud Gulf Migratory Bird Sanctuary The coastal waters around Kent Peninsula have been identified by Parks Canada as a preliminary marine area for park purposes (Canada Department of the Environment 1984d). Parks Canada is also interested in the area around Bathurst Inlet for national park purposes (Scotter 1985).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

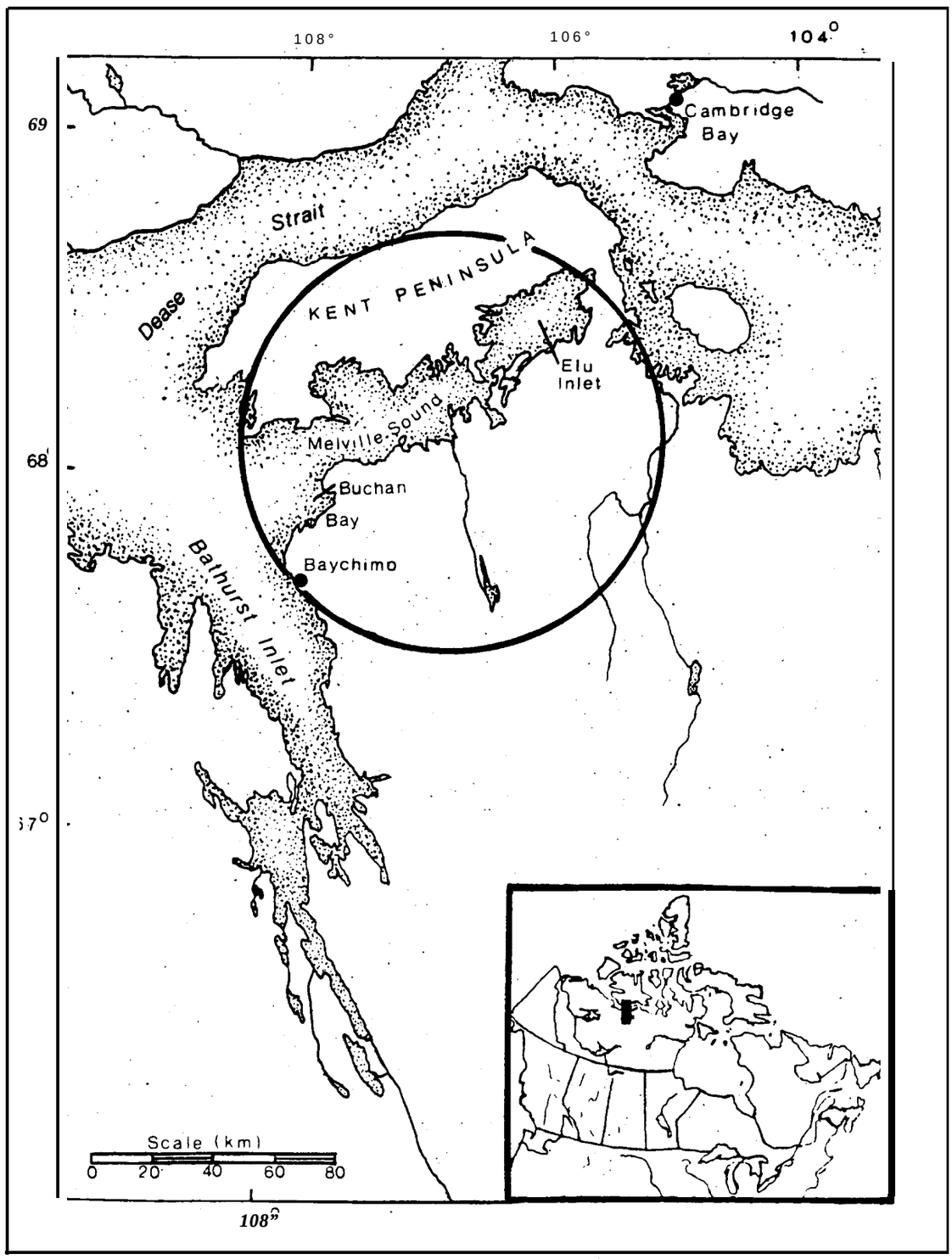


FIGURE 12: Melville Sound.

Rankin Inlet (14) -

Size: 1,150 km²
schedule 1
Location: 62°50'N 92°05'W
The designated area includes the community of **Rankin Inlet.**

Boundary: The delineated area provides important nesting habitat for peregrine falcons. Efforts to' document the size of the peregrine falcon population at Rankin Inlet were initiated in 1980, but detailed information "was not obtained until 1981. The' population was studied intensively from 1981 to 1985 (Court 1986) and further work is ongoing (C. Shank pers. comm.). Results "from these studies form the basis for the site's nomination as a Wildlife Conservation Area. (Very general boundaries are drawn around raptor nesting areas.)

Natural **Setting:** The Rankin Inlet area lies within the Kazan Upland physiographic region, a broad expanse of rolling, Precambrian Shield country that extends west from Hudson Bay to Great Slave Lake (Bostock 1970). Along Hudson Bay the upland appears as a low-lying coastal plain and is covered by post-glacial marine deposits and re-worked glacial till which mask nearly all the underlying bedrock (Lee 1959). Within the delineated area, rock outcrops up to 53 m in height are a prominent feature of the landscape, particularly on the offshore islands in Rankin Inlet (Court 1986). Fluted ridges and eskers also contribute to the topographic relief of the coastal plain (Canada Department of the Environment 1980a). Lichens, heaths and low shrubs (particularly Labrador-tea, mountain cranberry and crowberry) are the predominant plant communities (Canada Department of the Environment 1980a, Court 1986). Sedges and mosses are characteristic of wet depressions. Lakes and tundra ponds are numerous; rivers and streams f"low southeasterly into Hudson Bay

Importance to **Wildlife:** The delineated area supports the most concentrated population of nesting peregrine falcons recorded at arctic latitudes (Court 1986). Between 1981 and 1985, the number of occupied territories ranged from 17 to 26 and nesting" occurred on 29 separate cliffs. Cliff faces used for nesting ranged from 7 to 30 m in height, most were located relatively close to water bodies, and most had either a southern or western exposure. Court " (19867) reported that bedrock outcrops "with rock faces large enough to be of significance to cliff nesting raptors occur as much as 6 km inland and on islands as far out to sea as 4 km"." At Rankin Inlet, peregrine falcons establish territories from mid- to late May with egg-laying occurring during the first two weeks of June and fledging of young during the last 10 days of August. Studies indicate that both male and female peregrine exhibit a high degree of fidelity to territories and nest sites (Court 1986). A variety of prey species make up the peregrine's diet at Rankin Inlet, including passerine, shorebirds, waterfowl, seabirds and small mammals (Court 1986). Rough-legged hawks and a few gyrfalcons also nest within the delineated area (NWT Wildlife Service unpubl. data).

Other Conservation Interests A small area centred around the lower reaches of Meliadine River was nominated as an IBP site (Nettleship and Smith 1975). Parks Canada has expressed preliminary interest in an area around Chesterfield Inlet, and" extending as far south as Rankin Inlet, for national park purposes (Canada Department of the Environment 1984d).

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and. Territorial Land Use Regulations (for federal Crown lands), and the Municipal Act and Planning Act (for municipal lands within the community of Rankin Inlet).

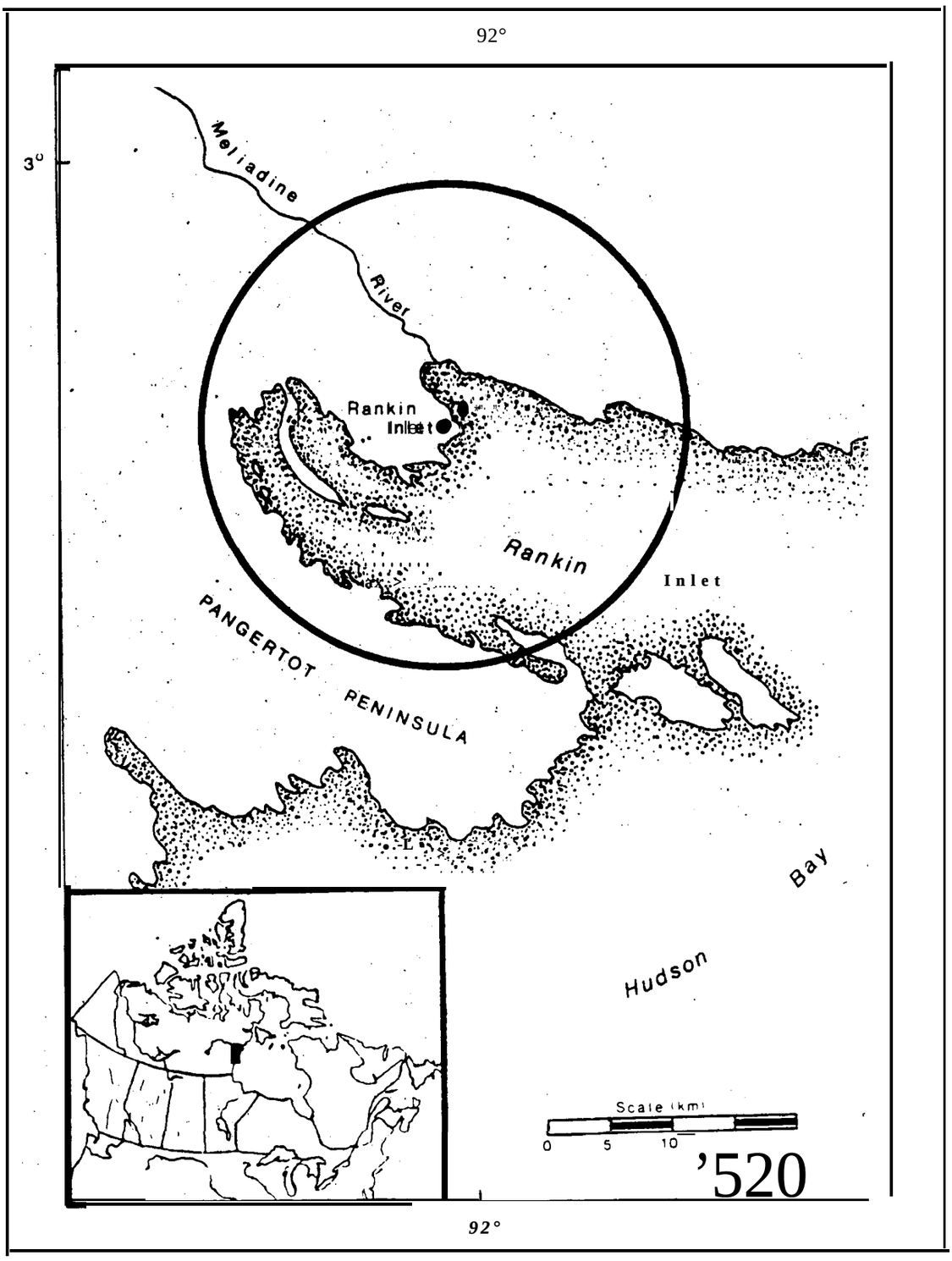


FIGURE 13: Rankin Inlet.

Ford Lake (15)

Size: 17,700 km²
schedule 2
Location 65°50'N 90°05'W
Geographic centre is 190 km southwest of the community of Repulse Bay.

Boundary The delineated area contains a relatively high density, of nesting peregrine falcons; a few nest sites are also known to occur in the surrounding area Our present knowledge of raptor nesting distributions on the Wager Plateau is limited because only a small fraction of the area has been surveyed (see Calef and Heard 1980). Future search efforts of similar intensity in other areas of rugged topography may reveal additional important nesting habitat. (Very general boundaries are drawn around raptor nesting areas.)

Natural Setting The delineated area lies within the Wager Plateau physiographic region, a rocky upland which rises gradually from sea level at Roes 'Welcome Sound to 600 m asl inland (Bostock 1970). The topography north of Wager Bay is characterized by a rolling to hilly upland with boulder fields, bedrock outcrops, and localized glacial features in the form of eskers, drumlinoid hills and fluted moraine (Canada Department of the Environment 1980b, 1984b). Marine deposits occupy low-lying sites. South of Wager Bay the topography is more variable and ranges from rolling to hilly to mountainous. Vegetation is mainly a discontinuous cover of lichens, mosses, heath and willow, with grasses, 'sedges and mosses on low-lying wet sites.

Importance to Wildlife The Ford Lake area has been identified as one of the most productive nesting' areas in the NWT for peregrine falcons (Canada Department of the Environment 1984b). In 1976 and 1977, Calef and Heard (1979, 1980) located 31 " peregrine nest sites in a survey area which included the shorelines of Wager Bay Brown Lake, Ford Lake and the shores of adjacent rivers and lakes Breeding densities approximated 1 pair per 50 km². Since 1977, approximately 20 new peregrine nest sites have been located within the delineated area and. in the surrounding area (NWT Wildlife Service unpubl. data). Calef and Heard (1980) stated that the Ford Lake area is suitable for peregrine falcons because of the combination of ideal nesting habitat, in the form of cliffs and rock outcrops, and abun- ." dant passerine birds which comprise their primary prey, Peregrine are resident in the Ford Lake area from about mid-May until early September.

Lesser numbers of gyrfalcons, rough-legged hawks and golden eagles also nest on the cliffs and rock outcrops within the delineated area (Calef and Heard 1979, 1980). Wager Bay is an important feeding, denning and summering area for polar bears (see Wager Bay area description), and caribou from. the Lorillard and Wager herds calve in the vicinity of Ford Lake (see Northeastern Keewatin Caribou Calving Grounds area description).

Other Conservation Interest* Parks Canada has expressed interest in the Wager Bay area for the purposes of establishing a national park (Canada Department of the Environment 1984d). In terms of relative priority with other proposed park areas in the NWT, Wager 'Bay is ranked fifth (Scotter 1985).

Protective Status: Land-use activities are regulated under the "Territorial Lands Act and. Territorial Land Use Regulations.

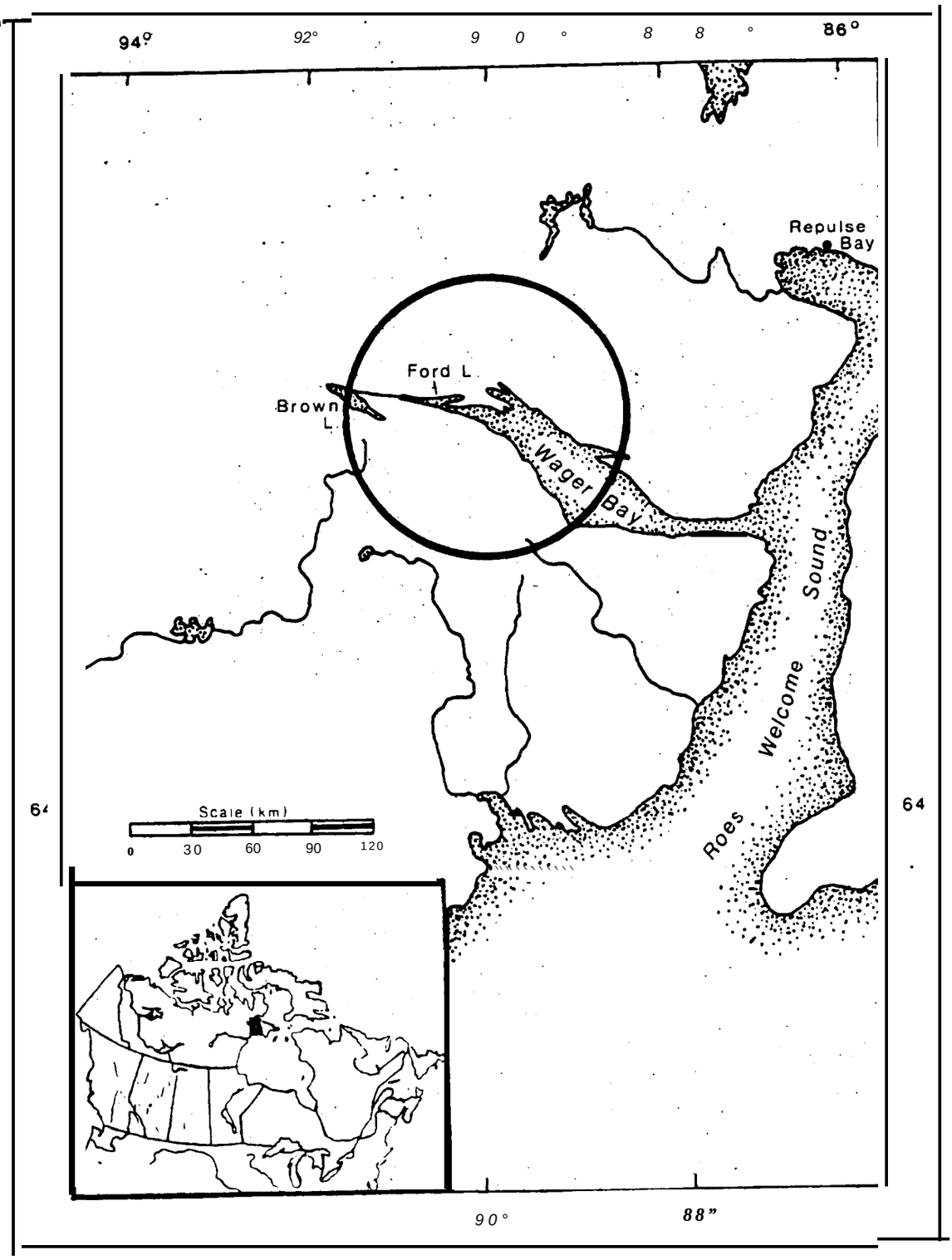


FIGURE **14:** Ford. Lake.

