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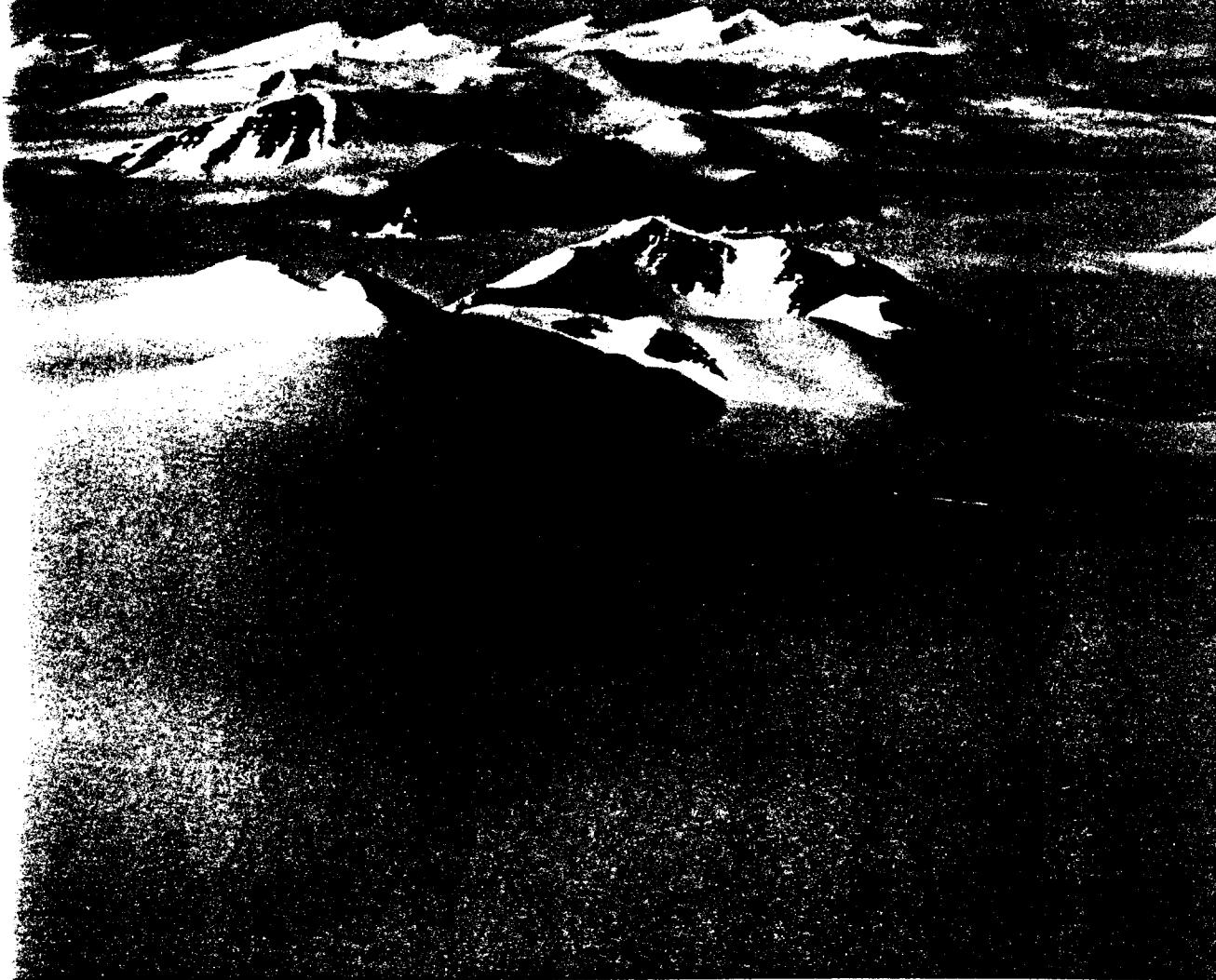
***Ellemere Island National Park Reserve -
Interim Management Guidelines***
Date of Report: 1989

***Author: Canada - Environment
Canada/canadian Parks Service
Catalogue Number: 11-32-38***

11-32-33

**ELLESMEER ISLAND NATIONAL PARK RESERVE
INTERIM MANAGEMENT GUIDELINES**

Prairie & Northern Region
February 1989





Muskox, Hazen Plateau

Canadian Parks Service (CPS)

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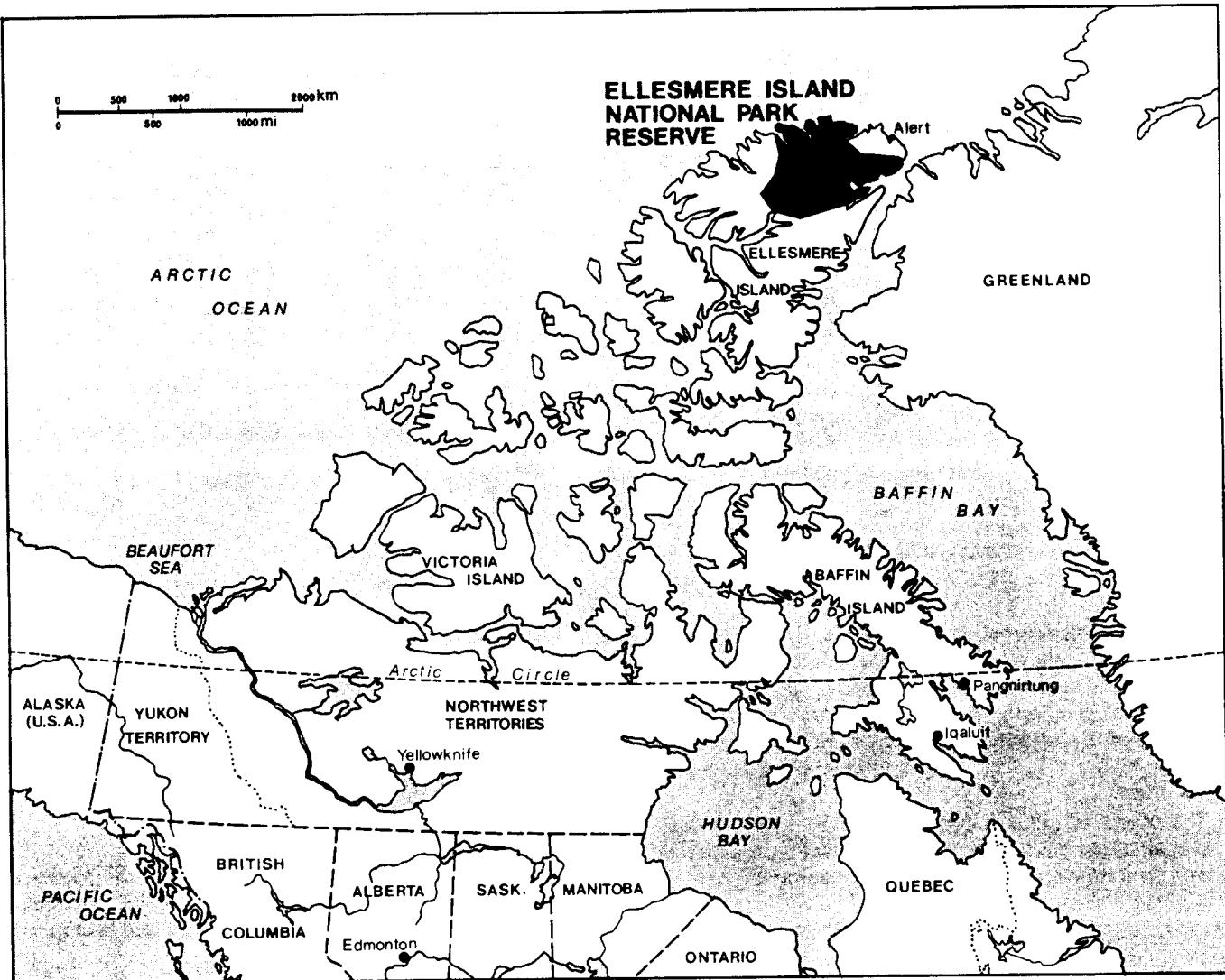
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Map 1: Regional Setting

1.0 EXECUTIVE SUMMARY

The Interim Management Guidelines (IMGs) provide guidance for park administration, natural and cultural resource management, visitor activities, and regional integration. A park concept/operation and development scenario is also included. It defines Ellesmere Island National Park Reserve (E.I.N.P.R.) as a wilderness area, catering to a specialty adventure tour market, operated seasonally by a staff based at Tanquary Fiord during the summer visitor period. Auyuittuq National Park Reserve will serve as the overall administrative headquarters with its Superintendent also responsible for Ellesmere Island NPR.

The IMGs will ensure protection of the unique and sensitive resources of the park reserve. The guidelines are consistent with the park establishment agreement and include provisions that, when implemented, will not compromise future management planning.

Co-operation with federal and territorial departments and an emphasis on regional integration and benefits to local residents are additional characteristics of these guidelines.

2.0 BACKGROUND TO INTERIM MANAGEMENT GUIDELINES

2.1 Establishment History of Ellesmere Island National Park Reserve

Interest in the northern portion of Ellesmere Island as a possible site for a national park reserve was first expressed formally in 1978. The area was one of six natural areas of Canadian significance defined by the "Six North of Sixty" initiative of that year.

Other significant milestones leading to the establishment of the area as a national park reserve include the signing of the Memorandum of Understanding with the Government of the Northwest Territories (GNWT) on 25 February 1982 and the withdrawal of the area for national park purposes under the Territorial Lands Act in July 1982. The local communities of Grise Fiord and Resolute Bay expressed formal support for the park reserve concept in December 1984.

The signing of the agreement for the establishment of Ellesmere Island National Park Reserve with the GNWT took place at Tanquary Fiord and Resolute Bay on 20 September 1986. The National Parks Act Amendment proclaimed on 16 September 1988 formally established Ellesmere Island National Park Reserve.

2.2 Purpose and Scope of Interim Management Guidelines

The IMGs represent the second product to be prepared as part of the park management planning process (Figure 1). The guidelines are intended to assist the superintendent and park staff in managing park lands, resources and uses until a park management plan is approved. The approved document also serves as a statement of management intent for distribution to the public and special interest groups. Public input is sought and considered during preparation of these guidelines.

The IMGs are to be consistent with the park establishment agreement and other negotiated settlements such as land claims. The guidelines document is based on available information. As a general principle, use and development of park lands, addressed in the IMGs, should be confined to areas previously subject to use prior to park establishment.

The guidelines are also designed to provide the framework for subsequent management processes, such as the Natural Resource and Visitor Activities Management Processes.

The guidelines document also serves as information and a statement of management intent to substantiate requests for financial and personnel resources. The multi-year operation plan and annual work planning exercises are based on the Interim Management Guidelines and serve as the mechanisms to implement the guidelines document.

The approved IMGs document and subsequent updates remain as the guide to park management until such time as a park management plan is approved by the Minister of the Environment.

3.0 PURPOSE AND OBJECTIVE STATEMENT

3.1 Purpose of the Park in the National Park System

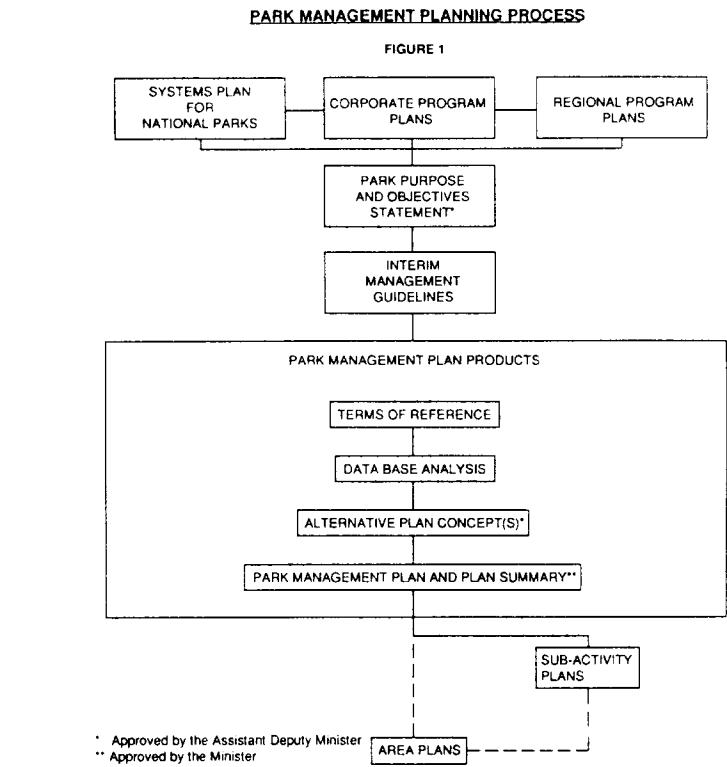
Ellesmere Island National Park Reserve protects a natural area of Canadian significance in the Eastern High Arctic Glacier Natural Region and encourages public understanding, recreation and enjoyment in ways that will leave the area unimpaired for this and future generations. A portion of the Northern Arctic Marine Region is also included as part of the park reserve. The park reserve supports a rich ecology and is one of the most outstanding landscapes in the Canadian Arctic Archipelago.

3.2 Park Description

3.2.1 Physical Description

Ellesmere Island NPR is located on the northern extremity of the Arctic Archipelago. Included in the reserve is Cape Columbia at 83°07' N. latitude, only 660 km (413 mi) from the geographic North Pole, and well north of the magnetic North Pole. Northern Ellesmere Island is separated from Greenland to the east by the narrow Robeson Channel which is only 20 km in width.

The park reserve is 37,775 square kilometres in size, making it the second largest national park in Canada after Wood Buffalo.



Remoteness and the relative absence of human activity are the prime characteristics of the region in which the park is located. The military base of Alert, 44 km northeast of the park reserve, is the closest centre of habitation and activity. The Eureka meteorological station is 225 km to the south. The Inuit settlement of Grise Fiord, 640 km to the south, is the nearest permanent community. The main activities in this small community are hunting, tourism and government services. The residents remain close to the land and traditional pursuits continue to play an important role in the life of the community.

Research by universities and government agencies is an additional activity of note in the park region. These research activities are co-ordinated by the Department of Energy, Mines and Resources through the Polar Continental Shelf Project based in Resolute Bay, 900 km south of the park reserve.