'F'oxe Peninsula (16)

Size **15,600 km²** (excluding area of marine" **waters)**
Schedule: 2 "
Location: **64°35'N** **75°30'W**
The designated area includes the community of Cape **Dorset.**

Boundary **Foxe Peninsula** supports a relatively high density of nesting gyrfalcons and peregrine falcons, **as** determined by aerial and ground surveys between 1983 and 1985. Survey coverage of southern **Baffin** Island has been incomplete. For ground surveys, **selection** of survey areas was influenced by the distance from settlements and accessibility by snowmobile (**Bromley** and McLean 1986). **Accordingly,** important raptor nesting **areas** often seem to be associated **with** the **presence** of communities, but this association "is probably a function of survey effort. If surveys **were** extended over new **territory,** 'additional **nesting** habitats would undoubtedly 'be discovered (Very general **boundaries** are drawn around raptor nesting areas.)

Natural **Setting:** The Foxe Peninsula **lies** within the **Frobisher** Upland physiographic region, a rugged "upland that rises abruptly from Frobisher Bay to elevations-of 900 m asl, then slopes southward into Hudson Strait (**Bostock** 1970). Foxe Peninsula **forms** the western end of this upland and elevations are generally **lower (less** that 200 m **asl)** except for the Kingnait Range, which rises to 360 m **asl.** The souther" coast of Foxe Peninsula is irregular and is deeply indented by many inlets and bays with numerous offshore islands. The vegetation of **southern Baffin** Island is characterized by lichens **and** low shrubs on upper slopes; a mixture of heaths, mosses, grasses, **forbs** and low shrubs on lowlands and lower slopes; and sedges, rushes, mosses and cotton-grass on **poorly** drained sites with standing water (**Polunin** 1948). Southern **Baffin** Island was surveyed in 1984 as part of the Lands Directorate's Northern Land Use Information **Series** Program, but the vegetation descriptions for Foxe Peninsula. are currently unavailable.

Importance to **Wildlife:** Foxe Peninsula is an important nesting area for **raptors,** particularly gyrfalcons and peregrine falcons. Approximately' 50 nest sites have been **located** within the delineated area (**Bromley** and McLean 1986, NWT Wildlife Service **unpubl.** data). These sites include **those used** by ravens, which may play an important role in providing nest sites to gyrfalcons. The nesting season for gyrfalcons **begins** in early" to **mid-May;** fledging occurs from late July to early August. Peregrine falcons nest later, with **egg-laying in** mid-June and fledging of young in late August **(Bromley and** McLean 1986).. A preliminary analysis of **food** habits of gyrfalcons in the eastern 'Arctic **suggests that seabirds** (including black guillemots and gulls) are an important part of their diet (**Bromley** 1985, . . . **Bromley** and McLean 1986). Two **black** guillemot colonies have 'been reported in the vicinity of Cape **Dorset** (McCormick and Adarns 1984), and the southern coastal areas of the Frobisher Upland support large numbers of gulls, **eiders** and other **water**birds (R. Decker **pers.** comm.).'

'Other Conservation **Interests:** The Cape **Dorset** Migratory Bird Sanctuary which 'includes some islands in Andrew Gordon Bay the West Foxe **Islands** and **Sakkiak** Island, was established in 1957 to protect nesting populations of **common eiders** (**Cooch** 1965), and. is still recognized **as** a Key Migratory Bird Terrestrial Habitat Site (McCormick **et** al. 1984). **Parks** Canada has expressed interest in the coastal waters of Foxe Peninsula as a natural **area** worthy of consideration for marine park **purposes** (Canada Department of the Environment. **1984d).**

Protective **Status:** Land-use activities are regulated **under** the Territorial Lands Act and Territorial Land **Use** Regulations. The Cape Dorset Migratory Bird **Sanctuary** is protected by the Migratory Bird **Sanctuary** Regulations, pursuant to the **Migratory** Birds Convention Act.

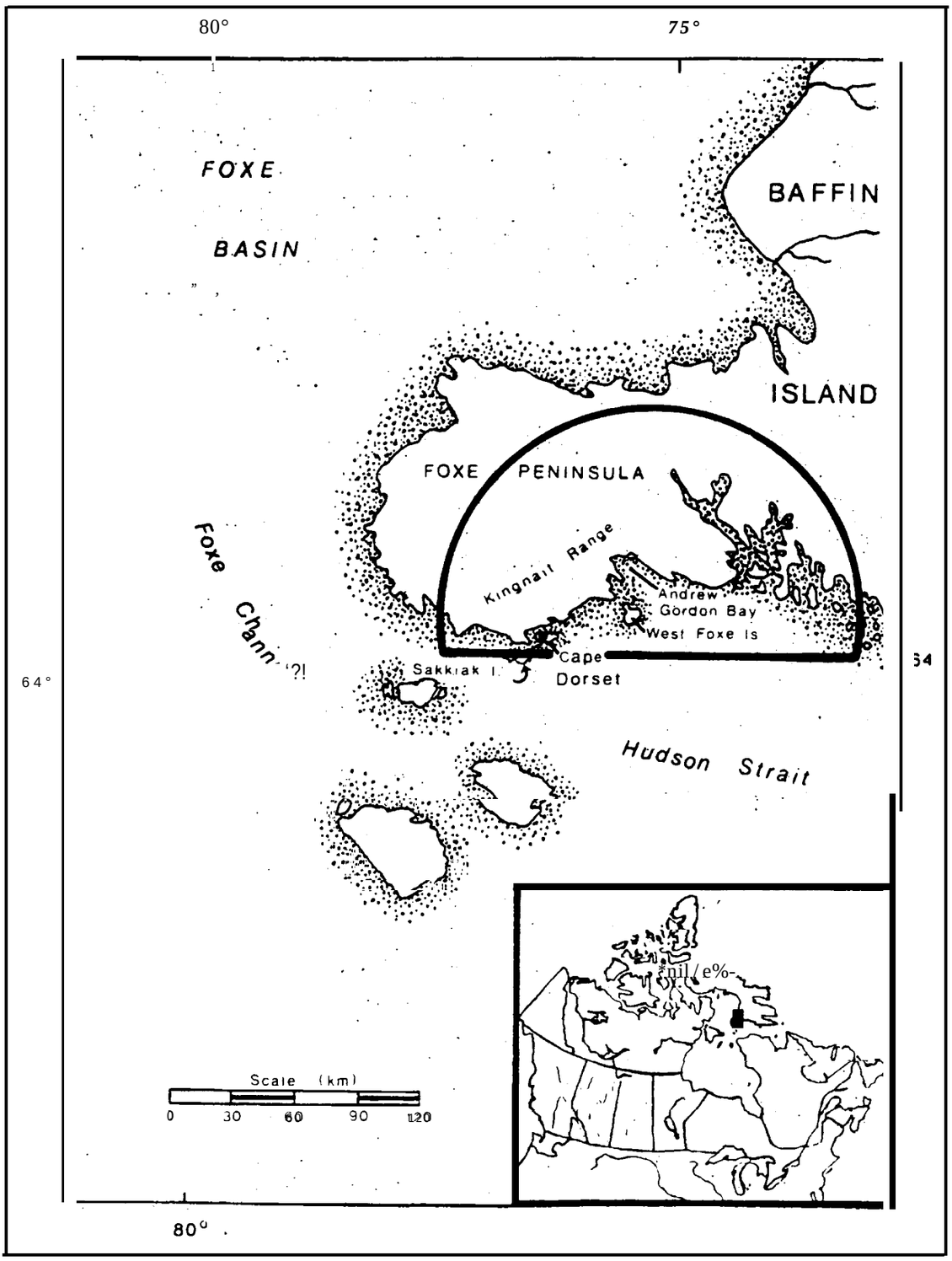


FIGURE 15: Foxe Peninsula.

Meta Incognita Peninsula (17)

size **28,800 km²** (excluding area of marine waters)

Schedule: 2

Location: **63°05'N 68°50'W**

The designated area includes the communities of **Iqaluit** and Lake **Harbour.**

Boundary The delineated area contains a relatively high density of nesting gyrfalcons and peregrine falcons, as determined by aerial and ground surveys between 1983 and 1986. Present knowledge of raptor nesting distributions on southern Baffin Island is limited because survey coverage has been incomplete. For ground surveys, selection of survey areas was influenced by the distance from settlements and accessibility by snowmobile (Bromley and McLean 1986). Accordingly important raptor nesting areas often seem to be associated with the presence of communities, but this association is probably a function of survey effort. " If surveys were extended over new territory additional nesting habitats would undoubtedly be discovered (Very general boundaries are drawn around raptor nesting areas.)

Natural Setting' The Meta Incognita Peninsula area lies within the Frobisher Upland and Hall Upland physiographic regions (Bostock 1970), which are separated from each other by Frobisher Bay and the lowlands associated. with the Foxe Plain. Frobisher Upland is a rugged highland that rises abruptly from Frobisher Bay to elevations of 900 m asl, then slopes southward into Hudson Strait The south-facing surface of this upland is dissected by many rivers and streams which drain the higher elevations of Meta Incognita .Peninsula and flow south into Hudson Strait. Hall Upland reaches elevations of 1150 m asl on the northeast side of Frobisher Bay and is also tilted toward the south. The vegetation, as described by Polunin (1948), con-" sists of: a sparse cover of lichens and low-growing shrubs on upper slopes and hill summits; a mixture of heaths, mosses, grasses, forbs and low shrubs in lowlands and on lower slopes; and lush growths of sedges, rushes, mosses and cotton-grass on poorly drained areas withstanding water. Southern Baffin Island was surveyed in 1984 as part of the Northern Land Use Information Series program, but the vegetation descriptions for Mets Incognita Peninsula are currently unavailable.

Importance to **Wildlife:** The delineated area contains important nesting habitat for raptors, particularly gyrfalcons and peregrine falcons. Approximately 100 nest sites have been located. within this. area (Bromley and McLean 1986, NWT Wildlife Service unpubl. data). For gyrfalcons, nesting begins from early to mid-May with fledging of young occurring from late July to early August. Peregrine falcons nest later; the average date of egg-laying and fledging in 1983 was 19 June and 29 August, respectively (Bromley and McLean 1986). A preliminary analysis of food habits of gyrfalcons in the eastern Arctic suggests that seabirds (including black guillemots and gulls) are an important part of their diet (Bromley and McLean 1986). A large colony of thick-billed murres, black-legged kittiwakes, gulls and black guillemots is located near Edgell Island (McCormick et al. 1984), 130 km southeast of the delineated area, and numerous, smaller colonies of seabirds dot the coastal areas of Meta Incognita and Hall peninsulas (McCormick and Adams 1984). The proximity of these colonies to the rugged topography of southeastern Baffin Island reduces ideal nesting conditions for gyrfalcons.

Other Conservation Interests: A small area, in the Everett Mountains was proposed as an IBP site . (Nettleship and Smith 1975). Parks Canada has expressed interest in Frobisher Bay as a natural area worthy of consideration for marine park purposes (Canada Department of the Environment 1984d).

Protective Status Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

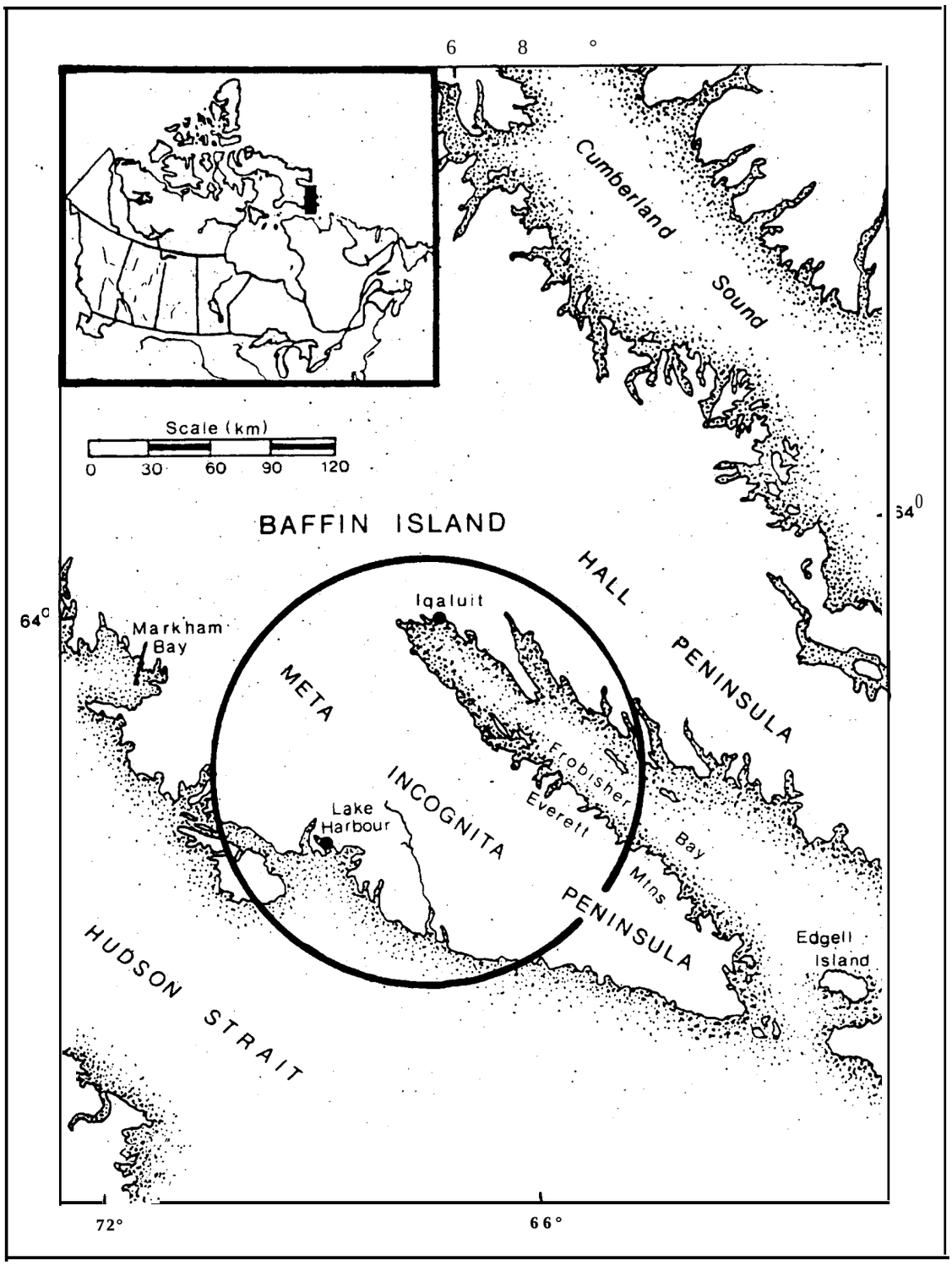


FIGURE 16: Meta Incognita Peninsula.

Muskox

Back Lowland (20)

size 25,500 km'
schedule 1
Location: 67°20'N 101"3O'W
Geographic centre is 280 km east of the community of Baychimo.