3.3 Heritage Resources and Processes

Ellesmere Island NPR is unique due to its position near the top of the world. From this last sliver of land, numerous expeditions have tried to reach the North Pole. The northern coast of Ellesmere Island and the adjacent Arctic Ocean supports the only ice shelves in the Northern Hemisphere. These distinctive aprons of thick sea ice have held fast to the shore for thousands of years and now extend well into the Arctic Ocean. The Ward Hunt Ice Shelf covers hundreds of square kilometres and can be as much as 80 m (264 ft) thick.

Parts of these ice shelves occasionally break away to become "ice islands" in the Arctic Ocean. Aircraft patrols



Glacier, North Coast Fiord

C.P.S.

identified them as islands only as recently as the late 1940s.

The diverse landscape of Ellesmere Island NPR includes all the major features of the arctic islands.

The Grant Land Mountains are a jagged chain of sedimentary rocks extending across the northern part of the island. They are cloaked by ice fields up to 900 m thick. Massive glaciers extend towards the Hazen Plateau and the deeply entrenched north coast fiords. True remnants of the last glaciation, these fields contain ice estimated to be more than 100,000 years old. Several peaks reaching 2,500 m (8,250 ft) above sea level or more project dramatically through the ice cover. This includes Barbeau Peak at 2,616 m (8,633 ft), the highest mountain in eastern North America.

At the southern flank of the Grant Land Mountains, the land abruptly descends to the Hazen Plateau and Lake Hazen. Approximately 70 km (44 mi) long, 260 m (858 ft) deep and extending 100 m (330 ft) below sea level, Lake Hazen is one of the largest lakes in the circumpolar region.

The Lake Hazen plateau of folded sedimentary bedrock gradually rises to the southeast over a distance of 80 km (50 mi) where it meets the sea. Here the land is 1,000 metres above sea level, and spectacular glacial valleys and fiords such as Discovery Harbour deeply incise the plateau's uplifted southern rim.

Although this area is one of the most arid in the Northern Hemisphere—a true polar desert—pockets of lush sedge, grass and arctic willow are found in wet areas and places protected by moderating microclimatic effects. These communities of vegetation are important habitats for the small numbers of musk oxen and Peary caribou in the park reserve. Arctic wolf, arctic fox, arctic hare, ermine and lemming also live there. Some marine mammals, such as bearded and ringed seals, frequent the area but are limited in number.

The most favourable areas for wildlife are found in the river valleys crossing the Hazen Plateau northeast of Lake Hazen and particularly along the north shore of Lake

Hazen. The lake and its surrounding basin capture reflected solar radiation from the Grant Land Mountains. This results in surprisingly warm, long summers and relatively abundant vegetation for this high latitude.

At least 30 species of birds, many of which migrate seasonally from Europe and some even from Antarctica, may be found within Ellesmere Island NPR. Species commonly sighted include long-tailed jaegers, ruddy turnstones, arctic terns, knots, snow buntings, snow geese, snowy owls, red-throated loons, and oldsquaw and king eider ducks.

Widespread evidence of past human activity in the study region ranges from ancient Palaeo-Eskimo encampments of up to 4,000 years old, to the cairns and caches left by explorers in the late 19th and early 20th centuries. Also of historical interest are the camps, equipment and caches left by researchers from the 1950s and possibly earlier. Major archaeological sites are found within the proposed park area.

Initial human occupation took place approximately 4,000 years ago through migration from areas to the west. The earliest known occupation of the park area has been designated as the Independence I culture. This culture occupied parts of the Canadian High Arctic and the north coast of Greenland, but possibly never totalled more than a few hundred individuals (in Canada). The culture disappeared after three or four centuries and left the park area unoccupied for over 500 years.

The majority of known Independence I sites in Canada are within the park area. They are extremely important because they are associated with the first human existence in the area as well as being relatively scarce.

At approximately 1000 B.C., after a gap of five centuries or more, the High Arctic and northern Greenland areas were reoccupied by the Independence II culture. These sites are generally more scarce than those of Independence I within Ellesmere Island NPR, although Independence II sites are found in many other areas of the High Arctic.

The Independence II culture was followed by the Dorset culture, whose adaptation to arctic conditions may have been more successful than its predecessors. The Dorset culture persisted until about A.D. 1000 when much of the arctic began to be occupied by people of the Thule culture, which was based to a great extent on the hunting of whales. The Thule culture eventually developed into that of the Inuit first encountered by European travellers. However, in the park area the Thule tradition disappeared in the 15th century as climatic changes brought an end to the availability of major sources of food.

The majority of the descendants of the Thule people appear to have concentrated somewhat to the south where they developed a particularly successful culture based on the exploitation of sea mammals. During the past 150 years, however, Inuit again played a role in the history of the park area. The most successful European explorers had to learn Inuit survival techniques, and Inuit from more southerly areas accompanied the expeditions of Peary and his successors, contributing materially to their success. Later still in the 1950s, as part of a program to assert Canadian sovereignty through permanent occupation, Inuit were moved from northern Quebec and Baffin Island to form the most northerly modern Inuit settlement at Grise Fiord on the southern coast of Ellesmere Island and the settlement of Resolute Bay on Cornwallis Island.

Euro-North American activity on Ellesmere Island involves at least three intertwining themes: scientific observation, exploration and the assertion of sovereignty. Of notable importance in these endeavours were the British, American, Inuit, Norwegian, Canadian and, particularly for the last theme, Danish.

In the late 19th century, a series of American expeditions explored the straits between Ellesmere Island and Greenland in a search for a rumoured "open polar sea" and in so doing contributed to the early toponymy of northeastern Ellesmere Island. At about the same time the last British arctic expedition, under the command of Sir George Nares (1875-76), established bases at Discovery Harbour and Floeberg Beach. Using man-hauled sledges, he explored along the north coast of Ellesmere to Yelverton Bay and north from Cape Joseph Henry to 83°20'N.

In 1880 the second International Polar Conference in Switzerland approved a plan for 15 participating nations to establish a circumpolar network of co-operative meteorological stations. The American arctic station, Fort Conger, was built at Nares' former base on Discovery Harbour. From this base, expedition leader Lieut. Adolphus Greely and his men also explored the interior of Ellesmere Island up the Ruggles River to Lake Hazen, and from Archer Fiord to Greely Fiord on the west side of the island. His crew, which included two Inuit, also explored the northwest coastline of Greenland.

Robert Peary, a civil engineer in the U.S. Navy, also made extensive use of the coastline of Ellesmere on his last three privately financed polar expeditions (1898-1909). Peary's accomplishments were in part due to his adoption of Inuit food, snowhouses, transportation and clothing, and, particularly on his final trip, the assistance given by Greenland Inuit who broke trail and laid out

caches along the way. Peary also refitted Fort Conger as his base in 1898.

Northern Ellesmere Island was the site of several forays by the RCMP in the 1920s and 1930s. Their first expedition to Ellesmere occurred in 1922 when Inspector C.E. Wilcox and a detachment of nine men established a new post at Craig Harbour in the southern part of the island. A second post was established at Bache Peninsula in 1926. The RCMP presence was reinforced by numerous patrols across Ellesmere and other northern islands.

In recent decades, Canadian claims to sovereignty over this area were further reinforced by repeated and frequent use. In the 1950s the Defence Research Board conducted a variety of tests of a broad interdisciplinary nature at Lake Hazen, Ward Hunt Island and ice shelf, Tanquary Fiord and other sites. The Lake Hazen camp was established in 1957-58 as an important Canadian research camp in conjunction with the International Geophysical Year (IGY). Subsequent to the IGY tests, research at Lake Hazen was carried out by the Defence Research Board with various governmental and academic scientists.

3.4

Park Use, Facilities and Services

Use of the park reserve by recreational visitors is influenced by its remote location, the short season during which travel is possible and the high cost of access. The very recent establishment of Ellesmere Island NPR and the limited knowledge of the area by the general public also affect the level of visitation.

Visitation in 1988 was 63 overnight users and 42 day visitors. Most visitation occurs during the summer season, primarily July and the early part of August when weather conditions are pleasant and conducive to travel. Adventure travellers also visit the park usually in May en route to the North Pole.

Summer visitors tend to be young or middle-aged wilderness users, many with extensive hiking or backcountry experience. As a market segment they represent the adventure tour category. They are self-reliant and are knowledgeable about natural and cultural history.

A second category of summer users consists of somewhat older visitors who use an outfitter's base camp and engage in day hikes, nature study, photography and fishing.



Park visitors at Lake Hazen

C.P.S.

The remote location of the park and the lack of scheduled aircraft flights require all visitors to utilize charter aircraft based in Resolute Bay. Most visitors also use the services of outfitters and guides either from Resolute Bay or adventure tour companies based in southern Canada. Park visitors have high expectations regarding their trip, and wish to experience solitude and gain an understanding and awareness of the remote High Arctic environment. Modest facilities are expected by such visitors while the type and level of park management should be unobtrusive.

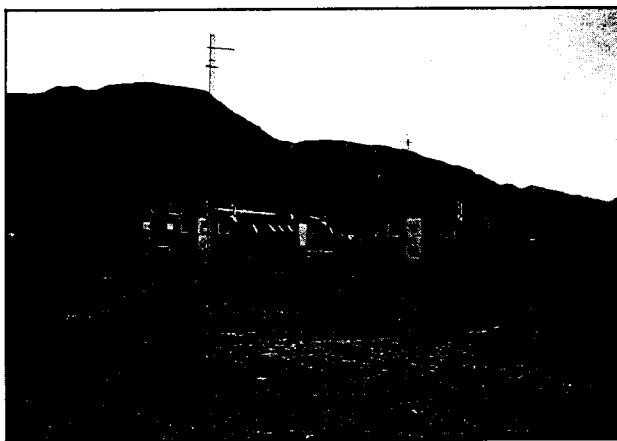
The park reserve, because of its unique wilderness character and remote location, serves a specialty tourism market. Visitation is likely to increase as the park becomes better known. The park environment is vulnerable to repeated disturbances by humans, a factor which imposes limits on visitation if resource protection objectives are to be achieved.

The self-reliant nature of visitors, their number and the purpose of their visit to the park makes development of extensive facilities unnecessary.

Facilities appropriate to the park reserve are basic accommodation structures required at Tanquary Fiord. These will provide shelter for hiking groups arriving at the park or awaiting departure via charter aircraft. A structure for visitor activities is also necessary for interpretive exhibits and visitor registration and orientation.

Aircraft access as the sole means of travel to Ellesmere NPR requires the retention of existing airstrips. Privately operated guiding and outfitting operations will continue as such services are necessary to permit visitor access and use. The only formally designated camping areas will be established at Tanquary Fiord and Lake Hazen Defence Research Board camps.

Management and operation facilities will be modest in scale and limited primarily to Tanquary Fiord. The Lake Hazen Defence Research Board campsite will also be used. Basic facilities have been developed at Tanquary Fiord to accommodate staff and permit efficient park operations which will be restricted to the summer season. Patrols and other park operations will be carried out via aircraft or on foot. The wilderness qualities of the park and the expectations of visitors will be recognized in the operations.



Park Administration Facilities.
Tanquary Fiord

C.P.S.

An additional type of use is that associated with scientific research. The park area has a long and productive history of research activities carried out by government, university and private researchers. Scientific research activities will continue to be conducted in the park area on a permit basis.

Auyuittuq National Park Reserve headquarters in Pangnirtung will serve as the administrative centre for Ellesmere NPR.

3.5

Considerations

Park management must respect recreational visitors' expectations for a wilderness oriented, challenging trip to the High Arctic and provide appropriate services and facilities. Evolving land claims, the quest for self-government by native groups, arctic sovereignty and tourism objectives of the Government of the Northwest Territories are initiatives which have influenced park establishment. These same factors will influence planning and management of the park reserve.

As the closest community to the park is Grise Fiord, 640 km distant, the park area is not currently used for traditional purposes. Contemporary activities are limited to infrequent military activities, those carried out by researchers and limited recreational use.

The remoteness of the park region affects planning and management. Staff must be transported to the site at considerable cost. Travel is unpredictable due to weather, a factor that has implications for operations and visitor use. The cost of travel in the region is high, which has an impact on visitation to the park. Visitors' expectations are high due to the nature of the market group to which they belong and the substantial financial investment associated with travel to the park reserve.

The park establishment agreement with its provisions respecting planning, resource management, socio-economic benefit and operations exists as a major consideration in the operation and planning of the park reserve.

The exceptional environment of the park is susceptible to damage. The Canadian Parks Service must act with care and imagination in park planning and operations to ensure that both natural and cultural resources are protected.

The park reserve is separated from Greenland National Park by the 20 km wide Robeson Channel. The proximity of the two parks and the expressed interest of Danish park authorities in pursuing a bilateral agreement regarding the two parks is a consideration in future management.

3.6

Park Objectives

3.6.1

Protection and Preservation of Natural and Cultural Heritage Resources

3.6.1.1 Natural Heritage Resources

- To protect and preserve the representative and special natural heritage resources and ecosystems of the Eastern High Arctic Glacier Natural Region, including: Cape Columbia, the most northerly terrestrial extremity of North America; the only polar ice shelves in the Northern Hemisphere; the highest peak in eastern North

America; and Lake Hazen, the largest lake in the circumpolar region plus its associated "thermal oasis". Park resources and ecosystems will be managed to ensure protection while providing appropriate opportunities for present and future generations to experience this unique northern environment.

3.6.1.2 Cultural Heritage Resources

- To protect, interpret and encourage public understanding of the cultural resources of the park reserve, focusing on native cultures and northern historic exploration and scientific investigation.