Boundary The boundary of the delineated area encompasses the mapr areas of muskox concentrations as determined by aerial surveys in 1979 and 1982. The 1982 survey results demonstrated that muskox densities were highest within 50 km of the Queen Maud Gulf coastline, with other major concentrations along the drainage south of Atkinson Point and Perry Island, and on the plains near the headwaters of the" Simpson and Perry Rivers (Gunn and Case 1984). Recent population estimates indicate increasing numbers of muskoxen on the Back Lowland with an accompanying expansion in their' distributional range, particularly to the east (Gunn et al. 1984). In 1982, the eastern limit of muskox observations was near the mouth of Kaleet River. If expansion of their range continues, major concentrations of muskox beyond the current boundary may be identified in the future.

Natural Setting: The delineated area lies within the Back Lowland physiographic region (Bostock 1970), which is underlain by granitic bedrock characteristic of the Precambrian Shield The topography is gener ally low-lying, &.bough some upland areas are 300 m asl. Eskers, drumlins, outwash plains, end moraines and ground moraines are typical glacial features (Fleck and Gunn 1982).' Marine silts and sands form a mantle over the surface near the coast, and occupy low-lying depressions among the glacial features and bedrock outcrops Tundra ponds and small lakes are scattered throughout the area, with drainage to the north into Queen Maud Gulf. Marsh tundra, lichen-heath and dwarf shrub-heath are the dominant plant associations (Nettleship and Smith 1975). In coastal areas, sedge tussocks form a continuous ground cover over the marine sediments (Gunn et al. 1984).

Importance to Wildlife The most recent population estimate of 8,500 muskoxen was obtained from a systematic aerial survey in July 1982 (Gunn and Case 1984). This population has increased substantially since the early 1960s when the population probably comprised no more than 100 animals " (Gunn et al. 1984). Such rapid population growth is partly due to recolonization of the Queen Maud Gulf area from adjacent regions, either Bathurst Inlet to the west or the TheIon Wildlife Sanctuary' to the south (Gunn et al. 1984, Tener 1958). The delineated area represents year-round range for muskoxen. In summer, they are usually distributed along river valleys and coastal lowlands where they ' feed in the wet sedge meadows. In winter, they select high ground to take advantage of foraging areas. that are wind-blown free of snow (Boxer 1980, Kelsall 1984).

The western part of the delineated area overlaps with the calving ground of the Bathurst Caribou Herd (see Bathurst Caribou Calving Ground area description). An area near the Simpson River was identified in 1986 as a calving area for caribou, probably the Adelaide peninsula herd (A. Gunn pers. comm.).

The northern half of the Back Lowland is an important nesting and moulting area for waterfowl, particularly Ross' geese (45,000 pairs) and lesser . snow geese (53,000 pairs), but also for Canada geese, brant, white-fronted geese and tundra swans (McCormick et al. 1984).

Other Conservation Interests: The Back Lowland area is situated within the Queen Maud Gulf Migratory Bird Sanctuary (McCormick et al. 1984). The Sanctuary also has been designated as a Wetland of International Importance (Canada Department of the Environment 1982e, UNESCO 1971), and was proposed as an IBP site (Nettleship and Smith 1975).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations and the Migratory Bird Sanctuary Regulations pursuant to the Migratory Birds Convention Act.

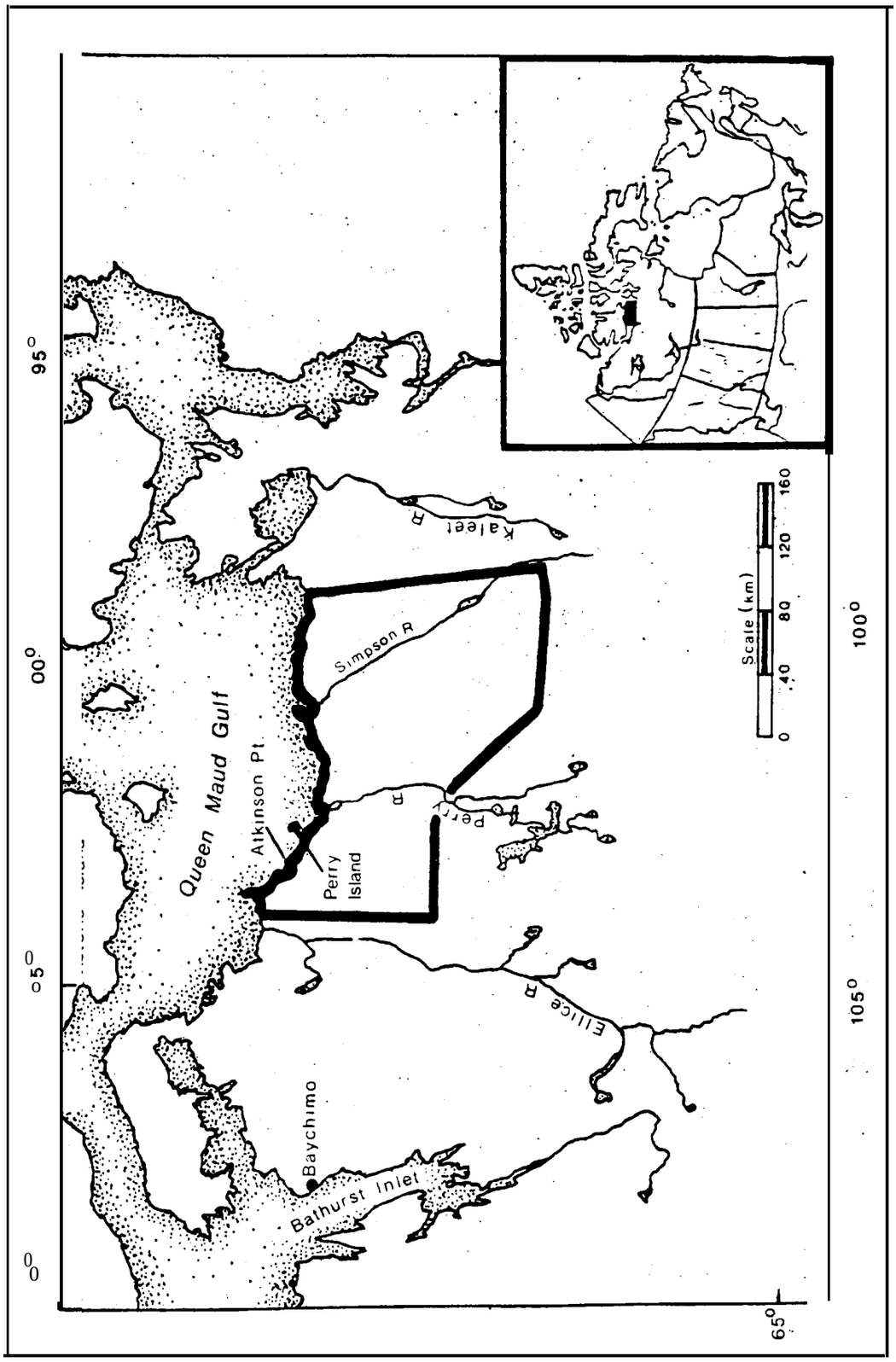


FIGURE 17: Back Lowland.

Fosheim Peninsula (23)

Size: 3,600 km²
Schedule: 2
Location: 80°00′N 84°50′W
Geographic centre is 400 km north of the community of Grise Fiord The designated area includes the weather station at Eureka:

Boundary Muskoxen at Fosheim Peninsula have. not been surveyed since 1961; therefore, the boundary is preliminary and is" subject to change pending further study of muskox distributions on Ellesmere Island Studies eLsewhere have demonstrated the importance of coastal and interior lowlands as muskox habitat. Accordingly the boundary of the Fosheim Peninsula" area was drawn to approximate the 200 m contour line.

Natural Setting: The Fosheim Peninsula area lies within the Eureka. Upland physiographic region, a rolling and ridged surface controlled by underlying folded strata (Bostock 1970). There are extensive areas of low, dissected plateaus and gently rolling uplands developed on soft sandstone and shale. Elevations are generally less than 900 m asl. Small, permanent icecaps top the higher peaks of the Sawtooth Range and other mountains to the southeast. The Fosheim Peninsula displays a high diversity of plants and animals for 80°N latitude and is one of the richest biological sites in the High Arctic (Nettleship and Smith 1975). Plant communities vary from extensive barrens with a sparse cover of wallow and saxifrage on uplands to dense stands of cotton-grass, sedges and mosses in poorly "drained wetlands (Lambert 1973, Nettleship and Smith 1975).

Importance to Wildlife The current status of muskoxen on Fosheim Peninsula is unknown. The most recent observations in 1960 and 1961 produced counts of 312 and 227 muskoxen, respectively (Tener 1960, 1963). Bruggeman (1953, 1954) estimated that the population of muskoxen on Fosheim Peninsula was 250-300 animals in 1953-54. Tener (1951) counted 131 muskoxen in the vicinity of Slidre Fiord in 1951, and summarized earlier observations by other researchers for various parts of the peninsula: 150 muskoxen in 1947, 163 in 1948, and 413 in 1950. In 1983, Henry et al. (1986) observed 115 muskoxen in the Sverdrup. Pass. area, and suggested that muskoxen probably migrate between the Fosheim Peninsula and east-central lowlands Of Ellesmere Island via Sverdrup Pass. Tener (1963) reported that muskoxen were "generally found in well-vegetated river valleys or in flat areas with ponds and meadows. Additional studies are necessary in order to determine the current importance of the Fosheim Peninsula in relation to other muskox habitat on Ellesmere Island Thomas et al. (1981) considered the Fosheim Peninsula to be an arctic refugium for muskoxen.

The lowland habitation the Fosheim Peninsula support a nesting population of greater snow geese (McCormick and Adams 1984). The Fosheim Peninsula is also known for its large numbers of arctic hares during peak reproductive years (Nettleship and Smith 1975)..

Other Conservation **Interests:** A small part " (685 km²) of the Fosheim Peninsula north of Slidre Fiord was nominated as an IBP site (Nettleship and Smith 1975).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

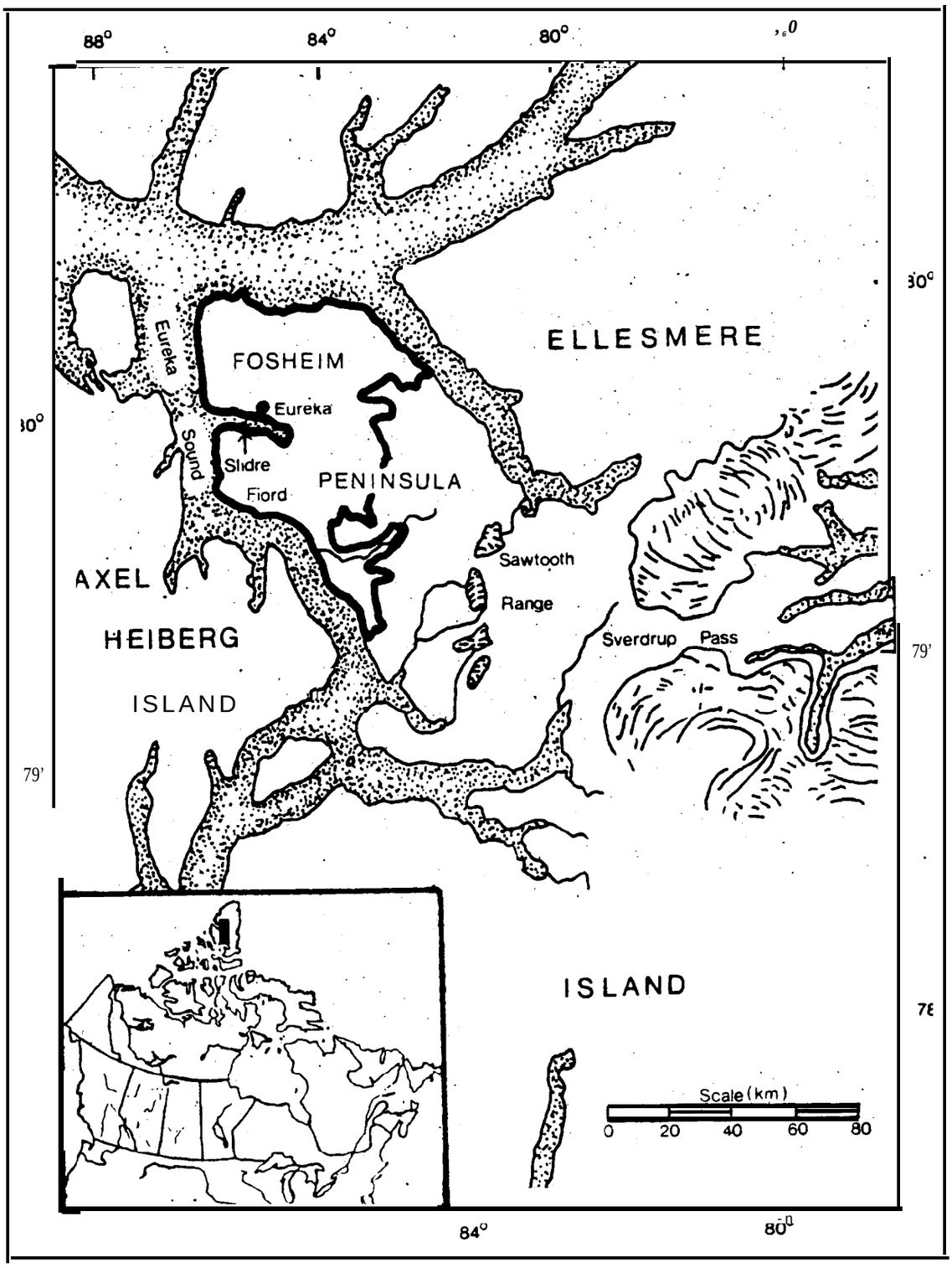


FIGURE **18** Fosheim Peninsula.

Horton Plain (24)

size **4,800 km² (Rae/Richardson** rivers area - 24a)

schedule 2

Location: Rae/Richardson **rivers** area (24a) - **68°10'N 117°00'W**

Geographic centre of Rae/Richardson rivers area, which is in the **Nunavut** Settlement Area **(NSA),** is 90 km northwest of the community of Coppermine. (Two other **muskox** concentration areas on the Horton Plain, **Horton** Lake (24b) and Gilmore/Delesse lakes (24c), are outside of the NSA.)

Boundary The boundaries of **the** concentration areas are' preliminary because they are based on **limited** data. They are derived from the distributions of **muskoxen** from surveys conducted in 1974, 1980-81 and 1983 (Carruthers and **Jakimchuk 1981,** Case and Poole 1985, **Spencer** 1980). Following a **complete** ban' on muskox hunting in 1917, muskox **populations** are now **re-occupying** former ranges, including the area north of Great Bear Lake. Historically muskoxen were abundant in the **Dismal** Lakes area, along the arctic coast between Liverpool and **Darnley** bays, and along the upper reaches of the Anderson and Horton rivers (**Kelsall et al.** 1971). " If the present trend of increasing **muskox** populations continues on the mainland, Further expansion of **their** range is likely and new concentration areas may be **identified** on the **Horton** Plain in subsequent surveys.

Natural **Setting:** The muskox concentration areas 'north of Great Bear Lake lie within the Horton Plain and Anderson Plain ph ysiographic regions, except for, the southern portion of **the** Rae and Richardson rivers area which is part of the Coronation Hills (Bostock 1971). **The Anderson** Plain is covered by **glacial** till **and** outwash, and is characterized by an undulation topography which rises inland to **elevations** of 250-300 m **asl.** Higher elevations are rocky and several run-off channels wind across tlie plain. The Horton Plain is generally higher (360 - 600 m **asl),** with extensive areas of **exposed** bedrock, particularly on the western **part** of the plain. In the north, the underlying. **bedrock** is folded and faulted giving rise to a rolling surface of low **scarps** and scattered mesas **(Bostock** 1970). The Horton and **Anderson** plains drain **directly** into the Arctic Ocean, The Coronation **Hills** are part of the Precambrian Shield and are formed of northward dipping **sediments** intruded by **sills** and **dikes.** The hills and ridges rise more than 250 m **asl.** Vegetation is variable, ranging.. **from** open **woodlands** of black spruce,. tamarack; white birch and balsam poplar south and west of the **tree** line, to desert-like **shrubland** and **lichen tundra** in the northeast (Canada Department of Fisheries and the Environment 1977b,c).

Importance to Wildlife The delineated areas provide important year-round range for **muskoxen.** In March 1983, a population estimate of 3,300 **muskoxen** was obtained for the area bounded on the north by the arctic coastline, on the east by the Coppermine River, on the **south** by **67°N** and on the west by **127°W** (Case and Poole 1985). Muskox numbers north of Great Bear Lake have been **increasing** steadily since the **1950s,** when estimates. of **500** -600 animals were reported **(Kelsall** et **al.** 1971). In summer, muskoxen are generally found in the wet meadows bordering lakes and rivers, but in winter they forage on wind-swept uplands where snow depths are **shallow** (Carruthers and . Jakimchuk 1981, **Kelsall** et **al.** 1971) or within wooded areas near the tree line where browse is available **(Case and Poole 1985, Latour and Baird 1983).**

The north-central part of the Horton Plain encompasses the calving ground of the **Bluenose** Caribou Herd (see **Bluenose** Caribou Calving Ground area description).

Other Conservation **Interests:** Parks Canada has identified a broad area centred around the Horton and Anderson rivers as a Natural Area of Canadian Significance (Canada Department of the Environment 1984d). This area overlaps the two muskox concentration **areas** along the Horton River.

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

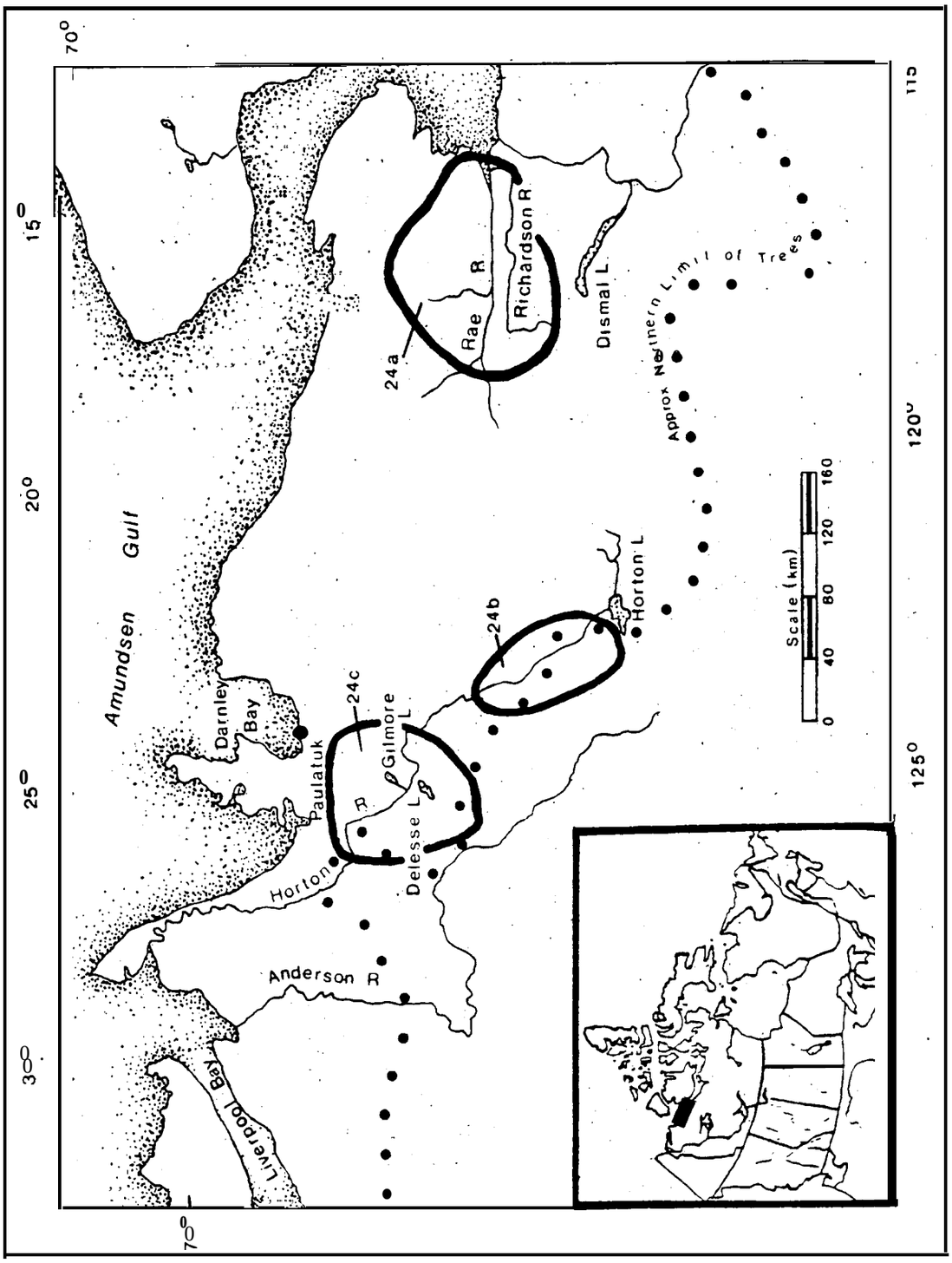


FIGURE 9: Horton Plain.

Mokka Fiord (25)

size **3,100 km²**
schedule **2**
Location: 79°45'N 87°30'W
Geographic centre is 385 km north "west of the community of Grise Fiord and 40 km west of' the weather station at **Eureka.**

Boundary The boundary is based on limited data from two reconnaissance surveys (1961 and 1973) and is subject to change pending further study" of muskox populations on Axel Heiberg Island Muskox densities at Mokka Fiord in 1973 were among the highest known in the Canadian Arctic and were comparable with those on Bailey Point, Melville Island (Parker and Ross 1976). However, population estimates may quickly become obsolete because muskox populations. in the Queen Elizabeth Islands undergo periodic; large-scale fluctuations (Kelsall 1984). The current status of' muskoxen on eastern Axel Heiberg Island is unknown, as is the importance of the Mokka Fiord area in relation to other parts of the island

Natural **Setting:** The Mokka Fiord area lies within the Eureka Upland physiographic region, a rolling and ridged surface controlled by underlying folded strata (Bostock 1970). Elevations are generally less than 900 m asl, and there are extensive areas of low dissected plateaus and gently rolling uplands over bedrock of "sandstone and shale. Hummocky tundra, ice-wedge polygons, gravel barrens and meandering streams are characteristic topographic features in the vicinity of Mokka Fiord Parker and Ross (1976) recognized five broad vegetation types at Mokka Fiord Dryas-Salix raised tundra, -- Salix-moss hummocky tundra, mesic meadow, willow-moss mat and polar desert.

Importance to Wildlife: The most recent aerial reconnaissance of eastern Axel Heiberg Island took place in July 1973 when 866 muskoxen were observed between Stang Bay and Whitsunday Bay Ross 1975). In 1961, a conservative estimate' of 1,000 muskoxen was given for Axel Heiberg Island (Tener 1%3). At that time, muskoxen were most numerous on, the east coast from the vicinity of Stor Island" north to Schei Peninsula. Recent population estimates are unavailable because the Mokka. Fiord area has not been surveyed for many years. In early summer, muskoxen at Mokka Fiord select upland habitats which are the first to produce new growth of vegetation, predominantly mountain avens, willow and saxifrage (Parker and Ross 1976). Later in the season, muskoxen select the sedge-dominated communities of lowland areas

The coastal lowlands of the. delineated area are used by greater snow geese primarily for moulting, but also as summer habitat for non-breeders, (McCormick and Adams 1984).

Other Conservation **Interests:** The Mokka Fiord area encompasses a proposed IBP site (Nettleship and Smith 1975), and is included within the larger " area of Axel Heiberg Island designated by Parks Canada as a Natural Area of Canadian Significance (Canada Department of the Environment 1984d).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

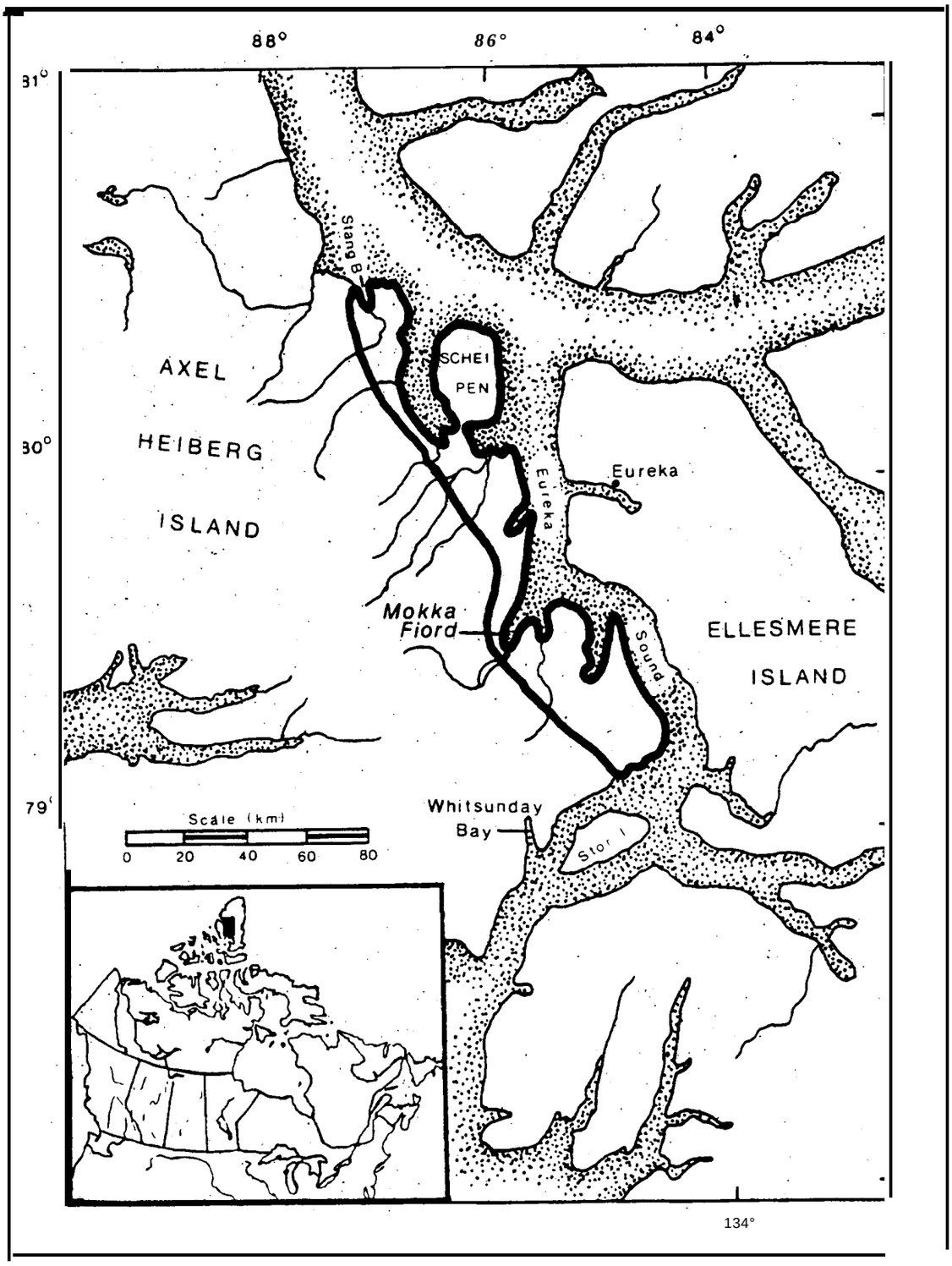


FIGURE 20: Mokka Fiord.

Truelove Lowlands (26)

Size: 42S km²
Schedule: 2
Location: 75°40′N 84°30′W
Geographic. centre is 100 km south west of the community of Grise Fiord.

Boundary Muskox range on northeastern Devon Island comprises the coastal lowlands below the 200 m contour between Sverdrup Inlet and the Sverdrup Glacier at Brae Bay (Hubert 1977). The boundary was drawn according to, this source. Approximately" 51 km²(12%) of this area is meadow habitat.

Natural Setting: Two physiographic regions are represented by this area the Lancaster Plateau . " west of 84°30′W, and the Davis Highlands east of that longitude(Bostock 1970). The surface of the Lancaster Plateau slopes southward from 760 m asl on southern Ellesmere Island, across central Devon Island, to elevation of 300-600 m asl on Somerset Island and northwestern Baffin Island. The Davis Highlands, a mountainous region with permanent icecaps "and peaks over 1,525 m asl, exte'nd over eastern Devon Island. The topography of the delineated area is characterized by a level to slightly inclined coastal plain with a variety of deep, marine materials including fine-textured sediments, gravelly beach ridges, sandbars and spits (Canada Department of the Environment 1981a). The five major lowlands between Sverdrup Inlet and Sverdrup Glacier are separated from" each other by coastal cliffs of granite and, dolomite which rise to 300 m ad (Hubert 1974). Vegetation is mainly continuous, sedge-moss cover in depressions, and discontinuous herb-lichen and herb-moss cover on upland sites. A species list of the vascular plants of the Truelove Inlet region is given in Barrett and Teeri (1973). The lowlands are usually free of snow from the last week of June to the last week of August (Hubert 1974).

Importance to Wildlife The lowlands between Brae Bay and Sverdrup Inlet provide year-round range for muskoxen; short seasonal movements occur from one lowland to another (Hubert 1977). In winter, the elevated, "igneous outcrops constitute preferred range owing to "the strong winds which help to keep the" feeding areas free of snow (Harington 1964). In spring, muskoxen concentrate on the lowlands nearest Brae Bay to take advantage of the early snow melt and early emergence of green vegetation (Hubert 1974, 1977). Population estimates of muskoxen for the Truelove Lowlands were consistently in the range of 230-300 animals for the period from 1%6 to 1980 (Canada Department of the Environment 1981a, Freeman 1971, Hubert 1977). In the summer of 1984, Pattie 1986) counted 154 muskoxen (including 31 calves) on the five major lowlands.

The area in the vicinity of Cape Sparbo constitutes good habitat for greater snow geese, particularly during moulting (Hussell and Holroyd 1974, McCormick and Adams 1984). The Truelove Lowlands area is also known for its high diversity of breeding birds, mainly shorebirds and waterbirds (Pattie 1977).

Other Conservation Interest* The area between Brae Bay and Truelove Inlet was nominated as an IBP site (Nettleship and Smith 1975). The Arctic Institute of North America, in co-operation with the Polar Continental Shelf Project, established a research station on this site in 1960. The station is still in use.

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

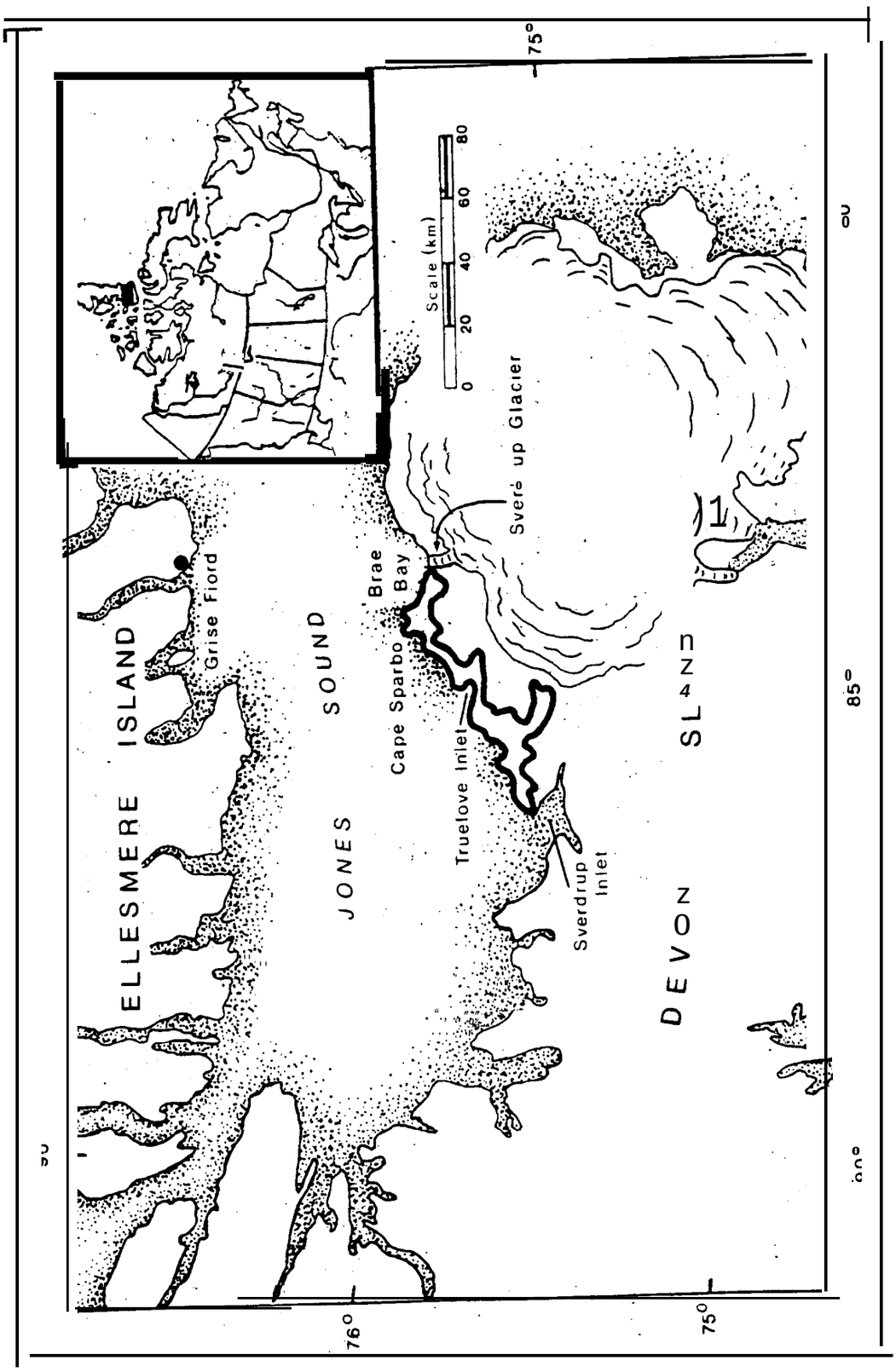

75°
Scale (km)
0 20 40 60 80
Sverdrup Glacier
ELLESMERE ISLAND
Grise Fiord
JONES SOUND
Brae
Cape Sparbo
Bay
Truelove Inlet
Sverdrup Inlet
DEVON
85°
76°
75°

FIGURE 21:

Polar Bear

Bellot Strait (27)

size **10,300 km²**
schedule 1
Location: 71°40'N 95°00'W
Geographic **centre** is 260 km north of the community of Spence Bay.