3.6.2 Appreciation, Understanding and Enjoyment of the Park Reserve

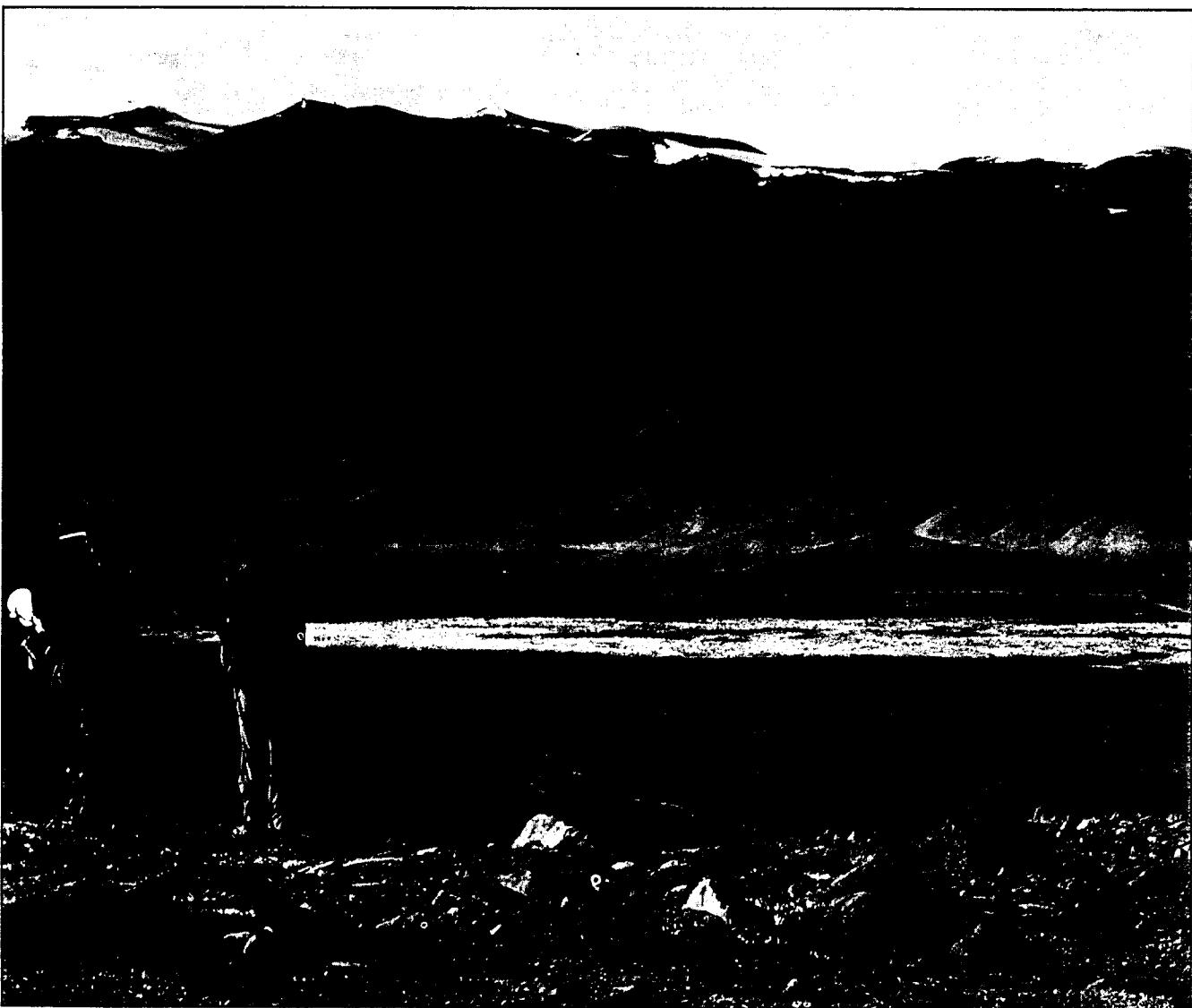
- To increase the public's awareness and understanding of the park's resources, character, themes and purpose.
- To provide opportunities for public use and appreciation of Ellesmere Island which meet visitors' expectations of a High Arctic wilderness park reserve while still ensuring the protection of the natural and cultural resources of the area.

- To provide summer season facilities and services which meet the needs of visitors for information and support services while still respecting the park reserve's wilderness character.
- To provide opportunities for research which are compatible with the objectives of the park reserve and national park policy on research.

3.6.3 Regional Integration

- To ensure that regional needs and aspirations as expressed in land claims settlements, the Lancaster Sound Regional Plan and other documents are recognized in park management decisions.
- To design and implement co-operative approaches to park management where feasible.
- To satisfy regional integration commitments and policies such as those pertaining to local preference for the supply of goods and services, training programs for northern residents and provision of employment opportunities.

The objectives will be achieved so as to contribute positively to the economy of the region and the social well-being of its residents.



Hikers, Tanquary Fiord area

C.P.S.

4.0 INTERIM MANAGEMENT GUIDELINES

4.1 Introduction

The following sections set out the guidelines for the management of Ellesmere Island National Park Reserve. The guidelines will remain in force until a park management plan is approved by the Minister of the Environment.

The guidelines are based on existing information, field investigations conducted during July and August 1987, and the two initial years of park operations (1987, 1988). The park establishment agreement (September 1986) and Memorandum of Understanding (February 1982) have also provided information on which to base management guidelines and have suggested appropriate directions for such statements. Material prepared during the park establishment process over the period 1978-86 also has been utilized. The guidelines incorporate input from the Government of the Northwest Territories, the Polar Continental Shelf Project, Department of Energy, Mines and Resources, and the communities of Grise Fiord and Resolute Bay.

The Interim Management Guidelines are the result of a planning team approach, involving staff from the park and the Prairie and Northern Regional Office.

4.2 Interim Zoning Plan

4.2.1 Introduction

National park zoning is a park management device that is applied in response to predetermined goals. Park zoning is based on management objectives, resource analysis and an assessment of the area's capability to generate and sustain use. Zoning expresses park management attitudes and objectives towards park resources, within which a variety of specific resource management techniques are possible. It provides an indication on what uses can occur in particular areas of the park, what level of protection is required, and sets out general objectives and prescriptions for management.

4.2.2 Zone I—Special Preservation

The basic purpose of Zone I is to recognize and preserve a feature or area. The primary park management objective is the preservation and protection of those resources. Public use of Zone I areas can only occur under controlled conditions. The actual level and type of use will be controlled according to the degree of fragility of the designated feature or area, and may be prohibited. Motorized access is not acceptable in special preservation areas.

Resource management in Zone I areas will be determined based on an assessment of the resources; however, management techniques will ensure the preservation of the resource. Preservation of certain kinds of resources may mean absolutely no interference by man. Preservation of other resources may require active involvement with the resource.

Resources warranting Zone I protection must satisfy one or more of the following criteria: unique, rare, endangered, representative feature or significant cultural resources.

Zone I protection will be extended to include all prehistoric and early historic sites (pre-1930). An inventory

and evaluation of such resources will be undertaken. This designation is based on their uniqueness, rarity or status as significant cultural resources. Sites related to the initial occupation of the High Arctic are relatively rare in Canada and appear primarily within the park area. The Independence I sites represent the earliest known occupation. Other sites are the most northerly examples in Canada of prehistoric cultural remains. Early historic sites uniquely represent the theme of polar exploration in the Canadian arctic.

Prehistoric and historic sites on Ellesmere Island are particularly in need of protection since most features are exposed on the surface of the ground and will be particularly susceptible to disturbance and destruction by visitor traffic.

Management of archaeological sites will consist of inventory, resource monitoring and surveillance to ensure protection of artifacts. Training of warden staff and guides may also be undertaken by Archaeological/Historical Services and Visitor Activities specialists to contribute to resource protection objectives, and ensure visitor understanding and awareness of sites and their significance. Park visitors will be provided with the pre-trip information to inform them of the nature of such resources and their fragility, the need for protection, and appropriate behaviour in the area.

The restricted activities provisions of the National Park General Regulations may be invoked if monitoring indicates these measures are necessary to safeguard resources. Other sites or areas may be similarly protected.

4.2.3 Zone II — Wilderness

This zone designation has as its purpose the preservation and protection of the major wilderness areas of a park. Use opportunities are those which permit the public



Peary Caribou

C.P.S.

to experience the natural, primitive environment of a park. The management objective is to provide for access, public use, facilities and services appropriate to a wilderness setting.

The preservation objective of the zone designation may necessitate a range of management techniques from totally passive to intensely active. Within this resource protection objective, a second management objective is pursued: providing opportunities to visit and experience the park environment on terms which are appropriate in a wilderness setting. Access within this zone is by non-motorized means.

The major portion of Ellesmere Island NPR is designated as Zone II, Wilderness. Fort Conger and other prehistoric and historic sites (Zone I areas) are not so designated, nor are the facilities at the Tanquary Fiord camp, the Borek camp on the south shore of Lake Hazen and the Lake Hazen Defence Research Board campsite which serve as access points. Resource management activities in the Zone II areas will consist of resource studies and monitoring, resource protection, law enforcement and public safety initiatives. All activities in the Zone II area will be guided by the principles of non-motorized access, unobtrusive management, and minimal impact on natural and cultural resources.

The wilderness zone will be kept free of developed visitor and administrative facilities, in consideration of the character of the park and the expectations and values of visitors. Self-reliance and a good knowledge of the park reserve on the part of visitors, assured through comprehensive orientation for visitors, will contribute to visitor safety and enjoyment.

4.2.4 Zone III — Natural Environment

Zone III implies a dual management objective—that of maintaining a natural setting while providing compatible



Tanquary Fiord

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public opportunities. Typically, these will be those which require no motorized activities or controlled means of access. Services and facilities offered will be to a higher standard than those which would be characteristic of a Zone II, Wilderness Area.

Motorized public transit is a permitted mode of travel, including aircraft access in the national parks in the north. The Tanquary Fiord camp, including existing facilities, airstrip and adjacent area, is designated as Zone III. This area will serve as the main entry and departure point to the park for visitors and will function as the seasonal administrative headquarters. Management of this site and additional future development will be undertaken in a manner which is sympathetic to the natural environment. A second Zone III area is designated at the existing Defence Research Board camp facility on the north shore of Lake Hazen, adjacent to John's Island. The site so designated includes the existing disturbed area between the airstrips and beach. This area will serve as an access and egress point and a base for park operations.

Zone III status is also applied on a provisional basis to the existing airstrip near the site of Fort Conger. This airstrip will only be used when authorized by the superintendent. Section 15-6 of the National Park General Regulations (Aircraft operations) will provide the legal authority for management of this airstrip/Zone III area. The Borek camp on the south shore of Lake Hazen is also designated as a Zone III area. Zone boundaries include the area held under lease. Aircraft landings at this site will require the approval of the superintendent as provided for under Section 15-6 of the National Park General Regulations.

4.2.5 Abandoned Research Camps

The long history of scientific research in the reserve area has resulted in the establishment and subsequent abandonment of a number of research camps. These abandoned camps are regarded as non-conforming to the natural park setting. Assessment by Historical/Archaeological Services staff will be undertaken prior to any clean-up activity to ensure that cultural or historical resources are not lost. This assessment will also serve as an opportunity to provide a photographic and written record of these former research sites and the artifacts associated with them.

4.2.6 Research Requirements

Additional information is required for park management purposes, including data on which to base land use zoning decisions. The area northeast of Lake Hazen, including Turnabout Lake, Kilbourne Lake and Craig Lake, is an area warranting research from a zoning perspective. The north shore of Lake Hazen, the Tanquary Fiord area and the Borek camp and environs also requires study to determine environmental sensitivity. Initial fieldwork suggests the former area may warrant special protection status as a critical wildlife area, however, existing data is inadequate as a basis for decision making. As such this area will be the subject of research vis-à-vis land use zoning.

The ongoing Natural Resource Management Process will also furnish data of a general nature on which to base future land use zoning decisions.

4.3 Park Concept/Operation and Development Scenario

Operation and development guidelines are intended to achieve the objective of maintaining the wilderness integrity of the park reserve and preserving sensitive and special areas, features, and plant and animal ecosystems. The park concept provides for reasonable opportunities for the people of Canada and the world to see and appreciate Ellesmere Island NPR.

4.3.1 Facility Development

The park operations centre will be based at Tanquary Fiord. In addition, there will be a camp for warden patrol located at the Defence Research Board camp on the north shore of Lake Hazen.

1. Facilities to be developed at Tanquary Fiord include weatherhaven structures to accommodate approximately 20 park visitors. An additional weatherhaven will provide cooking and eating facilities as well as serving as an activity area which could be used for interpretive events. Staff quarters in the form of separate weatherports with sleeping accommodations, living quarters, kitchen and toilet facilities, offices and a radio room have been developed to facilitate park administration. The weatherhaven structure, consisting of preformed aluminum arches covered by a fully insulated airtight nylon cover, is designed specifically for field use in arctic environments.
2. The above noted facilities will be provided with basic services consisting of a water and sewage system and electrical generator.
3. The Tanquary Fiord camp, established by the Polar Continental Shelf Project prior to the creation of the park will remain under the care and control of that agency and will be available for use by research groups. The steel quonset structure which provides storage space will be shared by the Polar Continental Shelf Project and the Canadian Parks Service.
4. At the Lake Hazen camp (Defence Research Board site) the existing parcoll unit will be upgraded as required to serve as an interim base for warden patrols. The adequacy of this arrangement will be reviewed annually. An additional weatherhaven unit may be erected in the future should the yearly assessment indicate this to be required for warden purposes or to serve as an emergency shelter for visitors.
5. A toilet facility of appropriate appearance and design will be established at Fort Conger adjacent to the existing landing strip.

4.3.2 Park Access and Aircraft Management

Access to Ellesmere Island National Park Reserve is by air. The most widely used aircraft is the Twin Otter. The airstrip at Tanquary Fiord can accommodate D.C. 3 and Hawker Sidley 748 traffic. There is considerable helicopter activity in the area by the military, researchers and park staff.

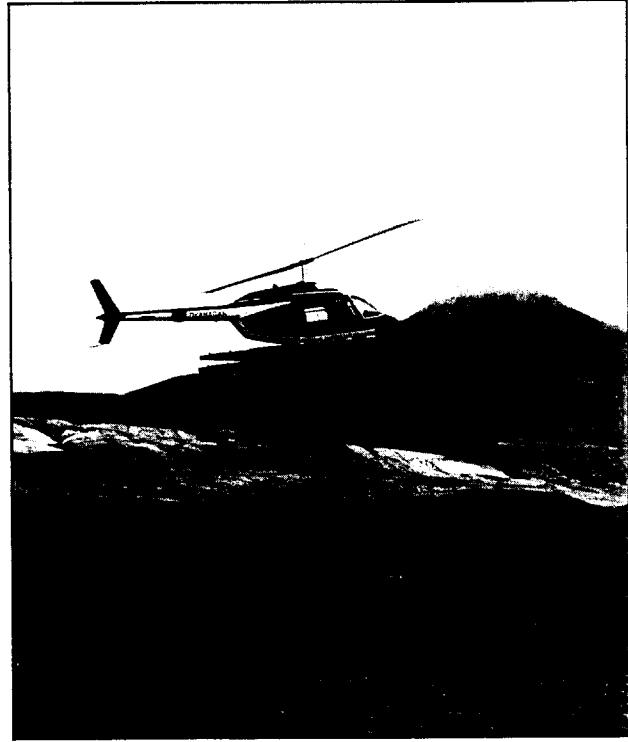
1. Tanquary Fiord, Hazen Camp and the Borek Camp will be designated landing sites within Ellesmere Island NPR where commercial air operators and the military will be permitted to land. These strips are unserviced and landings are at the pilot's discretion.
2. Landings at any location other than the designated landing sites within the park reserve for any purpose

must have prior approval of the superintendent or his/her designate.