Boundary: The boundary is based on a known concentration area for polar bears, as determined from aerial surveys and mark-recapture studies between 1972 and 1978. Bears that inhabit this area are considered to be part of the lower, central arctic islands sub-population, which ranges from Victoria Island in the west to Baffin Island and Melville" Peninsula in the east, and from 68° to 73° latitude (Schweinsburg et al. 1981).

Natural **Setting:** The Bellot Strait area lies within the Boothia Plateau and Boothia Plain physiographic regions (Bostock 1970). The Boothia Plateau is a narrow projection of the Precambrian Shield which extends from the Wager Plateau north to Somerset Island and Peel Sound Topography is a rolling, rocky and fractured upland with moderate relief and numerous bedrock outcrops (Canada Department of the Environment 1981b, c). The Boothia Plain forms part of the flat-lying sedimentary deposits of the Arctic Lowlands and is centred about the Gulf of Boothia. Topography is gently rolling with low to moderate relief and with extensive areas of alluvial and marine sediments (Canada Department of the Environment 1981c). Vegetation varies from a sparse cover of herbs and lichens on rocky uplands to continuous sedge, moss and grass cover on poorly drained lowlands and seepage areas. New ice begins to form in the "Gulf of Boothia in October, but shifting ice during winter usually opens a lead along the coasts of Somerset Island and Boothia Peninsula (Schweinsburg et al. 1981). Open water also remains at the east end of Bellot Strait. A continuous sheet of pack ice covers Peel Sound and Franklin Strait from October until late spring.

Importance to Wildlife The coastal areas of Boothia Peninsula adjacent to Franklin Strait and Brentford Bay are major concentration areas for polar bears in late winter and spring (March - June). From 19'72 to 1978, 160 polar bears were captured in this area (Schweinsburg et al. 1981). Northern Boothia Peninsula is also an important maternity denning area from October until April, as evidenced by the number of females with cubs in this vicinity during the period of den emergence (Urquhart and Schweinsburg 1984). This denning area likely extends to the south end of Somerset Island (Schweinsburg et al. 1981). In summer, polar bears remain on sea ice as long as possible accordingly, they become concentrated along indented shorelines and near small islands where break-up is prolonged (Stirling et al. 1979). Brentford Bay is a documented "summer retreat" (Schweinsburg et al. 1981). The lower, central arctic islands polar bear population is estimated conservatively at 1,100 animals, with approximately 440 of these inhabiting Franklin Strait, Bellot Strait, Brentford Bay and the north end of the Gulf. of Boothia (Urquhart and Schweinsburg 1984).

The area of open water near Bellot Strait is important to migrating waterfowl, "particularly eiders, in early spring (McCormick and Adams 1984). Colonies of Thayer's gulls and glaucous gulls occur within the delineated area. The northern half of the Boothia Peninsula provides year-round range for approximately 4,500 caribou (June 1985 estimate; A. Gunn pers. comm.; see Wrottesley Inlet area description).

Other Conservation Interests The delineated area compasses a proposed IBP site (Nettleship and Smith 1975). Parks Canada has designated the Creswell Bay area immediately to the north as a Natural Area of Canadian Significance (Canada Department of the Environment 1984d).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

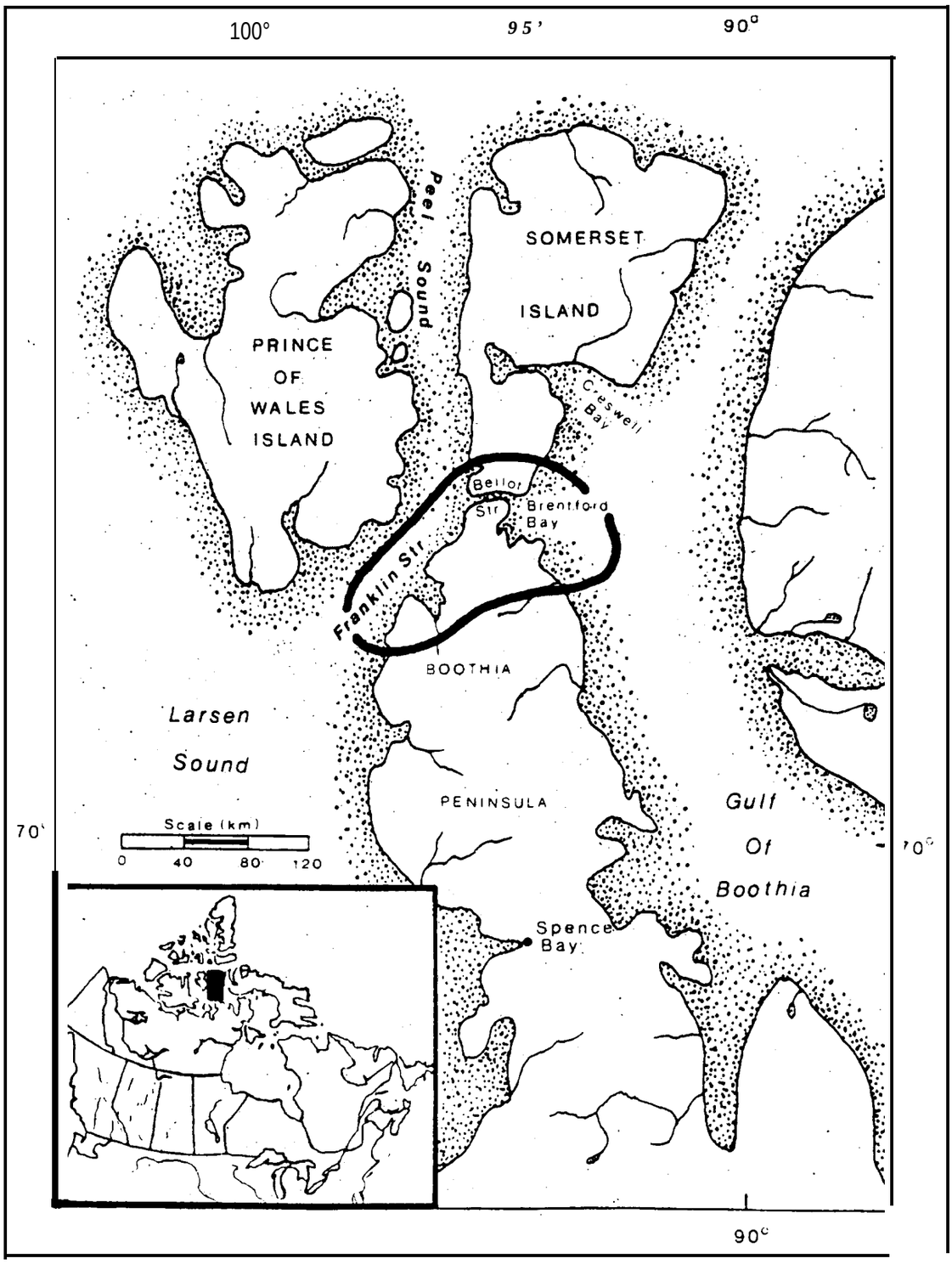


FIGURE 22: Bellot Strait..

Gateshead Island (28)

Size: 2,000 km²
schedule 1
Location: 70°30'N 100''3O'W
Geographic centre is 235 km north east of the community of Cambridge Bay.

Boundary The Gateshead Island area includes all lands on Gateshead Island Tinguayalik Island and the small unnamed island lying within the circumscribed area defined by 101"OO'W on the eastern limit and 70°15'N on the southern limit,

Natural **Setting:** Gateshead Island and adjacent small islands lie within the Victoria Lowland physiographic region (Bostock 1970), and are characterized by low-lying and gently rolling topography Gateshead Island encompasses about 260 km' and has a maximum elevation of 41 m asl. Much of the topographic relief of Gateshead Island is due to the presence of raised beaches (Canada Department of the Environment 1983b). The west coast of Gateshead Island *is* fairly regular, while the east coast is irregular and is indented by many small bays and peninsulas. The largest of the satellite islands, locally known as Tinguayalik Island, is 30 km² in size. Ice remains in M'Clintock Channel throughout the year." During the warmest months, July and August, melting occurs along the coasts" and open-water shore leads may form adjacent to the islands. Vegetation on the islands consists of a sparse to discontinuous cover of *willow*, mosses and herbs intermixed with extensive barren ground (Canada Department of the Environment 1983b). Gateshead and Tinguayalik islands contain many small, shallow ponds which are ice-free for only six to eight weeks each summer.

Importance to Wildlife Gateshead Island and its satellite islands are of primary importance to polar bears. This area constitutes one of the highest density denning areas recorded in the Canadian Arctic Archipelago. The presence of polar bear dens was first confirmed for Gateshead island in 1977, although the Inuit hunters from Cambridge Bay had reported denning earlier (Spencer and' Schweinsburg 1979). During ground surveys, Schweinsburg et. al. (1984) recorded 9 confirmed and 10 suspected polar bear dens in April 1977, and 15 dens in April 1982310 of which were identified as maternity dens.

The coastal areas on the east side of Gateshead Island appear to be the most suitable denning habitats on the island. Most of the 1977 and 1982 dens were located in the broken and elevated terrain on the eastern 'side, usually within 1 km of the coast (Schweinsburg et al. 1984). The lack of topographic relief on the rest of the island and on nearby coastal areas of Victoria Island makes them generally unsuitable for denning. Favorable ice conditions and good seal habitat around "Gateshead Island may also contribute to its importance to polar bears (A- Gunn pers. comm.).

Bears that den at Gateahead Island belong to the lower central arctic islands sub-population (Schweinsburg et al. 1981). The approximate geographic limits of this sub-population are from the' east coast of' Victoria Island to Baffin Island and Melville Peninsula, and between 68° and 73° latitude (Urquhart and Schweinsburg 1984). Bears from this sub-population exhibit a high degree of geographic fidelity during winter (Schweinsburg et al. 1981), so it is likely that Gateshead Island is of long-term importance to polar bears as a denning area. This "area is also recognized as a concentration area for bears of all ages during the period from March to June.

Schweinsburg et al. (1984) recommend that the Gateshead Island area should be protected from human intrusion.

Other Conservation Interests: None has been identified-

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

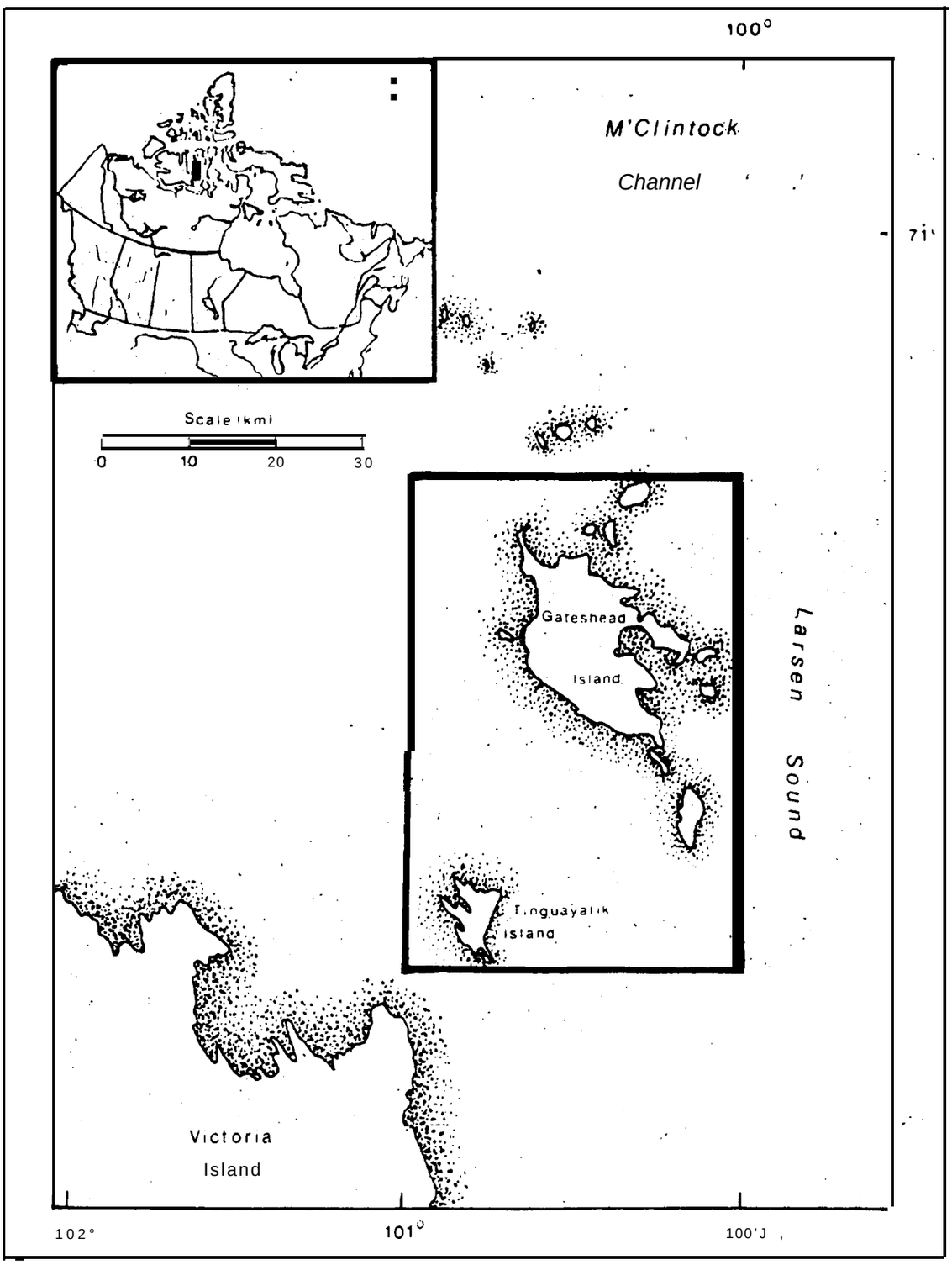


FIGURE **23:** Gateshead Island.

Hadley Bay (29)

Size: 28,300 km
Schedule: 1
Location: 72°40'N 110°30'W

Geographic centre is 330 km northeast of the community of **Holman** and about 15 km west of the boundary of the **Nunavut** Settlement Area **(NSA).** Approximately half of the designated area is in the **NSA.**

Boundary: The boundary is based on a known concentration for polar bears, as determined from aerial surveys and mark-recapture studies during 1972-1978. The range limits of bears occupying Hadley Bay, Wynniatt Bay; Richard Collinson Inlet and southern Viscount Melville Sound are unknown. They may be affiliated with the western Queen Elizabeth Islands sub-population to the north because there are no major physical barriers across Viscount Melville Sound to restrict movements (Urquhart and Schweinsburg 1984). Mark-recapture results suggest that the bears from Hadley and Wynniatt bays comprise a relatively distinct group from the lower central arctic islands sub-population to the southeast (Schweinsburg et al. 1981).

Natural Setting: The Hadley Bay area lies within the Victoria Lowland and Shaler Mountains physiographic regions (Bostock 1970). The smooth undulating surface of the Victoria Lowland is covered by a variety of glacial deposits with extensive areas of drumlinoid ridges The Shaler Mountains are characterized by stratified sediments with intrusions of gabbro sills which form cuestas and are capped by rocks of volcanic origin. Elevations in the central part of the mountains approach 760 m asl. The coastlines of Wynniatt Bay and northern Hadley Bay are steep bluffs with little coastal plain; there is less relief at the south end of Hadley Bay (Schweinsburg et al. 1981). The southern reaches of Hadley and Wynniatt bays are generally free of ice by mid-August; new ice begins to form in September. Vegetation on rocky uplands varies from a sparse cover of lichens to communities of purple saxifrage, arctic poppy cinquefoil and lichen in areas of soil accumulation (Canada Department of the Environment 1982b). Poorly drained lowlands and seepage areas support growths of sedges, mosses and grasses

Importance to Wildlife The coastal areas of Victoria Island adjacent to Wynniatt and Hadley bays and Richard Collinson Inlet are important denning areas for polar bears, as indicated by the number of family groups with Cubs of the year captured there., For 1974,1975 and 1976, Hadley Bay supported an average of MO polar bears per year (Schweinsburg et al. 1981). The denning period begins between October and December, when pregnant females enter their dens (Barrington' 1968), and generally ends in March or April (J. Lee pers. comm.). Polar bears are also concentrated near the coastlines of Wynniatt Bay and Hadley Bay in late winter and spring (March - June), and may remain there in summer during the open-water period (Schweinsburg et al. 1981). Polar bears remain on the sea ice as long as possible, and in spring and summer they become concentrated near small islands and along indented coastlines where break-up is prolonged. (Stirling et al. 1979, Urquhart and Schweinsburg 1984). Hadley Bay is an important feeding area for polar bears because of the large numbers of ringed seals which breed on the first-year ice (Canada Department of the Environment 1982b).

The lowlands along the west side of Hadley Bay provide foraging habitat for muskoxen. In 1980, the coastal areas adjacent to Wynniatt Bay and west of Hadley Bay supported the highest muskox concentrations on the eastern half of Victoria Island (Jakimchuk and Carruthers 1980). The rugged topography associated with the Shaler Mountains provides nesting habitat for rough-legged hawks, peregrine falcons and gyrfalcons (Canada Department of the Environment 1982b).

Other Conservation Interests A large area encompassing Hadley Bay and Wynniatt Bay is included in Environment Canada's list of significant conservation lands in northern Canada (Canada Department of the Environment 1982b, 1984d).

Protective Status Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

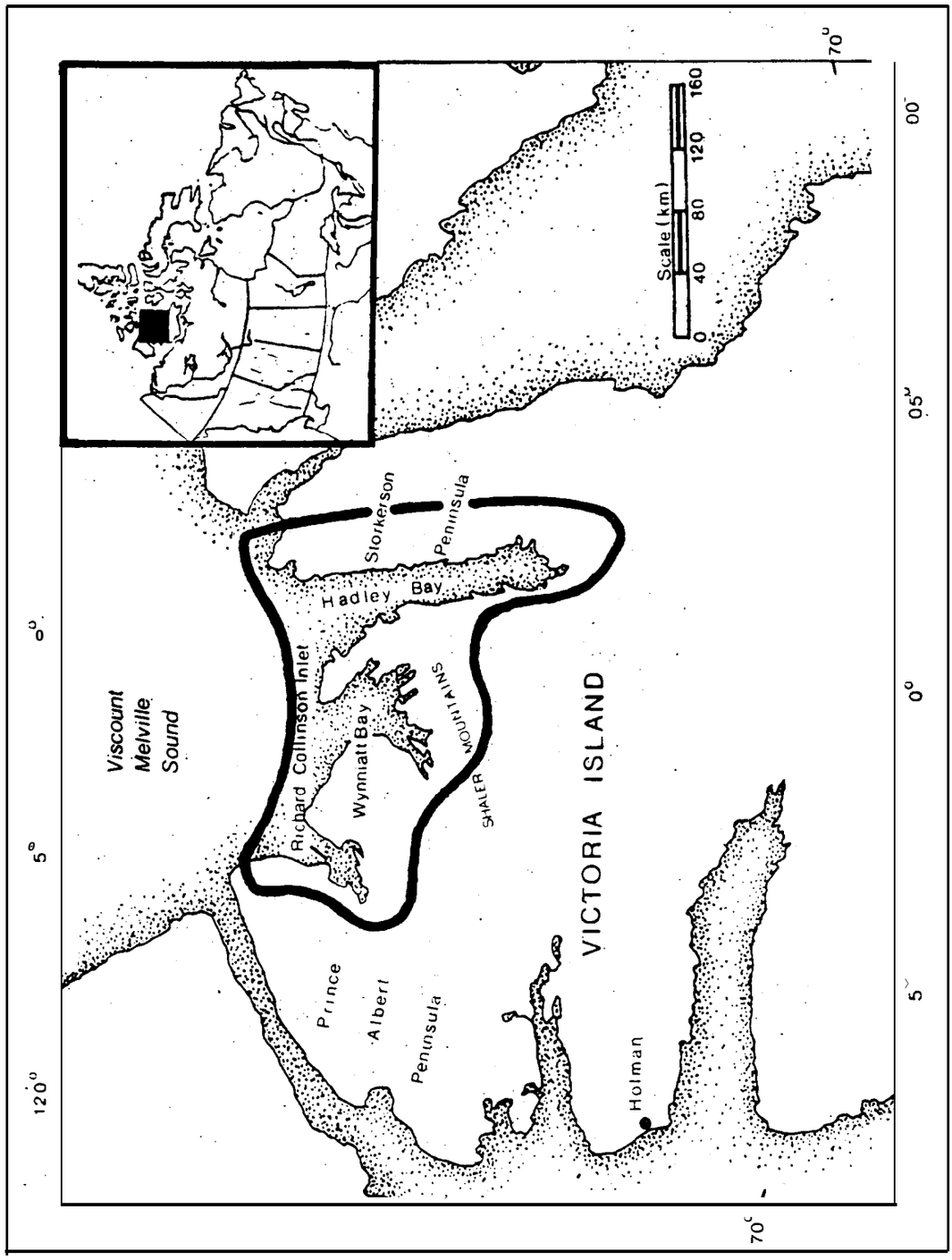


FIGURE 24: Hadley Bay.

Hoare Bay (30)

Size: 11,600 k m *
Schedule: 1 “
Location 65°50’N 62”45’W
Geographic centre is 135 km east of the community of Pangnirtung.

Boundary The boundary is based on information’ on polar bear distributions obtained from aerial surveys and mark-recapture studies from 1974 to 1979 (Jonkel et al. 1978, Stirling et al. 1980). Along the southeast coast of Baffin Island, landfast ice, which is the preferred habitat of polar bears from late winter through late spring, extends only a few kilometres offshore, roughly to a line drawn between headlands (Stirling et al. 1980). The south-eastern’ boundary of the delineated area was drawn according to this criterion; the western boundary extends as far as the heads of the, major fiords and inlets. In addition to providing denning habitat, inland areas of southeastern Baffin Island are used extensively” by polar bears as travel corridors in order to avoid “hazardous crossings of open water with strong currents and unstable ice (Urquhart and Schweinsburg 1984).

Natural Setting: The Hoare Bay area lies within” Davis Highlands physiographic region, a rugged, mountainous “area of deeply dissected crystalline rocks (Bostock 1970). Higher elevations, which” exceed 2,000 m asl, are characterized by permanent ice caps and’ glaciers. Coastal areas are also mountainous and are indented by many long fiords and inlets with steep slopes. Vegetation is generally sparse, particularly in upland areas, and is dominated by low shrubs and grass-like herbs, mosses and lichens. Along Cumberland Peninsula, new sea ice forms in the, bays and fiords in mid-October to November, but storms and tidal currents keep the ice in motion so that landfast ice does not extend more than a few kilometres offshore (Stirling et al. 1980). Maximum ice accumulation occurs by March - April; the period of maximum open water occurs in August and September.

Importance to Wildlife: The major denning area for polar bears on southeastern Baffin Island occurs along the east coast of Cumberland Peninsula. In 1974 and 1975, Jonkel et al. (1978) estimated that approximately 150 cubs were’ produced from this denning area. Characteristically, dens are located on steep slopes along river banks of lake shores and are generally within a few kilometres of the coast. Most females with cubs of the year leave their dens by mid-April and travel to the nearest coast where” they feed on ringed seals pups in the landfast ice close to shore (Stirling et al. 1980). Along the Cumberland Peninsula the restricted distribution of suitable feeding habitat (i.e., landfast ice and the associated flow edge) tends to concentrate bears in specific areas, resulting in relatively high densities compared to other areas in the Canadian Arctic, where inter-island channels are usually frozen completely. (Urquhart and Schweinsburg 1984). Consequently areas such as Hoare Bay and Exeter Sound are important feeding areas for male and female bears of all ages during the late winter and spring. Stirling et al. (1980) reported that the polar bears of southeastern Baffin Island show a high degree of fidelity to these feeding habitats. The “ most recent population estimate for southeastern Baffin Island is 700-900 bears (Stirling et al. 1980).

A nesting colony of approximately 2,000-3,000 pairs of northern fulmars is located on an island in Exeter Sound (McCormick and Adams 1984).

Other Conservation Interests ParkS.Canada has expressed preliminary interest in Cumberland Sound as a national marine park (Canada Department of the Environment 1984d). This area borders on only a very small part of the polar bear denning area.

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

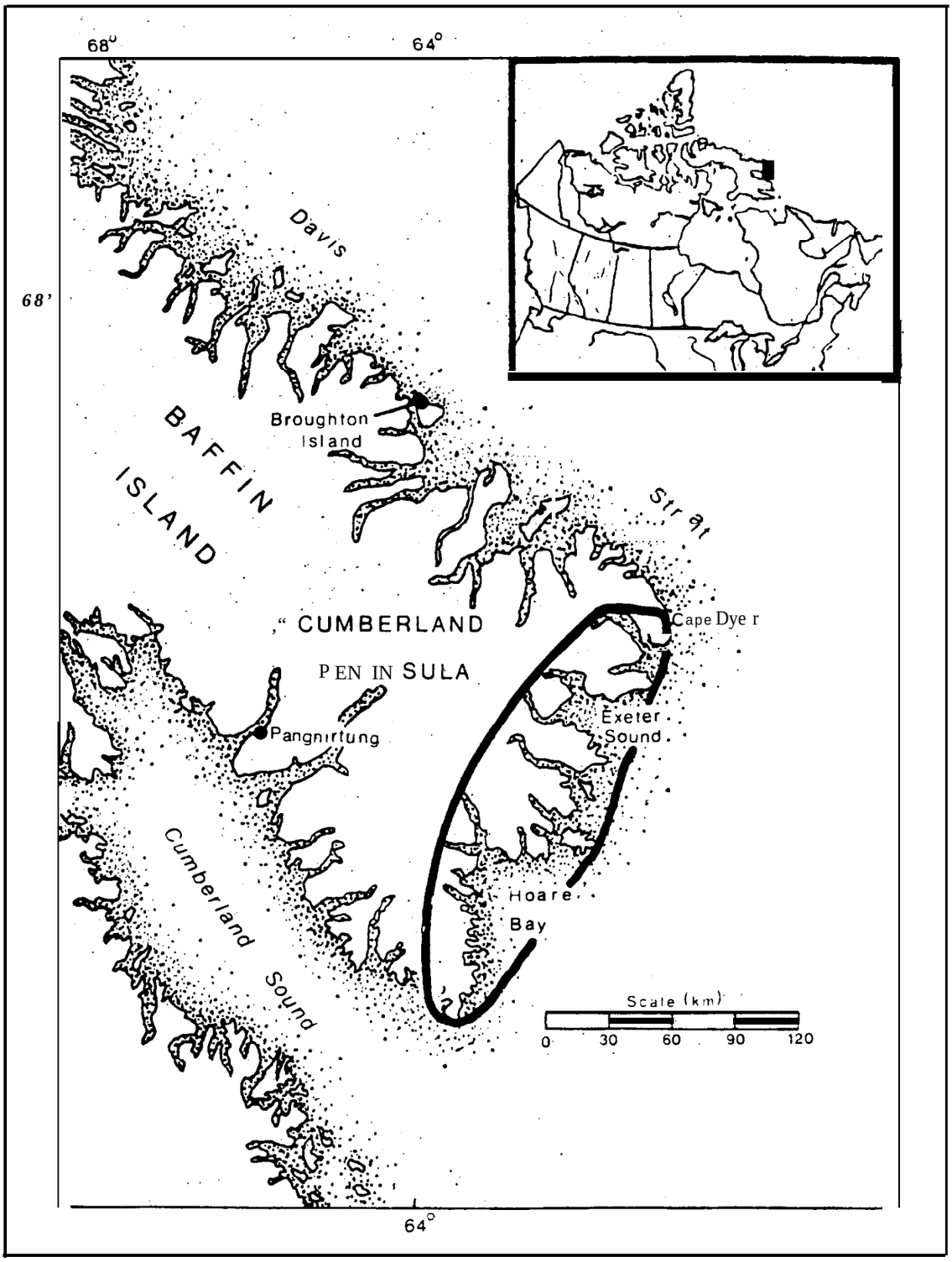


FIGURE 25: Hoare Bay.

Home Bay (31)

size **23,000 km²**
schedule 1
Location: 70°10'N 68°30'W
Geographic centre is 30 km south of the community of Clyde River.

Boundary: The boundary is based on a known concentration area for polar bears as determined from aerial surveys, mark-recapture studies and radio-telemetry studies conducted between 1980 and 1985 (Lee 1982, pers. comm.; Lee and Schweinsburg 1982a, b). Bears that use the delineated area are considered to be part of the northern Baffin "population which ranges from Cape Dyer in the. south, to Thule, Greenland in the north (J. Lee pers. comm.).

Natural Setting: The Home Bay area lies within the Davis Highlands and Baffin Coastal Lowland physiographic regions (Bostock 1970). The Davis Highlands region is a rugged, mountainous area of deeply dissected, crystalline rocks. Higher elevations exceed 2,000 m asl and are characterized by permanent ice caps and glaciers. Coastal areas of the Davis Highlands are also mountainous and are indented by many long, steep-sided fiords and inlets. The Baffin Coastal Lowland forms a narrow, coastal 'plain, extending from Henry Kater Peninsula to Cape Hunter. elevations are generally less than 200 m asl. The lowlands greatest width is about 40 km, but generally it occurs as isolated narrow strips at the ends of peninsulas and islands (Bostock 1970). Inland, the lowland is bordered by hills which progressively rise in elevation to forum the mountains of the Davis Highlands. Numerous ponds, r'sised beaches, and shallow wetland depressions are interspersed throughout the lowland habitats. Baffin Bay is usually free of ice by late August or early September, but ice often remains longer in Home Bay and along Henry Kater Peninsula (J. Lee pers. comm.). New ice begins to form along the east coast of Baffin Island in October. In winter, a floe edge occurs approximately 30-40 km offshore each year.

Importance to Wildlife The coastal plain along northeastern Baffin Island is a major concentration area and "summer, retreat" for polar bears during August and September. During break-up, polar " bears remain on the sea ice of Baffin Bay and Davis Strait as long as possible but they retreat to land when the ice disappears. The highlands adjacent to the Baffin Coastal Lowland provide important denning habitat for polar bears; females with cubs of the year are frequently observed all along the coast in spring (J. Lee pers. comm.). The Northern Baffin Bay population is currently estimated at between 300 and 600 polar bears (Lloyd 1986).