3. Emergency aircraft landings made within Ellesmere Island NPR must be reported to the superintendent as soon as possible. Search and rescue operations regarding downed aircraft in the park reserve will be the primary responsibility of the Canadian Armed Forces. The military will advise the superintendent as soon as possible after a search and rescue operation has been initiated. The Park Warden Service will offer assistance when feasible and as other duties permit.
4. Aircraft operations in this remote location will require the support of fuel caches. Their location and size will be strictly controlled. Fuel caching will be by prior arrangement with the superintendent. Fuel drums must be clearly marked as to ownership and empty drums will be removed by the original owners.
5. As a result of years of previous activity associated with exploration, research and commercial operations, there is a large accumulation of empty fuel drums and old fuel caches. A major clean-up operation will be initiated involving co-operation and assistance from outside agencies and air service operators.
6. Park overflights will be conducted at an altitude of not less than 300 metres (1,000 feet) above ground level and will avoid unduly harassing wildlife species. Pilot and tour operator education will be undertaken to ensure responsible aircraft operation. Specific flight lines may be established in the future.

4.3.3 Public Safety/Search and Rescue

The park reserve is located at land's end in northern Canada. The potential for extremes in temperature and adverse weather conditions, even in summer, combined with the hazards associated with river crossings, glacier travel and rock falls, present special public safety con-



Helicopter, Lake Hazen Camp

C.P.S.

siderations. Proper preparation of visitors in terms of equipment, physical fitness and knowledge of conditions likely to be encountered is essential to minimize problems in this remote location.

1. A preliminary hazard assessment and evaluation will be conducted in 1990 and updated yearly and an Interim Public Safety Plan prepared.
2. All visitors, including researchers, will be required to register for their planned activities in Ellesmere Island NPR. At the completion of the trip or field season, they will need to close their registration.
3. Search and rescue activities other than for downed aircraft (addressed in 4.3.2.3 above) will be the primary responsibility of the Park Warden Service and will be guided by the Public Safety Management Directive (No. 4.4.3). Visitors will be advised of policies respecting search and rescue and capabilities of the park staff, as part of the registration process.
4. Agreements with outside agencies, primarily the Polar Continental Shelf Project and the military, for search and rescue assistance will be developed and included in the Park Search and Rescue Plan.
5. Emergency caches consisting of a first aid kit, tent, sleeping bags, stove, fuel, food and a communications radio will be established at strategic locations within the park reserve based on the results of the hazard assessment and public safety plan. Visitors will be advised of the locations of these caches during the registration process.
6. Requirements for firearms while within the park reserve must be addressed in an application to the superintendent for a firearms permit.

4.3.4 Commercial Operators and Camps

The only existing commercial facility within Ellesmere Island NPR is a camp held under lease by Kenn Borek Air Ltd. on the southeast shore of Lake Hazen near the outlet of the Ruggles River. The camp building is in a poor state of repair and large numbers of empty fuel drums, garbage and waste are on-site. The adjacent runway is unserviceable due to permafrost disturbance. Most aircraft land on the ice, adjacent to the camp.

The Department of Energy, Mines and Resources operates a research camp at Tanquary Fiord which has existed since 1964. It consists of two parcells, a steel quonset storage shed, generator building and workshop. There are approximately 1,000 empty fuel drums at the site and an accumulation of research related equipment in various states of repair.

1. An agreement with Kenn Borek Air for a timely and thorough clean-up of the camp area will be developed as part of a lease renewal. The lease renewal period will be on an annual basis for the first five years or until the site has been cleaned up to a standard acceptable to the superintendent.
2. Continued occupation of the Borek campsite will be subject to the National Parks Act and Regulations and national park policies and consistent with the visitor activity concept for the park reserve.
3. The Department of Energy, Mines and Resources, Polar Continental Shelf Project will continue to operate its research camp at Tanquary Fiord. The Canadian Parks Service will be guided by the 1986

Memorandum of Understanding between the Departments of Environment and Energy, Mines and Resources regarding the use and management of this site.

4. The Polar Continental Shelf Project will continue in its primary role of providing field support and other types of assistance for researchers and research activities in the park area.

4.4

Natural Resource Management

The Lake Hazen, Tanquary Fiord and Fort Conger areas are some of the most intensively studied areas in the High Arctic. However, in general, knowledge of the park reserve is still very limited. The size of the park reserve combined with the isolation of the area will constitute one of the major difficulties in managing its resources.

4.4.1 Objectives

The objective of Natural Resource Management in Ellesmere Island National Park Reserve is to protect and manage the natural resources in order to ensure their preservation and perpetuation. Management activities will be aimed at reducing interference with natural processes, so that such processes may operate essentially unimpaired.

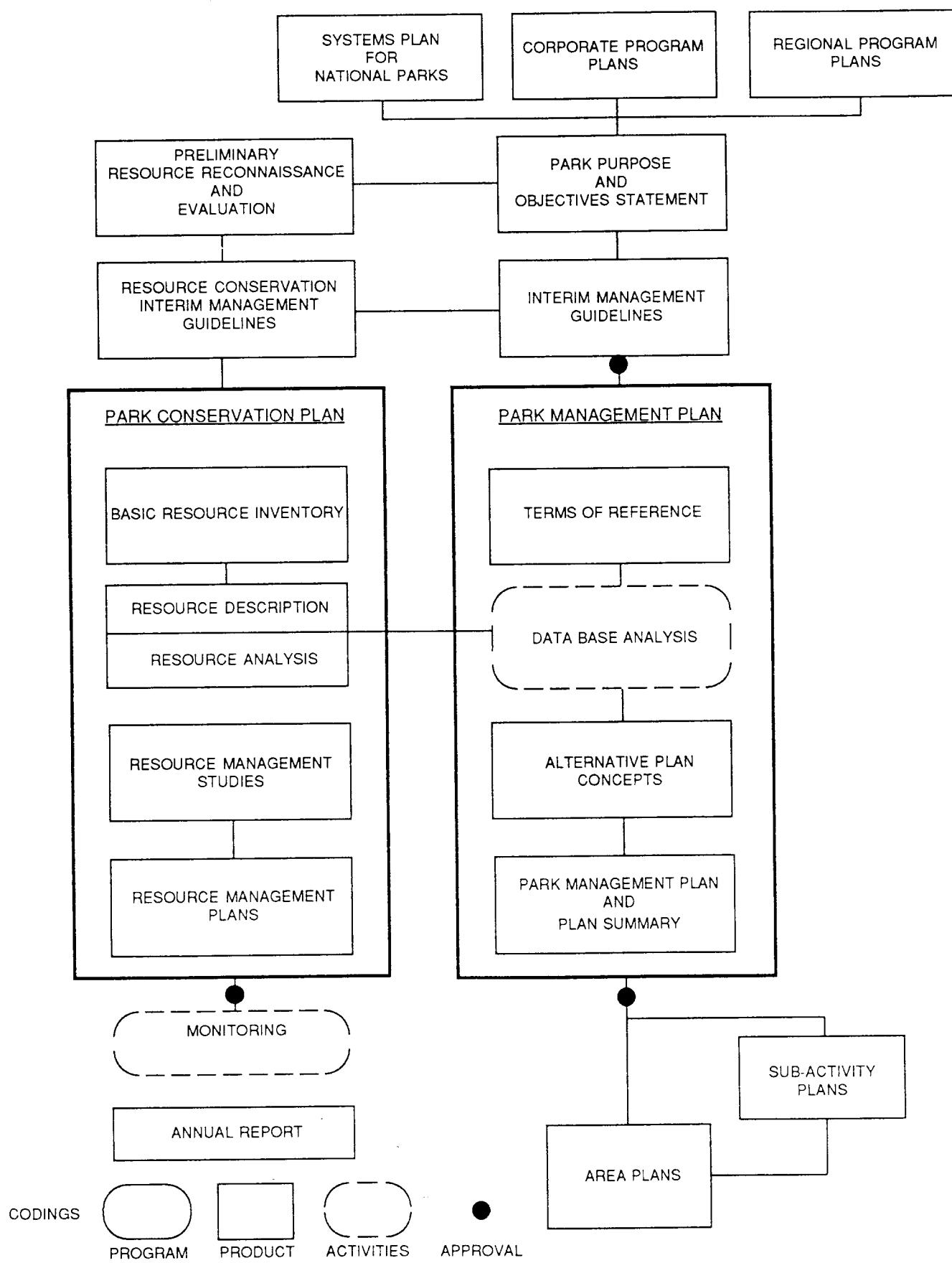
4.4.2 Guidelines

1. The Canadian Parks Service will implement the Natural Resource Management Process (Figure 2) to ensure a structured approach to resource management. An Interim Park Conservation Plan will be prepared in order to define resource problems, indicate their relative priority and set out management actions to resolve them. A Basic Resource Inventory will provide an initial level of information on the major resource components in the park reserve. A Resource Description and Analysis will then be prepared to give a comprehensive evaluation of the natural resources of the park reserve. This document will establish benchmarks for natural resource components and ecosystems, including marine areas, and identify rare, threatened or endangered species and natural areas of significance.

The documents resulting from the Natural Resource Management Process will be completed by 1991 and will provide a comprehensive data base for management planning.

2. During the Basic Resource Inventory, the Canadian Parks Service will conduct various research and data collection projects. These projects will serve as the basis for establishing long-term natural resource monitoring programs. Programs and techniques developed for data collection, storage and handling will be consistent with the park reserve's future manpower and financial situation.
3. The Canadian Parks Service will apply the Environmental Assessment and Review Process to all developments, projects and proposed uses.
4. Exploration for and extraction of non-renewable resources will not be permitted in the park reserve.
5. The Canadian Parks Service will consult with the Grise Fiord Hunters and Trappers Association with respect to potential traditional hunting, fishing and trapping opportunities in the park reserve.

FIGURE 2
NATURAL RESOURCE MANAGEMENT PROCESS AND MANAGEMENT PLANNING PROCESS
FOR NATIONAL PARKS





Fort Conger

C.P.S.

6. Sport hunting is prohibited in the park reserve.
7. Sport fishing will be permitted in accordance with the National Parks Act. Fishing Regulations which will be amended to include reference to Ellesmere Island National Park Reserve.

4.5 Historical, Cultural and Archaeological Resource Management

4.5.1 Objectives

During the period in which the Interim Management Guidelines are in effect, cultural resources within the park reserve will be protected to the extent practical.

4.5.2 Interim Cultural Resource Management Guidelines

4.5.2.1 Study Requirements

- 1) In order to obtain a better understanding of precontact use of the area, a cultural history and synthesis of archaeological information will be prepared. The document will also provide an indication of the role played by the park reserve area in the human history of the High Arctic. The synthesis will make recommendations for future archaeological research required to fill gaps in the available basic knowledge.
- 2) In view of the significance of sites in the Tanquary Fiord-Lake Hazen corridor and the possibility of their being disturbed by hikers, a field survey will be undertaken to identify sites, determine their significance and identify threats posed by visitation. Excavations will be carried out on some sites if considered necessary for resource protection.
- 3) Archaeological research will be permitted in the park reserve and carried out under a Canadian Parks Service permit. Archaeological research by the Canadian Parks Service will be limited to projects required for resource protection, interpretation or management.
- 4) The Canadian Parks Service will consult with the Science Institute of the NWT, the archaeological agencies of the Government of the Northwest Territories and the Canadian Museum of Civilization prior to undertaking its own archaeological work in the park reserve, and before issuing permits to independent researchers.
- 5) The Canadian Parks Service will provide the archaeological agencies of the Government of the Northwest Territories and the Canadian Museum of

Civilization with copies of reports of archaeological work in the park reserve. Artifacts collected in the park reserve will be made available on loan to official depositories in the Northwest Territories, to the maximum extent possible.

4.5.2.2 Archaeological Study Requirements

- 1) Park reserve staff will continue their practice of providing visitor orientation information to enhance visitor awareness of the significance and fragility of cultural resources. An educational program will also be developed and delivered to personnel in Alert and Eureka at least once a year by park staff. This program will be developed in association with regional Archaeological and Historical services.
- 2) The Warden Service of Ellesmere Island National Park Reserve will be responsible for periodic monitoring of known archaeological sites as part of their normal patrols.
Training of park personnel in cultural resource management will be provided.
- 3) For the period of the Interim Management Guidelines, the Defence Research Board camp at Lake Hazen will be treated as a historical resource. Major repairs and/or alterations to the existing structures will be compatible with the heritage character of these structures and should be monitored by Historical/Archaeological Services. Clean-up of material associated with the northern research theme should be done in consultation with Historical/Archaeological Services.

4.5.2.3 Interim Cultural Resource Management Guidelines (Historic Resources)

4.5.2.3 Historical Study Requirements

- 1) A preliminary inventory of the known historic sites within Ellesmere Island NPR and the surrounding region will be prepared, along with a brief description of the extant resources associated with these sites. An initial assessment of their association with themes of historical significance will be made.
- 2) A human history of the park reserve will be undertaken to evaluate resources in terms of their significance, need for protection and conservation. To obtain a better understanding of the recent use of northern Ellesmere Island by scientific researchers and to assist in determining the locations of their activities, an oral history will be prepared and collected. Oral histories will also be conducted with local Inuit to document native use and activities in the region. The information gathered will provide the basis for interpretation of the area's recent history.

4.6 Visitor Activities

4.6.1 Objectives

Visitors to the park reserve are either tourists, researchers, military personnel, employees of air charter and tourist outfitter operations, or government employees. There are no local residents either in the park or near its boundaries. However, the military uses the park for some forms of training and recreation, and researchers may spend considerable lengths of time in localized base camps. While the total number of individuals involved is very small compared to most other national parks, they represent discrete audiences for interpretive and park

management messages and require basic services. The following objective statements refer to all visitors plus extension audiences. Visitor management objectives related to the activities of researchers and military personnel will be developed in relation to existing national park directives and regulations covering those two areas.

4.6.1.1 Awareness/Extension Objectives

The primary objective of interpretation in the interim management period is to create an awareness of the park reserve and its unique and fragile resources in the minds of Canadians and potential foreign tourists who may decide to visit it, or have a particular interest in the arctic wilderness.

This objective will be achieved by developing and presenting awareness level communication media on the park reserve such as public service announcements, educational and promotional material, and exhibits designed for use in air terminals, wilderness travel conferences and other venues in southern Canada in particular. A video tape will be prepared for distribution. It will be made available to the media and tourism associations and operators in the arctic, such as outfitters and hotel owners for use as a means of orienting people to the park reserve. A brief awareness level leaflet will be produced for wide distribution.

4.6.1.2 Marketing and Tourism Objectives

The objective for marketing and tourism is to undertake joint initiatives with the Government of the Northwest Territories to develop marketing products and services for the park.

A joint tourism plan should be developed for the community of Resolute Bay to enable it to serve effectively as an entry point for the park. This will involve establishing, in co-operation with the territorial government, a staffed visitor reception booth at the air terminal, setting up a training program for guides in response to demonstrated interest on the part of residents, and developing

appropriate exhibits, print and video media for general marketing use.

The Canadian Parks Service will work co-operatively with residents of Grise Fiord and Resolute Bay to identify guide training opportunities and provide training where required. Exhibits and other media needed to promote Grise Fiord as a part of an Ellesmere travel and visitor experience package will also be developed. These efforts will be designed to enable the community to realize benefits from tourists travelling to the park reserve.

The Canadian Parks Service will assess the need for a tourism and visitor activities officer serving both Ellesmere Island and Auyuittuq park reserves and future program initiatives in the Eastern Arctic.

4.6.1.3 Orientation/Reception Objectives

The objective for orientation and reception is to provide information to visitors well enough in advance of their trip to allow them to understand the nature of the area and to thoroughly prepare for their visit. The conditions that visitors will experience in the park are such that there will be a need to assess their qualifications and degree of preparedness. The isolation, weather, terrain, animal behaviour and environmental sensitivity of the park reserve are not typical of most national parks. This first level of orientation will include brief descriptions of the living and travelling conditions a visitor will encounter. The main park brochure will be designed to fulfil that function.

Many visitors will visit the park reserve under the guidance of a commercial outfitter. These operators will be supplied with park information to ensure that their clients are well oriented and their expectations are matched by their realized adventure at Ellesmere Island. Visitors arriving at Tanquary Fiord will receive on-site orientation which will supplement that obtained at Resolute Bay and provide them with specific guidance to fine tune their plans based upon the most recent information. Resolute Bay



Park visitors arriving at Lake Hazen

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will serve as the primary point for visitor orientation and registration.

An orientation/interpretive display on the park reserve and in particular the Tanquary Fiord area will be set up at the operation centre at Tanquary Fiord. Small displays with awareness, orientation and visitor reception functions will be installed in the hotel in Grise Fiord and the air terminal in Resolute Bay in addition to the awareness level exhibit that will be in the airport in Iqaluit.

In conjunction with the Government of the Northwest Territories, additional visitor reception services will be provided at Resolute Bay for those en route to Ellesmere Island NPR. A visitor information officer will be contracted to staff an information and reception booth in the air terminal. This will be operated throughout the summer visitor season in response to demand. As Transport Canada is now planning to replace the existing air terminal at Resolute Bay, the Canadian Parks Service will continue to work with the Airport Planning Group to ensure that the long-term requirements for visitor reception and orientation are accommodated within the new terminal design.

4.6.1.4 Information Objectives

Programs and services related to information provision will supply visitors with in-depth information on topics such as travel conditions, logistics of various hiking routes, fragility of the environment and cultural resources, potential hazards and opportunities for exploring the park.

The main park brochure will contain more information at a greater level of detail than that found in the standard brochures. It will be required by visitors who need a comprehensive information and trip planning package, as well as being an essential on-site source of information on the park reserve.

A key requirement to meet the information objective is good mapping. The Canadian Parks Service will identify the priority visitor use areas of the park and work with the Department of Energy, Mines and Resources to have the necessary 1:50,000 scale maps produced on a priority basis.

4.6.1.5 Heritage Presentation Objectives

The interpretation program will endeavour to promote an understanding and appreciation of the most significant aspects of the natural and cultural heritage of northern Ellesmere Island. A preliminary assessment of the heritage values of the park reserve area identified the following themes which will be presented in publications, video productions and exhibits.

1) Unique Landscape Elements of Northern Ellesmere Island

The many unique characteristics of Ellesmere Island make this a truly exotic Canadian landscape. The extreme isolation, lack of trees, absence of significant signs of human activities, 24 hour daylight period during the visitor season, the behaviour of many species of wildlife in that they exhibit little fear of humans, and other aspects combine to create the feeling that one really is at the edge of the world.

2) Lake Hazen Arctic Oasis

The Lake Hazen area is an arctic oasis in the polar desert of the Canadian High Arctic. It is warmer and



Hikers in Red Rock Valley

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in many places better watered than most of northern Ellesmere Island. As a result, the vegetation and wildlife is more plentiful and varied in the Hazen basin.

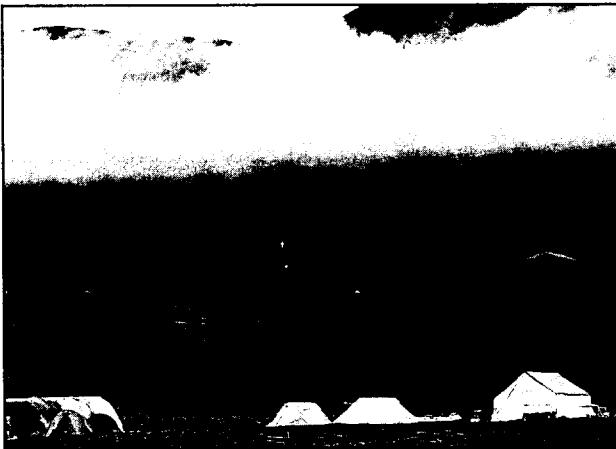
3) Exploration and Survival in the High Arctic
The record of human activity in the park reserve, spanning almost 4,000 years, demonstrates the courage, adaptability, strength and determination of the people who chose to live there and explore its wilderness. The record includes 4,000 year old tent rings and the remains of 19th century European exploration expeditions and the many research projects that have been based in the area.

4) Glaciation in the High Arctic
Glaciation in the High Arctic is not a prehistoric event as it is in most of Canada. It is an active land forming process at work throughout most of the park reserve. The ice shelves off the northern coast of the island are unique ice features, and piedmont glaciers are also evident. Alpine glaciers flow down into and across valleys and are not restricted to the higher reaches of the mountains as they are elsewhere in Canada. Even permafrost action is dramatically evident and not hidden beneath the soil. A wide variety of recently formed glacial landforms is evident throughout the park reserve.

4.6.1.6 Recreational Opportunities Objectives

This objective is to provide visitors with opportunities to participate in activities that are in keeping with the wilderness protection objectives of the park reserve. The following are to be provided during the interim management period:

Backpacking with no-trace camping will continue to focus on the Lake Hazen to Tanquary Fiord corridor using the MacDonald and Very River valleys. Such trips will be "expedition" in nature due to the absence of developed hiker facilities in the park reserve. Currently, visitors plan their long distance hikes in that corridor because of the need to be dropped off and picked up at either of the two base camp locations with serviceable airstrips, Tanquary Fiord and Lake Hazen Defence Research Board camps. However, many other options for long and short distance overnight backpacking exist. These extend out from the two base camps and include loops through the Airforce, Rollrock and Red Rock valleys near Tanquary Fiord and loops through Glacier



Outfitter's Camp, Lake Hazen

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Pass and Blister Creek Valley near Lake Hazen camp. These will be inspected and subject to a hazard assessment by park wardens prior to being included within park information brochures and fully recommended for visitor use.

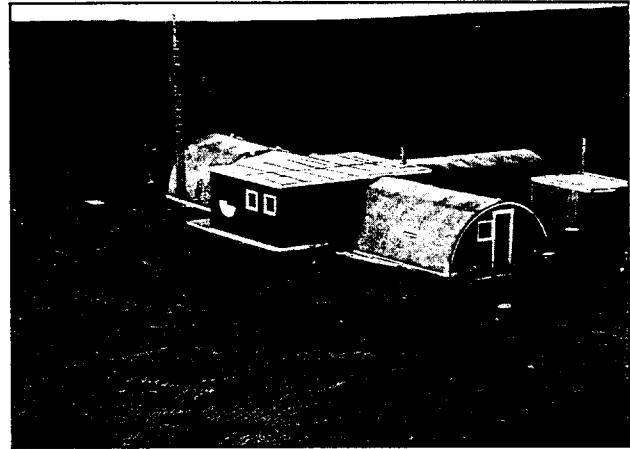
Day hiking will focus on those areas where aircraft landing is permitted. In the interim management period, this will restrict day hiking to the areas around the Tanquary Fiord and Lake Hazen Defence Research Board camps. Many opportunities have already been identified and information for a number of them is adequate for visitor use at present.

A special case will be made for day hiking at Fort Conger. Although this sensitive archaeological site will have access restricted to it through the zoning plan regulations, visitors will be allowed to land at the nearby airstrip and visit the site in the company of a park warden. This level of control is required not only because of the sensitivity of the historical remains but due to safety concerns over the potential presence of polar bears in the area.

Natural and Cultural Resource Study. Wildlife viewing, plant identification, visits to archaeological sites and other types of informal studying of the park resources will be a major component of most visitors' activities. Some visitors will paint, sketch or photograph the many outstanding features of the park reserve. Others will record their studies through writing in journals or keeping track of bird sightings. These activities will be carried out while visitors are hiking, day hiking and air touring in the park reserve.

Air tours will provide opportunities for visitors to see sections of the park reserve that are virtually inaccessible by any other means. The tours may be a part of access or egress flights into base camps, special charters or incidental to "North Pole" tours. The latter are outfitted, late winter flights over the park reserve to the North Pole which depend on a refuelling stop at Lake Hazen.

Recreational fishing for arctic char is now occurring at Lake Hazen. While it can be expected that many visitors will fish during their visit, only a few will come primarily to fish as opportunities of similar quality exist throughout the arctic.



Borek Camp, Lake Hazen

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4.6.1.7 Support Services Objectives

Interpretation Facilities and Programs

No on-site interpretive facilities will be developed in the park reserve beyond the immediate area of the base camp operation at Tanquary Fiord.

Interpretive information programs on the purpose of national parks and the way they are managed will be presented when opportunities arise in the communities of the Eastern High Arctic.

The Canadian Parks Service will participate with the Government of the Northwest Territories in the development of interpretive exhibits and audio-visual productions for the visitor reception centre to be constructed by the territorial government in Iqaluit. Ellesmere Island NPR will be featured prominently in these media.

Recreational Facilities and Services

Tanquary Fiord

Facilities proposed for this site, described in Section 4.3, will serve as the main visitor node in the park reserve. The visitor facilities will be used by both day hikers on an extended basis and long distance hikers who may only overnight in the camp before beginning their hikes or at the end of their trip. These facilities will provide not only emergency shelter for visitors but basic, daily accommodation as well. Primitive camping will be permitted at designated sites at the camp. A site plan will be prepared to guide development of this area.

Lake Hazen, Defence Research Board Camp (North Shore)

The Canadian Parks Service will maintain and selectively upgrade the existing shelter and may add an additional weatherhaven unit during the interim management period based on visitor needs, safety considerations and park operational requirements. Self-sufficient tourist outfitters will be permitted to continue to use the existing camp area.

Lake Hazen, Borek Camp (South Shore)

The visitor activity opportunities on the south shore of the lake in the area surrounding the existing camp area held under lease are not as varied or interesting as those on the north shore. The landscape is an unvarying rolling plain, thinly vegetated and carpeted by patterned clay ground carved by desiccation and frost cracks. While this

landscape is an impressive one in its own right, it does not provide the same range of recreational and educational opportunities as does the vicinity of the old Defence Research Board camp on the north shore.

The Canadian Parks Service will gain administrative control over the leased property from the Department of Indian Affairs and Northern Development when the park reserve lands are legally created as a national park reserve.

The Canadian Parks Service will continue to allow air carriers to utilize the site, or to land on the ice adjacent to the camp. However, the environmental and aesthetic conditions of the main airstrip and the camp itself do not meet park standards for public safety and visitor appreciation and enjoyment. Clean-up and improved management are required and will be undertaken as a condition of lease renewal. Discussions will be held with the leaseholder to develop an alternative location for this base camp facility for consideration in the management planning program.

Other Facilities

No other developed facilities will be provided during the interim management period. Hikers venturing out from the base camps must be self-contained and self-sufficient. Information on trail routes will be provided but no trails, river crossing structures or primitive camping facilities will be available. The need for emergency shelters will be considered during the preparation of the park management plan.

Visitor Services

The Canadian Parks Service will encourage private tourist outfitting operations to provide guiding and outfitting services for visitors to Ellesmere Island NPR. These operators will support backpacking, day hiking, recrea-

tional fishing and air touring. During the interim management period, they will operate out of the three base camps (Lake Hazen Defence Research Board camp, the Borek camp on the south side of Lake Hazen and Tanquary Fiord) with Tanquary Fiord as the primary facility. The operators will either be self-sufficient or will gain the permission of the superintendent before using the visitor facilities at Tanquary Fiord for their clients. These facilities will be available for reservation on a first-come basis. Guides must qualify to hold a National Park Guide license by meeting standards to be developed by the superintendent. The Canadian Parks Service will consult with the Government of the Northwest Territories on the matter of standards for licensed guides and outfitters and required training.

Potential sites for private tourist outfitting operations in the park will be inventoried. These sites may be made available for public use based on an analysis of the sites' capability to generate and sustain use, accessibility, and other factors.

The need to maintain the wilderness qualities of the park and the requirement to safeguard natural and cultural resources may necessitate the implementation of a quota system for visitors. Controlling the number of visitors would ensure that visitor expectations for a wilderness experience would be realized.