A colony of approximately 25,000 nesting pairs of northern fulmars is located at Scott Inlet (McCormick et al. 1984). Isabella Bay is a major summering area for most of the endangered, eastern arctic population of bowhead whales (World Wildlife Fund 1986). The first nesting record of the dovekie in the Canadian Arctic was documented by Finlay and Evans (1984) in August 1983 on a small island in northern Home" Bay

Other Conservation Interests: The fulmar colony at Scott Inlet has been identified by the Canadian Wildlife Service as a Key Migratory Bird Terrestrial Habitat Site (McCormick et al. 1984) and was previously nominated as an IBP site (Nettleship and Smith 1975). The World Wildlife Fund (1986) has recommended that Isabella Bay be given some protective status. The coastal lowland between Cape Christian and Kogalu River was also nominated as an IBP site (Nettleship and Smith 1975).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

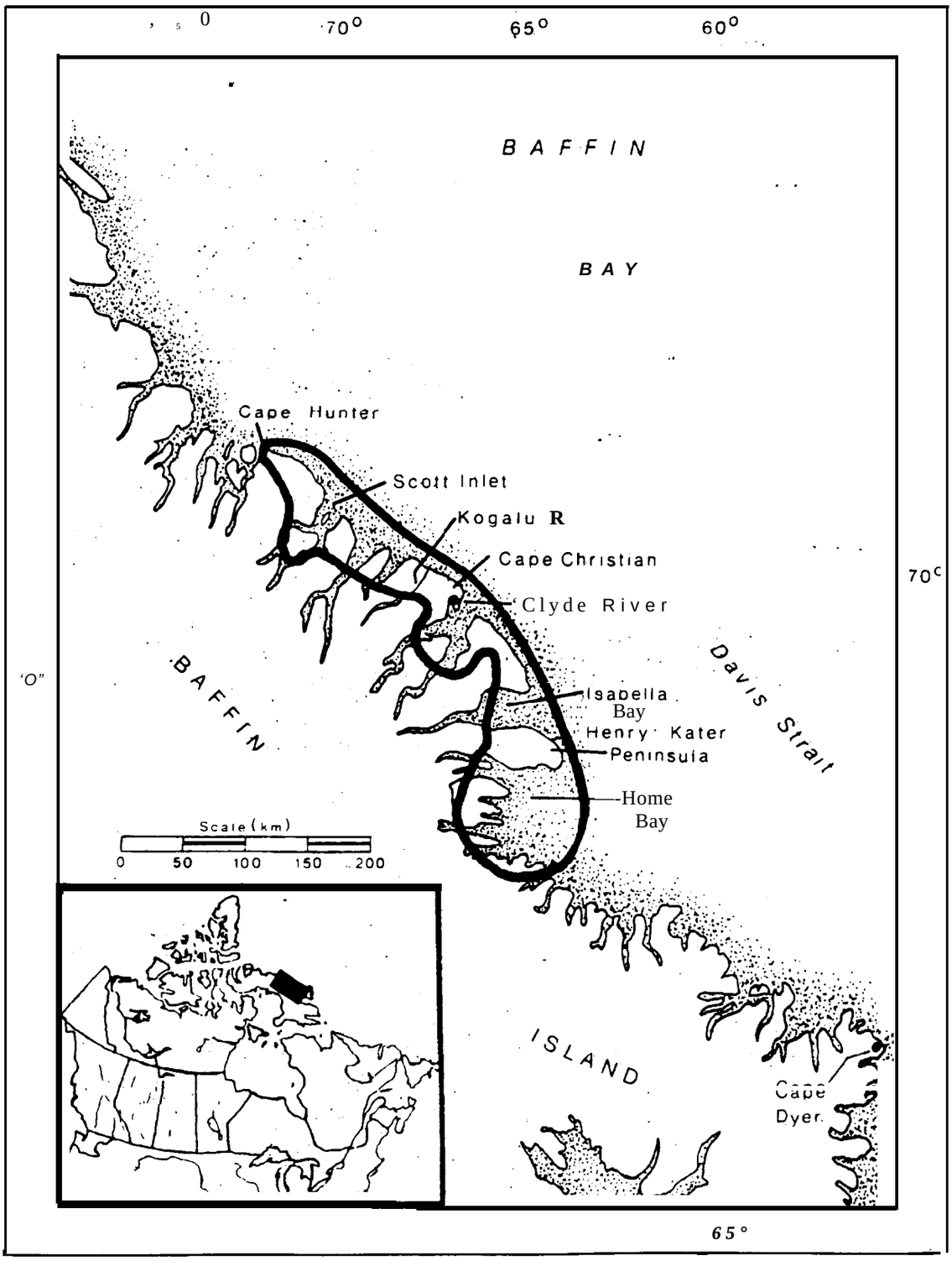


FIGURE 26: Home Bay.

Maxwell Bay (32)

size 5,300 km²
schedule 1
Location: 74°30'N 87°00'W
Geographic centre is 170 km north of the community of Arctic Bay.'

Boundary: The boundary is based on a known concentration area for polar bears, as determined from aerial surveys, and mark-recapture studies from 1970 to 1977 (Stirling et al. 1979) and from 1978 to 1979 (Schweinsburg et al. 1982). The southern boundary ' was drawn to include the open-water lead located approximately 5 km offshore, which frequently parallels the full length of southern Devon Island in winter (Smith and Rigby 1981). During winter, the floe edge of this shore lead and associated rough ice are important habitats for polar bears (Schweinsburg et al. 1982). The northern boundary of the area approximates the 1(XI m contour.

Natural Setting The Maxwell Bay area lies within the Lancaster Plateau physiographic region (Bostock 1970). his region is underIain by sedimentary rocks, and the surface of the plateau slopes southward from" about 760 m asl on southern Ellesmere Island, across central Devon Island to elevations of 300- 600 m asl on Somerset Island and the Brodeur Peninsula The southern coast of Devon Island is characterized by steep Cliffs with steeply banked, talus slopes (Stirling et al. 1979) and is indented with numerous bays and fiords - the largest being Radstock, Maxwell and Croker bays. Higher elevations are capped by permanent ice fields, and several glaciers reach sea level (Canada Department of the Environment 1981d). Landfast ice in Lancaster Sound forms by late September or early October, although a system of shere leads usually develops in November and December and persists throughout the winter until break-up (Smith and Rigby 1981). A lead consistently develops in the vicinity of Prince Leopold Island, runs north toward Maxwell Bay and east along the south coast of Devon Island Ice, loosens in Lancaster Sound in June as the lead along Devon Island widens, and by mid-August the sound is generally free of ice.

Importance to Wildlife In summer, the south coast of Devon Island, particularly Radstock, Maxwell and Croker bays, provides important habitat for polar bears (Schweinsburg et al. 1982). During this season, bears occupy areas where landfast ice persists late ' into the summer and where the seals can still be hunted (Stirling et al. 1979). The irregular coastline of southern Devon Island delays break-up of ice in the bays and inlets in summer and they are among the first areas to freeze again in the fall. Based on the mark-recapture studies, Stirling et. al. (1979: 23) reported that. "the high degree of fidelity of polar" ., bears for these summer feeding areas further emphasizes the ecological significance of these bays to the beam." Polar bears are also concentrated along the south Devon coast in late winter (April - May) to take advantage of favourable ice conditions for hunting. In 1978 and 1979, Schweinsburg et al. (1980) noted that most bears were within 7 km of the Devon Island coastline; they estimated a population of 1,031 polar bears for, Lancaster Sound during 1979.,

The delineated area encompasses two Key Migratory Bird Terrestrial Habitat Sites: Cape Liddon, which supports approximately 10,000 nesting pairs" of northern fulmars (3% of the national population); and Hobhouse Inlet; which is the nesting site of approximately 75,000 pairs of northern fulmars (20% of the national population) ('McCormick et al. 1984). The coastline between Radstock Bay and Croker Bay also supports several nesting colonies of glaucous gulls, Thayer's gulls and black guillemots (McCormick and Adams 1984).

Other Conservation Interests The delineated area overlaps three proposal IBP sites (Nettleship and Smith 1975), and Parks Canada has expressed preliminary interest in the Radstock and Maxwell bays area for consideration as a marine park (Canada Department of the Environment 1984d). The Canadian Wildlife Service is interested in southern Devon Island for the protection of the fulmar colonies

Protective Status: Land-use activities 'are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

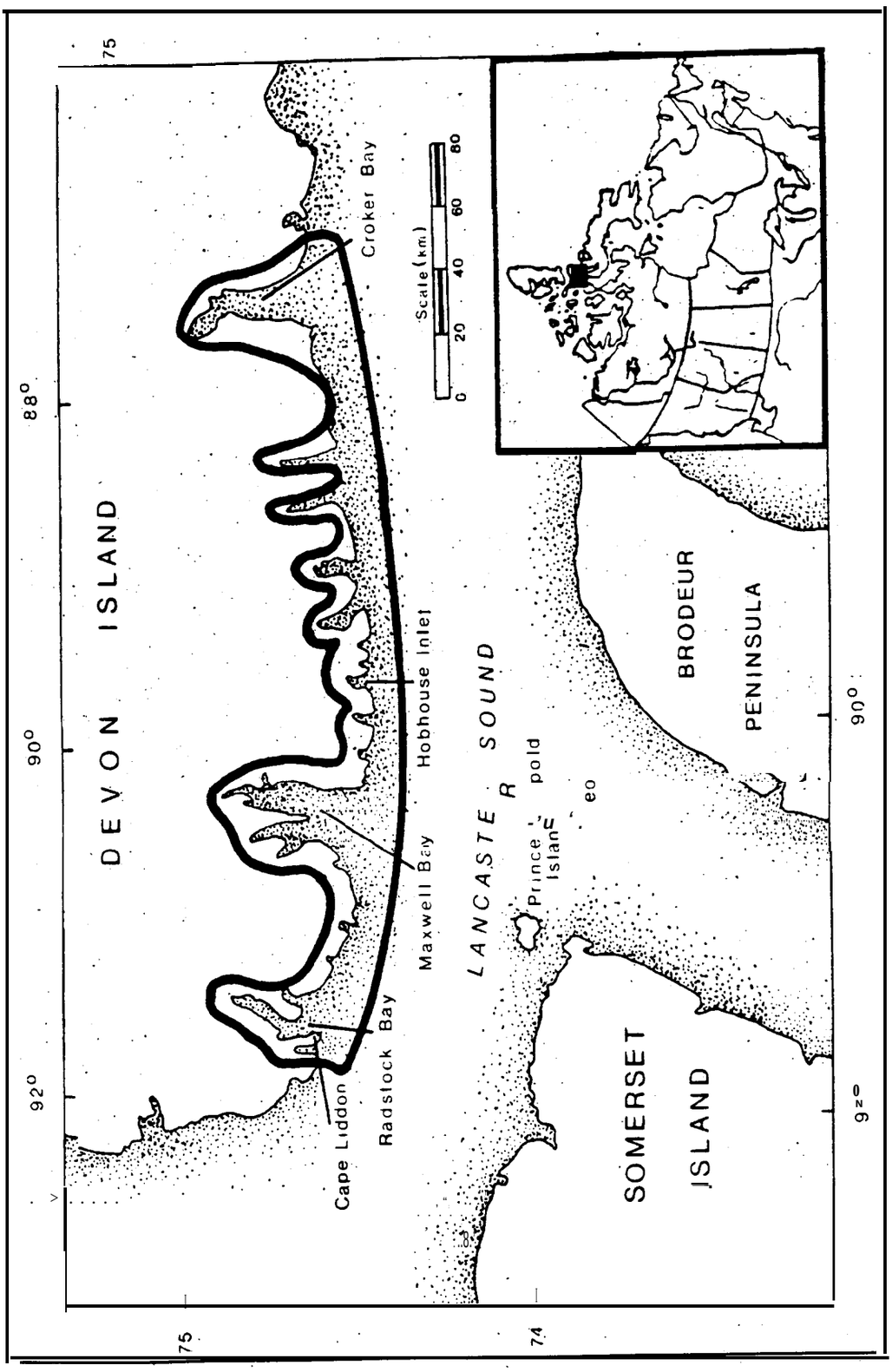


FIGURE 27: Maxwell Bay.

Southampton Island"

Size 14,000 km'
Schedule 1
Location: 64°30'N 84°15'W
Geographic centre is 70 km northwest of the community of Coral **Harbour.**

'Boundary The boundary of the delineated area encompasses a core denning" area for polar bears and important concentration areas during summer (Lunn et al. In prep., Lunn and Stenhouse In prep., Stenhouse and Lunn In prep.). Since 1984, the Department of Renewable Resources has been investigating the population characteristics of polar bears in the Foxe Basin. region. Most efforts to date have focused on Southampton Island and the Wager Bay area (see Wager Bay area description). Future surveys of new areas may contribute additional information on the locations of important habitats for polar bears.

Natural Setting Southampton Island"is divided *along a* northwest-southeast axis into two physiographic regions the Melville Plateau and the Southampton Plain (Bostock 1970). The Melville Plateau, a relatively "smooth upland of Precambrian bedrock (460 -610 m asl), dominates the northeastern part Of the island. The upland is generally hilly with localized areas of rugged relief and steep coastal cliffs (Canada Department of the Environment 1984b). The Southampton Plain comprises level to undulating coastal plains with calcareous, marine deposits over limestone bedrock. Raised beach ridges and shattered limestone barrens are common (Canada Department of the Environment 1984c). " Elevations on the Southampton Plain rarely exceed 90 m asl (Bostock 1970). The dominant vegetation is a discontinuous cover of lichens, herbs, heaths and low shrubs. Freeze-up of Foxe Channel generally occurs in early to mid-November, but the ice remains broken and mobile. throughout the winter months as a result of winds, tides and currents (Canada Department of the Environment 1984b, Smith and Rigby 1981).

Importance to Wildlife: The Precambrian upland of northeastern Southampton Island provides im"@rtant denning habitat for polar bears. The topographic relief associated with valley slopes, hills, cliffs and rock" outcrops creates suitable conditions for maternity dens because snow accumulates on the low, south-facing slopes of these features (Canada Department. of the Environment 1984b, Harington 1968). Harington (1968) reported that the average elevation of 56 dens on eastern Southampton Island was 277' m asl; the majority were within 16 km of the coast. The toad areas of Southampton Island, particularly the southwest **and northeast** coastlands, **also** provide important summer habitat for polar bears (Lunn et al. In prep, Lunn and Stenhouse In prep., Stenhouse and Lunn In prep.). During break-up, prevailing northeasterly winds and the general counter-clockwise flow of ocean current in Foxe Basin tend to cause ice floes to concentrate along the northeastern mast (Lunn et al. In prep.). These factors probably account for the high numbers of polar bears on Southampton Island The southeast and southwest coastlands may be especially important as "summer retreats" because ice forms first in these areas during autumn (Stenhouse and Lunn In prep.).

East Bay Bird Sanctuary and" the surrounding plain support a nesting population of approximately 21,000 pairs of lesser snow geese, and southwestern Southampton Island "(including the Harry Gibbons Bird Sanctuary} supports a nesting population of" Approximately 95,000 pairs of lesser snow geese, as well as nesting populations of brant, Canada geese and tundra swans (McCormick et al. 1984).

Other Conservation Interest%. The Canadian Wildlife Service has identified two sites on Southampton Island as Key Migratory Bird terrestrial Habitat Sites (McCormick et "al. 1984). The delineated area overlaps two proposed IBP sites. (Nettleship and Smith 1975). Parks Canada has expressed interest in southwestern Southampton Island for national park purposes, and in the surrounding coastal waters for marine park purposes (Canada Department of the Environment 1984d).

Protective Status: Land-use activities are regulated under the Territorial Lands Act and the Territorial Land Use Regulations.

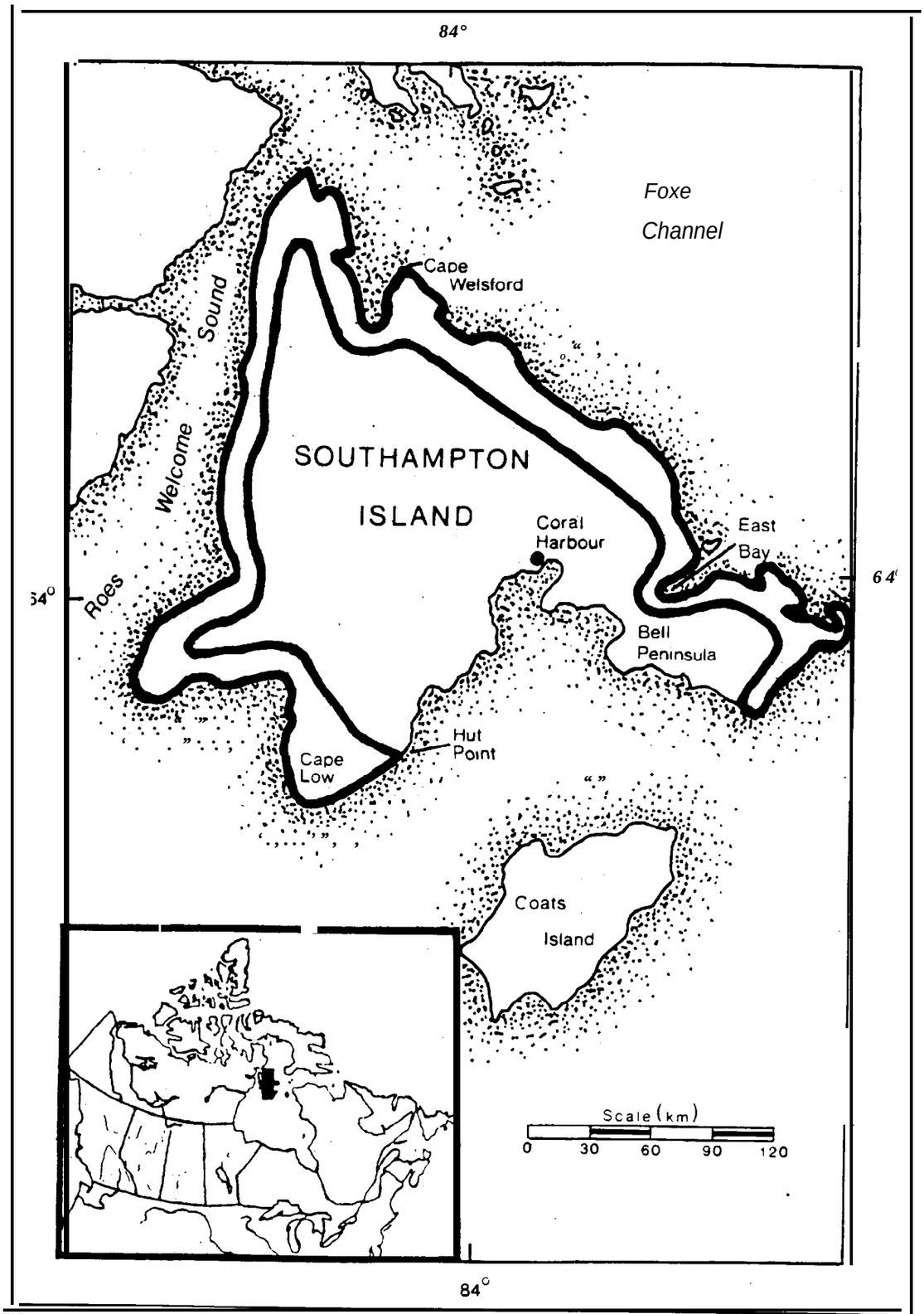


FIGURE 20: Southampton Island.

Wager Bay (34)

Size: 6,300 km
schedule 1
Location: 65°30'N 89°10'W
Geographic centre is 165 km south west of the community of Repulse Bay.

Boundary The boundary of the delineated area encompasses important polar bear habitat, as determined from aerial surveys (1976 and 1977) and ongoing mark-recapture studies (1985 to present) (Donaldson et al. 1981, Lunn and Stenhouse In prep., N. Lunn pers. comm.). The "north and south coasts comprise an important "summer retreat" during the open-water season, and the south coast also provides important denning habitat during winter (Urquhart and Schweinsburg 1984).

Natural Setting: The delineated area lies within the Wager Plateau physiographic region, a rocky upland which rises gradually from sea level at Roes Welcome Sound to 600 m asl inland (Bostock 19'70). The topography north of Wager Bay is characterized by a rolling to hilly upland with boulder fields, bedrock outcrops, and localized glacial features in the form of eskers, drumlinoid hills and fluted moraines (Canada Department of the Environment 1980b, 1984a). A coastal plain approximately 16 km in width separates the north shore of Wager Bay from the more rugged topography further inland (Donaldson et al. 1981). The south shore of Wager Bay rises sharply from the water to about 500 m asl; the topography ranges from rolling to hilly to mountainous. Break-up occurs in early July and the bay is generally free from ice until September. At the inlet and outlet of Wager Bay water is kept ice-free all year by tidal action in the narrow channels.

Importance to Wildlife The coastal areas of Wager Bay particularly the south coast, provide important summer habitat for polar bears. In August and September 1985, 31 of 45 bears observed at Wager Bay were on the south side (Lunn and Stenhouse In prep.). Similar distributions were obtained in the summers of 1976 and 1977; bears were more common on the high cliffs of the south shore than on the gently sloping north shore (Donaldson et al. 1981). Three factors contribute to the area's importance to polar bears an extended season of ice cover, a relatively high density of ringed seals, and favorable denning habitat along the south coast (Canada Department of the Environment 1984a, Davidge 1980, Donaldson et al. 1981, N. Lunn pers. comm.). In winter, the long, deep snow-drifts associated with hills, valleys and ravines of the south coast provide ideal conditions for maternity dens. Bears that use the Wager Bay area are considered to be part of the Foxe Basin population, but a recent population estimate is not available.

The Wager Bay area is one of the most productive nesting areas in the NWT for peregrine falcons (see Ford Lake area description), and caribou from the Lorillard and Wager herds calve in the vicinity of Wager Bay (see Northeastern Keewatin Caribou Calving Grounds area description).

Other Conservation Interests Parks Canada has expressed interest in the Wager Bay area for purposes of establishing a national park (Canada Department of the Environment 1984d).

Protective **Status:** Land-use activities are regulated under the Territorial Lands Act and Territorial Land Use Regulations.

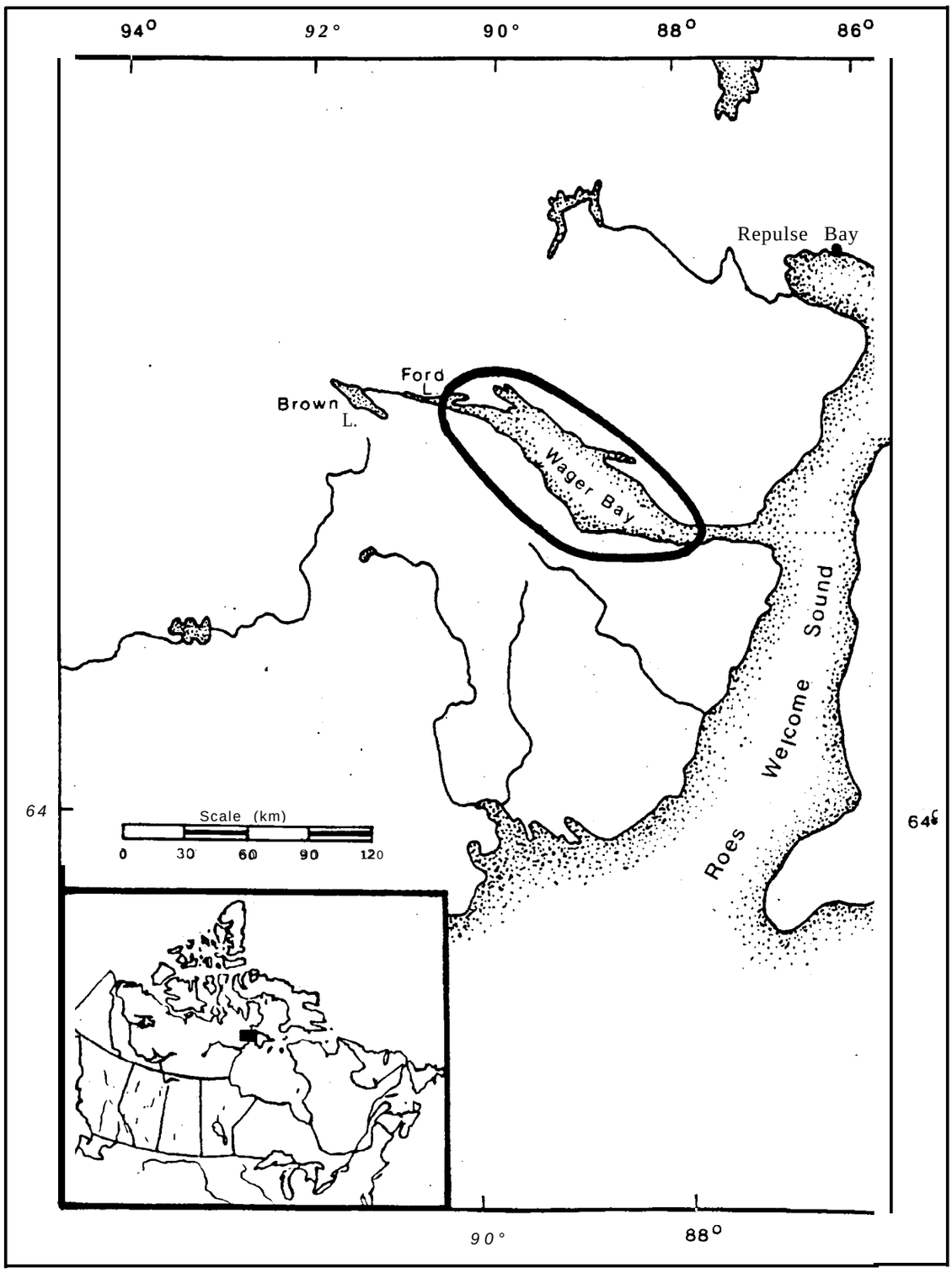


FIGURE 29: Wager Bay.

Bylot Island (35)

size **8,000 km²**
Schedule: 2
Location: 73°30'N 77°40'W
Geographic centre is 100 km north of the community of Pond Inlet.

Boundary The boundary is based on polar bear distribution and abundance data from aerial surveys and mark-recapture studies conducted between 1970 and 1979 (Schweinsburg et al. 1977, 1980, 1982; Stirling et al. 1979). It extends offshore for approximately 20 km to include the landfast ice along Bylot Island, and the floe edge habitat between the landfast ice and the polynya that generally opens in winter along the eastern coast of Bylot Island (Smith and Rigby 1981). Landfast ice and floe edge habitats are important feeding areas for polar bears and tend to concentrate bears in these habitats in winter (Urquhart and Schweinsburg 1984).

Natural Setting: The Bylot Island area fies within the Davis Highlands physiographic region, a rugged mountainous area of deeply dissected crystallizing rocks (Bostock 1970). Higher elevations exceed 2,000 m asl and are characterized by permanent ice fields and glaciers, many of which reach sea level. Coastal areas of Bylot Island are variable, ranging from broad, undulating plains at Cape Liverpool to rugged, mountainous areas of metamorphic bedrock at Cape Walter Bathurst and Cape Bumey (Canada Department of the Environment 1981e). Vegetation consists of nearly continuous sedge-willow or sedge-moss cover on coastal plains and valleys; upland sites support a discontinuous cover of avens, herbs and lichens with extensive barren ground The waters around Bylot Island are usually frozen by the end of October, but an open lead usually develops between the landfast ice and the moving pack ice in Baffin Bay (Smith and Rigby 1981). Ice begins to disappear during the second week of June and is usually gone from the area by the last week of July (Canada Department of the Environment 1981e).

Importance to Wildlife: T'he northern and eastern coastal areas of Bylot Island are used by polar bears for three main purposes maternity denning, feeding, and as a "summer retreat". Although few maternity dens have actually been located *on* Bylot Island, the number of family groups observed prior to mid-April along the north and east coasts suggests that these areas are important for denning (Schweinsburg et al. 1980). Denning generaLly begins in October or November; by mid-April most females with cubs of the year leave their dens to travel to areas of landfast ice to feed on ringed seals (Stirling et al. 1980). In late winter (April and May), the landfast ice is also important feeding habitat for males and females without cubs (Schweinsburg et al. 1982). Following break-up of the landfast ice, the shoreline and coastal mountain areas of Bylot Island are used as a "summer retreat" by polar bears until freeze-up in late October. Bears that frequent Bylot Island are considered to be part of the population that ranges from the waters of Baffin Bay across Barrow Strait and north to northern Ellesmere Island (Urquhart and Schweinsburg 1984). In 1979, this population was estimated at approximately 1,650 animals (Schweinsburg et al. 1980).

The delineated area overlaps with two key habitat sites for migratory birds: a colony of approximately 140,000 pairs of thick-billed murres and 20,000 pairs of black-legged kittiwakes is located west of Cape Hay, and a colony of approximately 20,000 pairs of murres and 3,000 pairs of kittiwakes is located north of Cape Graham Moore (McCormick et al. 1984).

Other Conservation Interests Bylot Island was established as a Migratory Bird Sanctuary in 1965, pursuant to the Migratory Birds Convention Act, and parts of the island and offshore were proposed as an IBP site (Nettleship and Smith 1975). Bylot and northern Baffin islands are also considered as a priority area for establishment of a national park (Canada Department of the Environment 1984d, Scotter 1985).

Protective Status: Land-use activities are regulated under the Migratory Bird Sanctuary Regulations of the Migratory Birds Convention Act, and the Territorial Land Use Regulations of the Territorial Lands Act.

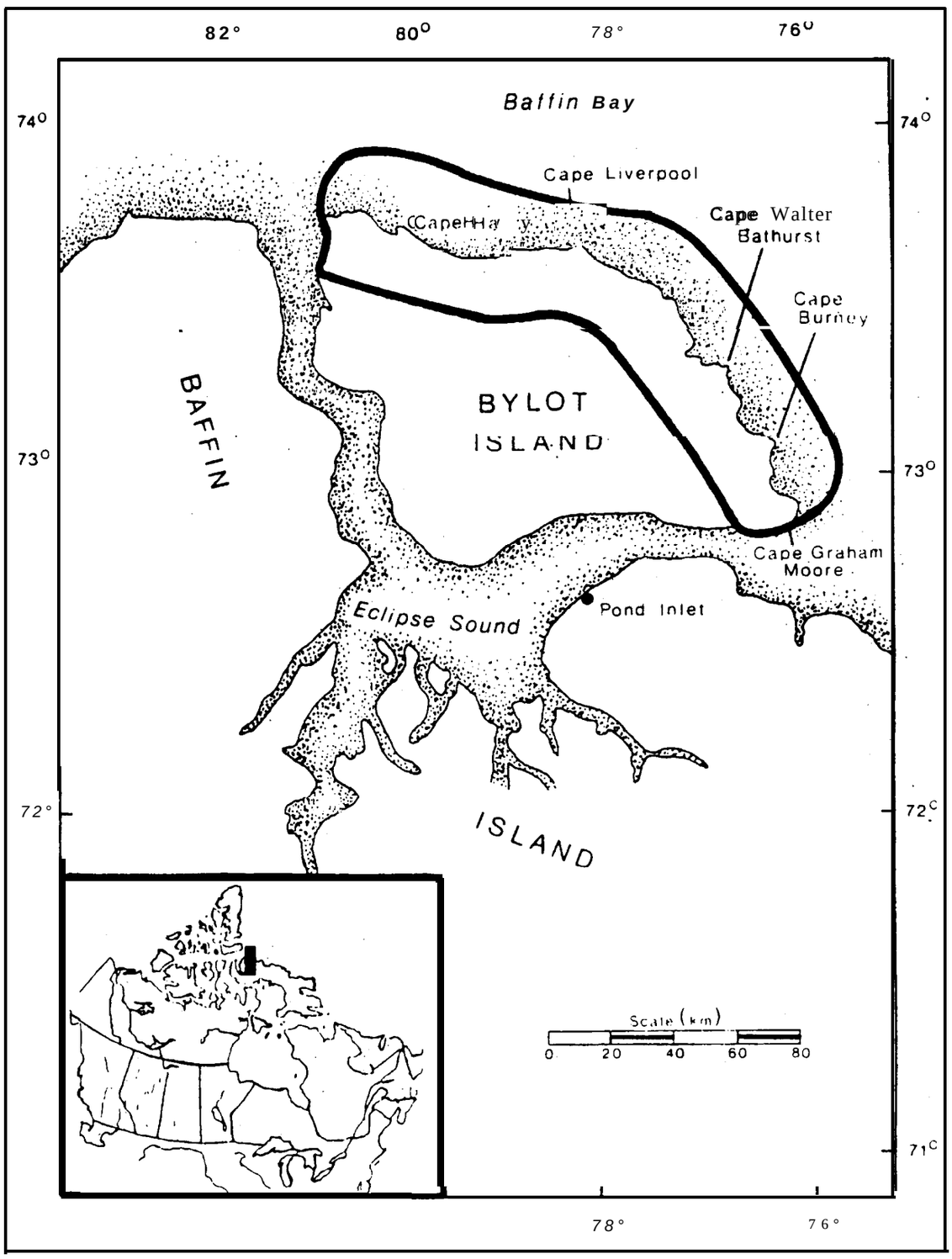


FIGURE 30: Bylot Island.

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