4.7

Co-operative Activities and Regional Integration

4.7.1 Objectives

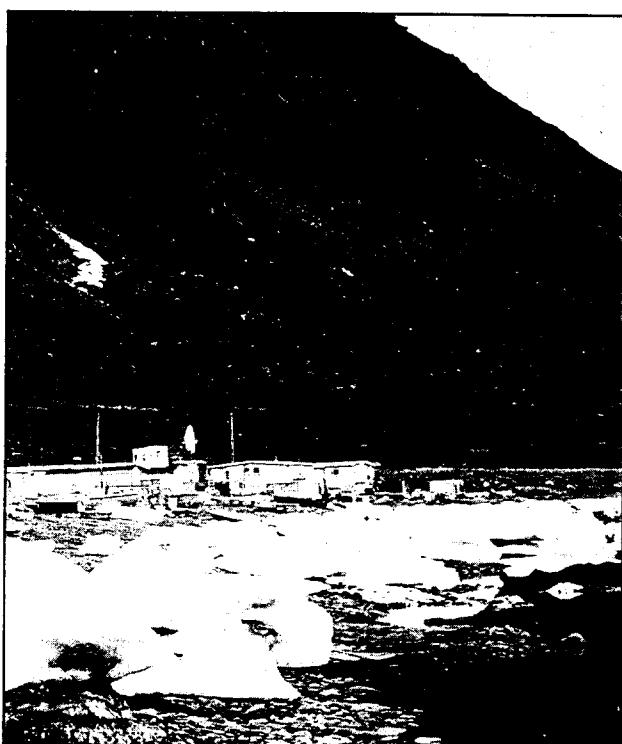
During the interim management period the following Regional Integration and Co-operative Activities objectives will be pursued:

- a) to maximize the social and economic benefits of Ellesmere Island NPR on the region through means that are compatible with the park objectives and the establishment agreement; and,
- b) to minimize possible adverse effects on the heritage resources and processes of the park reserve which may occur as a result of policies or practices in adjacent areas.

4.7.2 Guidelines

These objectives and the actions taken to achieve them will ensure that the policies for development and management of Ellesmere Island NPR blend as much as possible with the objectives for development and management of the lands and waters surrounding the park reserve. Second, the Canadian Parks Service will work to ensure that policies for Ellesmere Island NPR are understood and accepted by those resident or active in the region. The local communities of Grise Fiord and Resolute Bay will be actively involved in selecting an Inuktitut name for the park reserve.

The Canadian Parks Service is committed to developing a common strategy and joint initiatives with the Government of the Northwest Territories and other federal departments for marketing and tourism planning. Administration and regional park operations, visitor orientation, resource studies and management will also be the focus for co-operative efforts. The Canadian Parks Service is also committed to involving other agencies, community groups and associations in resolving matters



Grise Fiord

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of common interest and concern. The Grise Fiord Park Advisory Committee and Resolute Bay Council in particular will be consulted regularly on park management, planning, development, and regional integration matters. The Canadian Parks Service will work co-operatively with other federal departments and the Danish National Parks Board to twin Ellesmere Island NPR and the national park in northern and eastern Greenland.

4.7.3 Native Land Claims

The National Parks Act as amended (1988) establishes Ellesmere Island National Park Reserve, pending a land claim settlement between Canada and the Tungavik Federation of Nunavut (TFN) respecting the right, title or interest of the Inuit of the Central and Eastern Arctic to the area. In keeping with its status as a "park reserve", Ellesmere Island will be managed in accordance with the National Parks Act and Regulations, traditional hunting, trapping and fishing by people of native origin living in the Northwest Territories will continue. Upon settlement of the TFN land claim, a national park will be established by proclamation and be subject to the terms of the land claim agreement. Land claim negotiations are presently proceeding between the federal government and TFN. Two agreements which will form part of the overall settlement and are of particular relevance to the park reserve have been initialled by the chief negotiators. A national parks agreement initialled in 1983 provides, among other matters, for Inuit involvement in national park planning and management, as well as local benefits such as training, employment and other economic opportunities. A wildlife agreement initialled in 1986 affirms Inuit harvesting rights throughout their "settlement area", including the park reserve, subject to conservation measures and guarantees equal representation on a Nunavut Wildlife Management Board. It is expected that conclusion of the final land claim agreement will take several years.

4.8 Research and Future Planning

4.8.1 Objectives

The objectives for future research and planning are:

- to provide information required for park management and that which is necessary for the purposes of the Canadian Parks Service;
- to provide opportunities for basic scientific research within the park reserve; and,
- to complete and implement plans as a basis for effective park management and as required by the Park Establishment Agreement.

4.8.2 Guidelines

1. The Canadian Parks Service will manage and encourage research within the park reserve in a co-operative manner with other federal and territorial research organizations, universities, non-government organizations and private citizens.
2. The Canadian Parks Service will manage and control research in the park reserve as outlined in Management Directive 2.4.5, Research and Collections Activities in Parks. The Polar Continental Shelf Project will continue to serve a logistical support function for research in the region. The Science Institute of the NWT will be consulted on research

applications and activities in advance of the field season.

3. The Canadian Parks Service will co-operate and collaborate with the Government of the Northwest Territories regarding both cultural and natural resource research activities.
4. The Canadian Parks Service will utilize the research permit system as outlined in the directive "Research and Collection Activities in Parks".
5. Temporary research facilities may be located within the park reserve to contribute to the safety and well-being of researchers.
6. The Canadian Parks Service will encourage dissemination of information resulting from research undertaken in the park reserve. The Science Institute of the NWT will receive copies of research reports.
7. The Natural Resource Management Process will be implemented to guide resource protection and management and provide information for park planning. Research opportunities associated with this process will be made available to universities and the Government of the Northwest Territories where cost and expertise are competitive.
8. The Visitor Activities Management Process will be implemented to provide input to park management planning.
9. A park management plan will be prepared commencing in 1990 to provide long range direction for management and development. Public participation including community consultations will be undertaken as part of the planning program. The management plan, when completed in 1992 and approved by the Minister of the Environment, will guide future research activities. Background studies to provide information for park management planning will be undertaken as required.
10. Interim site plans will be prepared for the Tanquary Fiord and Lake Hazen Defence Research Board camp areas.
11. The north shore of Lake Hazen, particularly the Defence Research Board Camp area, Tanquary Fiord area and the Borek Camp area, will be the subject of a study to determine the capability of the area to sustain visitor use without environmental damage. The results of this study will provide information for management planning purposes.
12. A Market Analysis and Demand Projection Study will be undertaken jointly with the Government of the Northwest Territories. A tourism plan for the park reserve and region will also be prepared.

4.9

Implementation

The Interim Management Guidelines do not represent an end in themselves, but serves as a framework for future implementation, development and planning. Implementation will be the responsibility primarily of the superintendent and chief park warden. Regional office and other park staff also share responsibility for implementation. The IMGs will be implemented through two main mechanisms—the Multi-Year Operational Plan and the annual work planning exercise. The former will serve as the vehicle for implementation of capital projects. Work planning will identify those actions necessary to convert

the Interim Management Guidelines dealing with park operations into concrete results.

The quarterly report on goal achievement will also assist with implementation of the IMGs. As part of implementation, the park superintendent will re-examine the guidelines each year in consultation with the management and staff of Prairie and Northern Region Office.

5.0

ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACT ASSESSMENT AND REVIEW

The preparation of the Interim Management Guidelines document has been registered as required by the Environmental Assessment and Review Process and related directives. The restrictive nature of the guidelines and the decision to confine developments and park operations to areas previously subject to use are expected to result in environmental impacts which can be successfully mitigated. The more restrictive management regime

which will occur as a consequence of park establishment and the implementation of the IMGs may actually reduce environmental damage, compared to the pre-park period when activities were less regulated.

A Social and Economic Action Plan for the establishment of the national park reserve was prepared in 1983. In keeping with the spirit and intent of this plan, the park establishment agreement and the IMGs, opportunities for training for park and other park related positions will be provided. Any employment opportunities will be made available to qualified northern candidates. Park operations will generate business opportunities and northern businesses will receive preference for such opportunities where cost and qualifications are competitive.

The Social and Economic Action Plan will be updated and refined on an ongoing basis. The updated action plan will provide information to assist in implementing the Interim Management Guidelines and for management planning.

**LIGNES DIRECTRICES PROVISOIRES
SUR LA GESTION DE LA RÉSERVE
DU PARC NATIONAL DE L'ÎLE D'ELLESMEYER**

Région des Prairies et du Nord
Février 1989



LIGNES DIRECTRICES PROVISOIRES SUR LA GESTION
DE LA RÉSERVE DU PARC NATIONAL D'ELLESMORE

Boeuf musqué, plateau Hazen

Service canadien des parcs (SCP)

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le 24 octobre 1988

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le 25 octobre 1988

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Carte 1: Contexte régional

1.0 SOMMAIRE ADMINISTRATIF

Les Lignes directrices provisoires sur la gestion constituent un guide sur l'administration du parc, la gestion des ressources naturelles et culturelles, les activités des visiteurs, et l'intégration régionale. Elles décrivent également la vocation du parc et un scénario de fonctionnement et d'aménagement. La réserve du parc national de l'Île-d'Ellesmere y est définie comme une région sauvage qui s'adresse à un marché particulier de visiteurs; son fonctionnement est assuré, pendant la saison touristique, par le personnel basé à Tanquary Fiord durant l'été. La réserve du parc national d'Auyuittuq servira de centre administratif, le directeur de cette réserve administrant également la réserve du parc national de l'Île-d'Ellesmere. Ces lignes directrices provisoires assureront la protection des ressources exceptionnelles et fragiles de la réserve du parc. Elles sont conformes à l'entente sur la création du parc et prévoient que leur mise en œuvre ne compromettra pas la planification future de la gestion du parc.

Parmi les autres caractéristiques de ces lignes directrices, mentionnons les projets menés en collaboration avec les ministères fédéraux et territoriaux, et l'importance accordée à l'intégration régionale et aux avantages que peuvent tirer les résidents de l'exploitation de la réserve.

2.0 CONTEXTE DES LIGNES DIRECTRICES PROVISOIRES SUR LA GESTION

2.1 Cr éation de la R éserve du Parc National de l'Île-d'Ellesmere

C'est en 1978 qu'a été exprimé officiellement et pour la première fois l'intérêt que présentait la partie nord de l'île d'Ellesmere en tant que réserve de parc national. Ce site faisait partie, à titre de région naturelle d'importance pour le Canada, des six projets de parcs au nord du 60° parallèle, mis de l'avant cette année-là.

Parmi les autres étapes importantes ayant mené à la création de la réserve du parc national de l'Île-d'Ellesmere, on compte la signature d'un Mémoire d'entente avec le gouvernement des territoires du Nord-Ouest le 25 février 1982, et la mise en réserve de la région à des fins de parc national en vertu de la Loi sur les terres territoriales de 1982. Les collectivités de Grise Fiord et de Resolute Bay ont exprimé leur appui formel au concept de réserve de parc en décembre 1984.

L'entente conclue avec le gouvernement des territoires du Nord-Ouest sur la création de la réserve du parc national de l'Île-d'Ellesmere a été signé à Tanquary Fiord et à Resolute Bay le 20 septembre 1986. La modification apportée à la Loi sur les parcs nationaux le 16 septembre 1988 créait officiellement la réserve du parc national de l'Île-d'Ellesmere.



Glacier, fjord de la côte nord

S.C.P.

que leur statut d'île a été reconnu par les patrouilles aériennes.

Le paysage diversifié de la réserve du parc national de l'Île-d'Ellesmere présente toutes les principales caractéristiques des îles de l'Arctique.

Les monts Grant Land sont une chaîne montagneuse irrégulière composée de roches sédimentaires traversant toute la partie septentrionale de l'île. Ils sont couverts de champs de glace pouvant atteindre jusqu'à 900 m d'épaisseur. D'imposants glaciers s'avancent vers le plateau Hazen et les fjords profonds de la côte nord. Véritables vestiges de la dernière glaciation, ces champs renferment de la glace dont l'âge est évalué à plus de 100 000 ans. Plusieurs pics atteignant une altitude de 2500 m ou plus au-dessus du niveau de la mer semblent jaillir soudain de la couverture de glace. Parmi ces pics, on compte le mont Barbeau qui, avec ses 2616 m, est la montagne la plus élevée de l'est de l'Amérique du Nord.

À partir du flanc sud des monts Grant Land, le relief descend brusquement jusqu'au plateau Hazen et le lac du même nom. Le lac Hazen mesure environ 70 km de longueur et 260 m de profondeur, et se trouve à 100 m sous le niveau de la mer. C'est l'un des plus grands lacs de la région circumpolaire.

Le plateau Hazen, avec son socle rocheux sédimentaire plissé, s'élève graduellement en allant vers le sud-est sur une distance d'environ 80 km, jusqu'à la mer. À cet endroit, on est à 1000 m au-dessus du niveau de la mer; des vallées glaciaires et des fjords spectaculaires comme Discovery Harbour découpent profondément l'extrémité soulevée du sud du plateau.

Bien que cette région soit l'une des plus arides de l'hémisphère Nord—c'est un véritable désert polaire—on trouve des parcelles luxuriantes de carex, de plantes herbacées et de saules arctiques dans les zones plus humides et les sites protégés par les effets modérateurs du microclimat. Ces communautés végétales constituent d'importants habitats pour le petit nombre de bœufs musqués et de caribous de Peary de la réserve du parc. Le parc abrite également le loup blanc, le renard arctique, le lièvre arctique, l'hermine et le lemming. Des mammifères marins comme le phoque barbu et le phoque annelé fréquentent

les eaux environnantes, mais leur nombre est limité.

C'est dans les vallées fluviatiles du plateau Hazen, au nord-est du lac Hazen, que l'on trouve le plus d'espèces animales et végétales, particulièrement le long de la rive nord du lac. Le lac Hazen et son bassin environnant captent les rayons solaires réfléchis par les monts Grant Land, ce qui donne lieu à des étés étonnamment chauds et longs et à une végétation relativement abondante pour une telle latitude.

À l'intérieur de la réserve du parc national de l'Île-d'Ellesmere, on peut observer au moins 30 espèces d'oiseaux, dont plusieurs migrent de l'Europe et quelques-unes de l'Antarctique. Parmi les espèces les plus communes, mentionnons le labbe à longue queue, le tournevier roux, la sterne arctique, le bécasseau à poitrine rousse, le bruant des neiges, l'oie blanche, le harfang des neiges, le huard à gorge rousse, le canard kakawi et l'eider remarquable.

Il n'est pas rare de trouver des traces d'activités humaines dans la région, et celles-ci vont des campements paléoinuit vieux de 4000 ans aux cairns et aux caches aménagées par les explorateurs de la fin du XIX^e siècle et du début du XX^e. Les camps, l'équipement et les caches abandonnés par les chercheurs qui sont venus dans la région depuis les années 1950 et peut-être avant présentent également un intérêt historique. On trouve aussi d'importants sites archéologiques dans les limites du projet de parc.

Les premiers humains qui ont habité la région ont migré de contrées situées plus à l'ouest, il y a environ 4000 ans. D'après les connaissances actuelles, la culture dite Indépendance I serait la première à avoir habité le parc. Elle aurait colonisé certaines parties du haut Arctique canadien et la côte nord du Groenland, mais elle n'aurait pas compté plus de quelques centaines de personnes (au Canada). Cette culture s'est éteinte après trois ou quatre siècles, et le parc est resté inhabité pendant plus de 500 ans.

La plus grande partie des sites connus de la culture Indépendance I se trouvent à l'intérieur de la région du parc. Leur importance est capitale, car ils sont associés à la première présence humaine dans la région, et ils sont relativement rares.

saison pendant laquelle les conditions météorologiques sont agréables et propices au voyage. Les voyageurs plus aventureux visitent habituellement le parc en mai, dans le cadre de leur expédition vers le pôle Nord.

L'été, les visiteurs sont plutôt jeunes ou d'âge moyen. Ce sont des adeptes de la nature, et plusieurs d'entre eux sont des excursionnistes d'expérience ou des amateurs de l'arrière-pays. Ils font partie de la catégorie aventure du marché du voyage. Ils sont autonomes et ont une certaine connaissance de l'histoire naturelle et culturelle de la région.

Les visiteurs un peu plus âgés qui utilisent les camps de base des pourvoyeurs et se livrent à des excursions d'une journée, à l'observation de la nature, à la photographie et à la pêche, constituent la deuxième catégorie d'estivants.

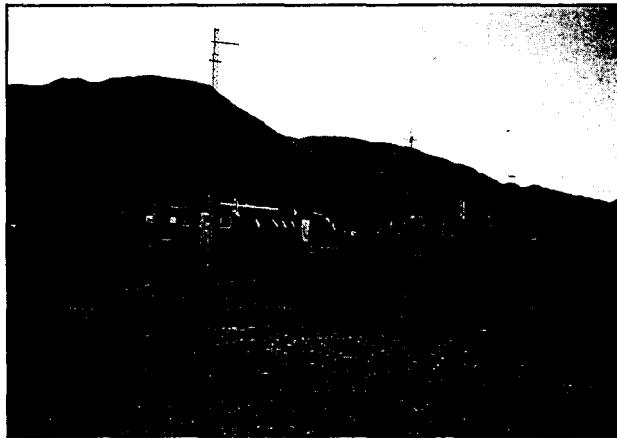
Comme le parc est très isolé et qu'il n'existe pas de vols réguliers, tous les visiteurs doivent avoir recours à des avions nolisés basés à Resolute Bay. La plupart des visiteurs font également appel aux services de pourvoyeurs et de guides de Resolute Bay ou d'agences de voyage du sud du Canada qui offrent des voyages exotiques.

Les visiteurs nourrissent de grandes attentes quant à leur voyage dans le parc; ils veulent faire l'expérience de la solitude et comprendre l'environnement du haut Arctique. Ces visiteurs s'attendent à trouver sur place un hébergement modeste, mais le type et le niveau de gestion du parc devraient être plutôt discrets.

À cause de son caractère sauvage et de son isolement, la réserve du parc s'adresse à une catégorie spéciale de touristes. Le nombre de visiteurs s'accroîtra probablement à mesure que le parc deviendra mieux connu. L'environnement du parc est vulnérable aux intrusions humaines répétées, et ce facteur impose des limites au nombre de visiteurs si l'on veut atteindre l'objectif fixé en matière de protection des ressources.

Les visiteurs étant par nature autonomes, leur nombre et le but de leur visite rend inutile l'aménagement d'installations d'envergure.

Les structures d'hébergement de base requises à Tanquary Fiord constituent des installations appropriées à la réserve du parc. Celles-ci serviront de refuge aux groupes d'excursionnistes arrivant au parc ou qui doivent y attendre leur départ à bord d'un avion nolisé. Il faut également prévoir un centre pour accueillir les visiteurs, leur permettre de s'enregistrer et leur présenter des expositions sur l'interprétation de la nature.



Bureaux de l'administration.
Tanquary Fiord

S.C.P.

Comme l'avion constitue le seul moyen de transport vers la réserve d'Ellesmere, il faudra conserver les pistes d'atterrissement actuelles. Les pourvoitures et les guides continueront d'offrir leurs services à titre privé, étant donné c'est grâce à eux que les visiteurs peuvent avoir accès à la réserve. Les deux seuls terrains de camping qui seront officiellement désignés comme tels seront le camp de Tanquary Fiord et celui du Conseil de recherches pour la défense, au lac Hazen.

Les installations de gestion et d'exploitation de la réserve seront modestes et centralisées principalement à Tanquary Fiord. Le terrain de camping du lac Hazen du Conseil de recherches pour la défense sera également utilisé. Des installations de base ont été aménagées à Tanquary Fiord à l'intention du personnel et pour l'exploitation efficace du parc, qui est restreinte à la saison estivale. Les patrouilles et autres activités opérationnelles se feront par avion ou à pied. L'exploitation de la réserve tiendra compte de la nature sauvage du parc et des attentes des visiteurs.

La recherche scientifique constitue un autre type d'exploitation du parc. Depuis longtemps, la région fait l'objet de recherches menées par les chercheurs des différents échelons de gouvernement, des universités et du secteur privé. Ces activités continueront d'être autorisées par l'entremise de permis de recherche.

L'administration centrale de la réserve du parc national d'Auyuittuq, située à Pangnirtung, constituera le centre administratif de la réserve d'Ellesmere.

3.5

Éléments à considérer

La gestion du parc doit respecter les attentes des visiteurs qui viennent dans le haut Arctique pour relever des défis et se trouver en pleine nature; elle doit aussi fournir à ces visiteurs des services et des installations appropriés. Le dossier des revendications territoriales, l'affirmation de l'autonomie des groupes autochtones, la souveraineté canadienne dans l'Arctique et les objectifs du gouvernement des territoires du Nord-Ouest en matière de tourisme constituent les éléments qui ont influé sur la création du parc et qui influeront sur la planification et la gestion de la réserve d'Ellesmere.

La région du parc n'est pas utilisée à des fins traditionnelles, étant donné que la collectivité la plus près du parc, Grise Fiord, est à 640 km au sud. Les seules activités que l'on y observe sont celles, peu fréquentes, des militaires, celles des chercheurs et celles de quelques touristes.

L'isolement de la région du parc exerce une influence sur la planification et la gestion de la réserve. Les coûts du transport du personnel sont très élevés. Les conditions météorologiques, qui rendent les déplacements imprévisibles, ont des répercussions sur l'exploitation du parc et sur le tourisme. Les coûts élevés du transport ont aussi un impact sur le nombre de visiteurs. Ces derniers sont très exigeants à cause de la nature même du groupe auquel ils appartiennent et de l'investissement financier que suppose un voyage vers la réserve d'Ellesmere.

L'entente sur la création du parc, qui traite de la planification du parc, de la gestion de ces ressources, de ses avantages socio-économiques et de son exploitation, constitue une préoccupation majeure dans l'exploitation et la planification de la réserve du parc.

L'environnement exceptionnel du parc est vulnérable, et le Service canadien des parcs doit faire preuve de prudence et d'imagination dans la planification et l'exploitation du parc

territoriales, le Plan régional du détroit de Lancaster et autres documents soient reconnus dans les décisions touchant la gestion du parc.

- Concevoir et mettre en œuvre une approche gestionnelle coopérative du parc le cas échéant.
- Satisfaire aux engagements et aux politiques d'intégration régionale comme ceux ayant trait aux préférences locales quant à la fourniture de biens et services, aux programmes de formation des résidents du Nord et à la création d'emplois.

Ces objectifs seront poursuivis de façon qu'ils contribuent positivement à l'économie de la région et au bien-être de ses résidents.

4.0 LIGNES DIRECTRICES PROVISOIRES SUR LA GESTION DE LA RÉSERVE

4.1 Introduction

Les Lignes directrices provisoires sur la gestion de la réserve du parc national de l'Île-d'Ellesmere sont exposées dans les sections suivantes. Elles resteront en vigueur jusqu'à ce qu'un plan de gestion du parc soit approuvé par le ministre de l'Environnement.

Les lignes directrices sont fondées sur les renseignements disponibles, les recherches menées sur le terrain de juillet à août 1987, et les deux premières années d'exploitation du parc (1987 et 1988). L'entente sur la création du parc (septembre 1986) et le Mémoire d'entente (février 1982) ont également fourni des renseignements sur lesquels s'appuient les lignes directrices, de même que des suggestions quant à l'orientation des énoncés. On a également puisé dans les documents préparés au cours du processus de création du parc (1978-1986). Les lignes directrices incorporent les contributions du gouvernement des territoires du Nord-Ouest, de l'Étude du plateau continental polaire, du ministère de l'Énergie, des Mines et des Ressources, et des collectivités de Grise Fiord et de Resolute Bay.

Les Lignes directrices provisoires sur la gestion ont été élaborées par une équipe de planification comprenant des membres du personnel du parc et du bureau régional des Prairies et du Nord.

4.2 Plan de zonage provisoire

4.2.1 Introduction

Le zonage des parcs nationaux est un instrument de gestion utilisé en fonction de buts prédéterminés. Le zonage d'un parc est fondé sur des objectifs de gestion, l'analyse des ressources et une évaluation des capacités de la région en regard de son rendement et de son exploitation durables. Il exprime les perceptions et les objectifs entourant la gestion des ressources d'un parc, et il prévoit le recours à diverses techniques de gestion de ressources données. Le zonage fournit des indications sur les utilisations possibles de régions particulières du parc et sur le niveau de protection requis, et renferme des objectifs généraux et des directives en matière de gestion.

4.2.2 Zone I—Zone spéciale de préservation

Le but fondamental d'une zone I est la reconnaissance et la préservation d'une caractéristique ou d'une région. L'objectif premier de la gestion du parc est la préservation et la protection de ses ressources.

Un contrôle doit être exercé sur l'accès du public à une zone I. Le niveau et le type d'exploitation réelle sont fonction de la fragilité des caractéristiques ou de la région désignées, et toute exploitation peut même être interdite. Les véhi-

cules motorisés n'ont pas accès aux zones spéciales de préservation.

La gestion des ressources d'une zone I sera déterminée d'après l'évaluation de ces ressources, et ces dernières seront préservées grâce à des techniques appropriées. Ainsi, la préservation de certains types de ressources peut signifier que toute intervention humaine doit être exclue, alors que la préservation d'autres ressources peut nécessiter une intervention active.

Les ressources devant être protégées à titre de zone I doivent satisfaire à un ou plusieurs des critères suivants : elles doivent être exceptionnelles, rares, menacées ou représentatives, ou constituer un patrimoine culturel important.

La protection de la zone I sera étendue de façon à inclure tous les sites préhistoriques et ceux du début de la période historique (avant 1930), et l'on procédera à l'inventaire et à l'évaluation de ces ressources. La désignation de la zone est fondée sur son caractère exceptionnel, sa rareté et son statut en tant que ressource culturelle importante. Les sites liés à la colonisation initiale du haut Arctique sont relativement rares au Canada et semblent être principalement concentrés dans la région du parc. D'après l'état actuel des connaissances, les sites de la culture Indépendance I sont ceux dont l'occupation remonte aux temps les plus reculés. D'autres sites abritent des exemples de vestiges culturels préhistoriques parmi les plus septentrionaux. Les sites du début de la période historique présentent, de façon toute particulière, le thème de l'exploration de l'Arctique canadien. Les sites préhistoriques et historiques de l'île d'Ellesmere ont particulièrement besoin d'être protégés, étant donné que la plupart de leurs vestiges sont exposés à la surface du sol et qu'ils sont très vulnérables aux dérangements et à la destruction que peut entraîner la fréquentation de ces sites par les visiteurs.

La gestion des sites archéologiques comportera l'inventaire et la surveillance des ressources de façon que les artefacts



Caribou de Peary

S.C.P.

On considère que ces camps ne cadrent pas avec le milieu naturel du parc. Le personnel des Services historiques et archéologiques procédera à une évaluation des sites avant toute activité de nettoyage afin de s'assurer qu'aucune ressource culturelle ou historique ne sera détruite. On profitera de cette évaluation pour monter un dossier photographique et écrit sur ces anciens camps de recherche et les artefacts qui y sont associés.

4.2.6 Besoins en recherche

Des renseignements supplémentaires, y compris des données sur lesquelles se fonderont les décisions touchant le zonage des terres, doivent être recueillis aux fins de la gestion du parc. La région située au nord-est du lac Hazen, qui comprend en outre les lacs Turnabout, Kilbourne et Craig, doit faire l'objet de recherches ayant trait à son zonage. Il faudrait aussi déterminer le degré de fragilité de l'environnement de la rive nord du lac Hazen, de la région de Tanquary Fiord et du camp Borek et ses environs.

Les travaux préliminaires sur le terrain indiquent que le nord-est du lac Hazen devrait peut-être faire l'objet d'une protection spéciale en tant que région faunique critique, mais on ne dispose pas de suffisamment de données pour prendre des décisions à cet égard. La région devra donc faire l'objet de recherches portant sur son zonage.

Le Processus de gestion des ressources naturelles fournira des données générales sur lesquelles les décisions ultérieures touchant le zonage pourront être fondées.

4.3 Concept du parc—scénario de fonctionnement et d'aménagement

Les lignes directrices sur le fonctionnement et l'aménagement du parc ont pour objectif le maintien de l'intégrité naturelle de la réserve d'Ellesmere et la préservation des régions, des caractéristiques et des écosystèmes fauniques et floristiques fragiles et spéciaux. De par sa vocation, le parc permettra aux Canadiens et aux gens du monde entier de voir et d'apprécier à sa juste valeur la réserve d'Ellesmere.

4.3.1 Aménagement d'installations

Tanquary Fiord constituera la base des opérations du parc. En outre, on trouvera, sur le site du camp du Conseil de recherches pour la défense, sur la rive nord du lac Hazen, un camp à l'intention des gardes qui patrouillent le parc.

1. Les installations devant être aménagées à Tanquary Fiord incluent un refuge pouvant abriter environ 20 personnes. Un autre refuge, qui comprendra une cuisine et une salle à manger, servira également de centre d'interprétation. Les quartiers réservés au personnel seront des abris distincts comprenant des dortoirs, une salle de séjour, une cuisine et des installations sanitaires, des bureaux et une salle de radio; leur aménagement permettra de faciliter l'administration du parc. Les refuges seront constitués d'arches d'aluminium préfabriquées couvertes d'une toile de nylon étanche et isotherme; ils ont été conçus spécifiquement pour des usages sur le terrain dans un environnement arctique.
2. Les installations décrites ci-dessus seront dotées des services de base suivants : eau courante, égouts et génératrice d'électricité.
3. Le camp de Tanquary Fiord, aménagé par l'Étude du plateau continental polaire avant la création du parc, continuera d'être sous la responsabilité de cet organisme et sera mis à la disposition des équipes de chercheurs. L'Étude du plateau continental polaire et le Service canadien des parcs utiliseront conjointement la hutte

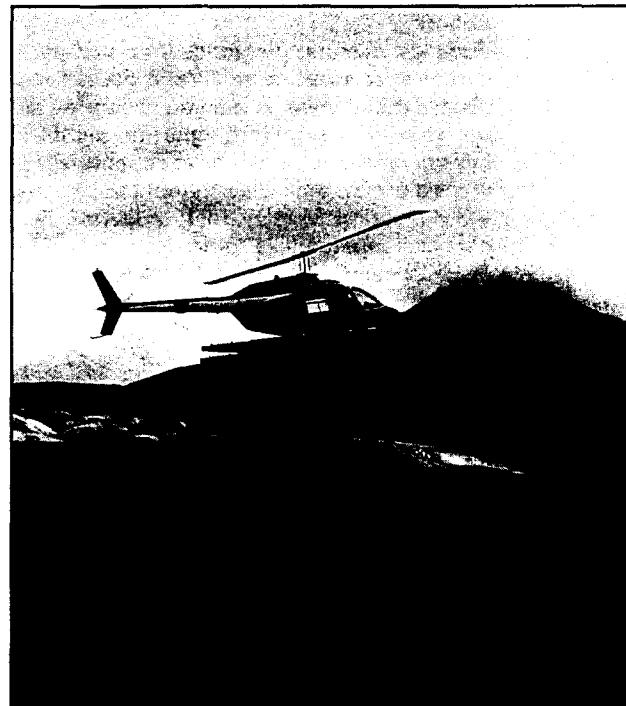
semi-cylindrique en acier qui sert actuellement d'entrepôt.

4. La baraque semi-cylindrique que l'on trouve au camp du lac Hazen (site du Conseil de recherches pour la défense) sera rénovée de façon qu'elle puisse servir de base provisoire pour les patrouilles du parc. La pertinence de cette disposition sera évaluée chaque année. Un refuge supplémentaire pourrait être érigé ultérieurement si l'évaluation annuelle démontre qu'un tel aménagement serait utile aux gardes ou en tant qu'abri de secours pour les visiteurs.
5. Des installations sanitaires dont l'apparence et la conception seraient adaptées au site seront aménagées à Font Conger, près de la piste d'atterrissage.

4.3.2 Accès au parc et gestion des vols

On a accès à la réserve du parc national de l'Île-d'Ellesmere par avion, et le type d'appareil le plus utilisé est le Twin Otter. La piste d'atterrissage de Tanquary Fiord peut accueillir des DC-3 et des Hawker Sidley 748. Les militaires, les chercheurs et le personnel du parc utilisent très fréquemment des hélicoptères.

1. Tanquary Fiord, le camp du lac Hazen et le camp Borek seront désignés comme sites d'atterrissage à l'intérieur de la réserve d'Ellesmere, et les avions commerciaux et militaires auront la permission d'y atterrir. Aucun service n'y est toutefois prévu, et les atterrissages sont laissés à la discrétion des pilotes.
2. Tout atterrissage devant se faire, pour une raison quelconque, ailleurs que dans les sites désignés à l'intérieur de la réserve, devra être approuvé au préalable par le directeur du parc ou une personne désignée par lui.
3. Tout atterrissage d'urgence dans la réserve d'Ellesmere doit être rapporté au directeur du parc dans les plus brefs délais. Dans le cas d'un écrasement d'avion, ce sont les Forces canadiennes qui seront chargées des opérations de recherche et de sauvetage. Les militaires avisent le directeur du parc dès qu'une opération de

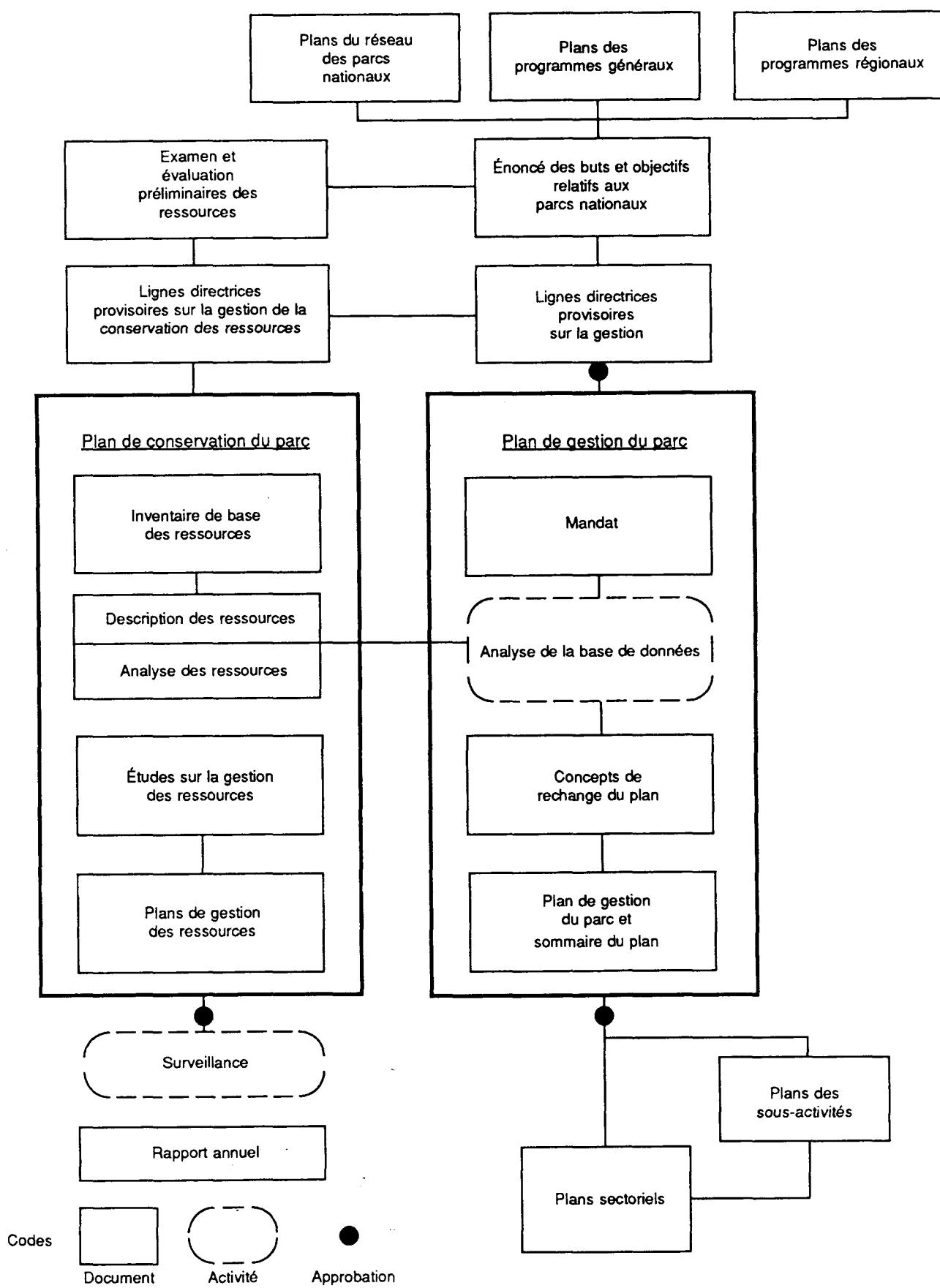


Hélicoptère, campement du lac Hazen

S.C.P.

FIGURE 2

**PROCESSUS DE GESTION DES RESSOURCES NATURELLES
ET DE PLANIFICATION DES PARCS NATIONAUX**



- 3) Pendant la période d'application des lignes directrices provisoires, le camp du lac Hazen Conseil de recherches pour la défense sera considéré comme une ressource historique. Les réparations majeures et/ou les modifications qui seront apportées aux structures actuelles tiendront compte du caractère patrimonial de ces structures et devraient être surveillées par les Services archéologiques et historiques. Le nettoyage des sites associés aux recherches sur le patrimoine du nord devrait être effectué en consultation avec les Services archéologiques et historiques.

4.5.2 Lignes directrices provisoires sur la gestion des ressources culturelles (ressources historiques)

4.5.2.3 Besoins d'études sur les ressources historiques

- 1) On préparera un inventaire préliminaire des sites historiques connus dans la réserve d'Ellesmere et la région environnante, de même qu'une courte description des ressources associées à ces sites. On procédera également à une première évaluation de leurs liens avec les thèmes ayant une importance historique.
- 2) L'historique des activités humaines dans la réserve du parc sera établi pour que l'on puisse évaluer l'importance des ressources et la nécessité de les protéger et de les conserver. On recueillera des témoignages oraux afin de mieux comprendre l'utilisation récente de la partie septentrionale de l'île d'Ellesmere par les scientifiques et de déterminer l'emplacement de leurs recherches. Des témoignages oraux seront également recueillis auprès des Inuit sur l'utilisation et les activités des autochtones dans la région. Ces renseignements serviront de base à l'interprétation de l'histoire récente de la région.

4.6 Activités des visiteurs

4.6.1 Objectifs

Les visiteurs qui se rendent à la réserve du parc sont des touristes, des chercheurs, des militaires, des pourvoyeurs de services aériens et touristiques, et des employés du gouvernement. On ne trouve aucun résident permanent ni

dans le parc, ni dans ses environs. Toutefois, les chercheurs de même que les militaires qui utilisent le parc à des fins d'entraînement et pour des activités récréatives peuvent passer beaucoup de temps dans les camps de base. Bien que ces visiteurs soient très peu nombreux comparativement à ceux de la plupart des parcs nationaux, ils constituent les publics distincts auxquels s'adressent les programmes d'interprétation et de gestion du parc, et ils ont besoin de services de base. Les énoncés d'objectifs suivants ont trait à tous les visiteurs et au grand public. Les objectifs de gestion ayant trait aux activités des chercheurs et des militaires seront élaborés en fonction des directives et règlements actuels des parcs nationaux applicables à ces deux secteurs d'activités.

4.6.1.1 Objectifs touchant la sensibilisation du grand public

L'objectif premier du programme d'interprétation à mettre en œuvre pendant la période d'application des lignes directrices provisoires est de faire connaître la réserve du parc et ses ressources exceptionnelles et fragiles aux Canadiens et aux touristes étrangers susceptibles de visiter la région ou s'intéressant particulièrement à la nature sauvage de l'Arctique.

Pour atteindre cet objectif, on élaborera des outils de communication, par exemple, des messages d'intérêt public, du matériel de sensibilisation et de promotion, et des expositions pouvant être utilisées dans les aéroports, lors de conférences sur les voyages exotiques et dans d'autres endroits du sud du Canada plus particulièrement. Un film vidéo sera également mis à la disposition des médias, des associations touristiques, des pourvoyeurs et des propriétaires d'hôtels de l'Arctique qui pourront ainsi présenter la réserve du parc aux visiteurs.

Un petit feuillet de sensibilisation du public sera produit et diffusé à une grande échelle.

4.6.1.2 Objectifs touchant la promotion et le tourisme

Les objectifs touchant la promotion et le tourisme seront poursuivis grâce à des projets menés en collaboration avec le gouvernement des territoires du Nord-Ouest et portant sur les produits et les services de promotion relatifs au parc.



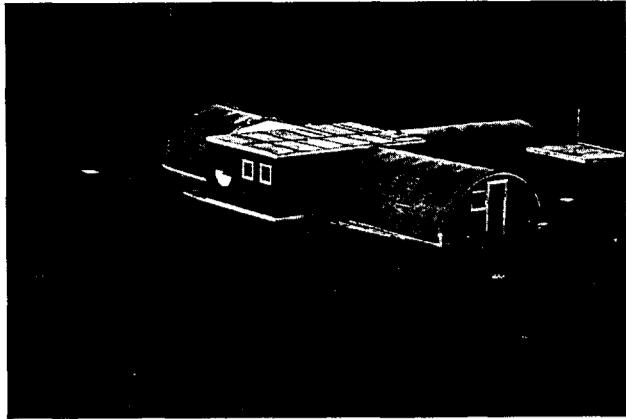
Visiteurs du parc arrivant au lac Hazen

S.C.P.



Campement de pourvoyeur, lac Hazen

S.C.P.



Camp Borek, lac Hazen

S.C.P.

2) Le lac Hazen, un oasis arctique :

La région du lac Hazen constitue un oasis dans le désert polaire que l'on trouve dans le haut Arctique canadien. Elles est plus chaude et, en plusieurs endroits, reçoit plus de précipitations que la plus grande partie du nord de l'île d'Ellesmere. Par conséquent, la végétation et les espèces fauniques sont plus abondantes et plus diversifiées dans le bassin hydrographique du lac Hazen.

3) L'exploration et la survie dans le haut Arctique :

L'historique des activités humaines, qui remontent à 4000 ans, démontre bien le courage, l'adaptabilité, la force et la détermination des peuples qui ont choisi de vivre dans cette région sauvage et de l'explorer. La réserve abrite des cercles de tentes vieux de 4000 ans, des vestiges des expéditions des explorateurs européens du XIX^e siècle et des traces des nombreux projets de recherche menés dans la région.

4) La glaciation dans le haut Arctique :

Dans le haut Arctique, la glaciation n'est pas un phénomène préhistorique, comme c'est le cas ailleurs au Canada, mais plutôt un processus actif qui modèle le relief de la plus grande partie de la réserve du parc. Les plates-formes de glace flottante au large de l'île sont des caractéristiques glaciaires uniques en leur genre, et l'on trouve également dans les environs des glaciers de piedmont. Les glaciers alpins descendent dans les vallées et ne sont pas restreints aux sommets élevés des montagnes, comme ailleurs au Canada. Même l'action du pergélisol est très évidente et pas seulement limitée au sous-sol. La réserve du parc est également ponctuée d'une grande variété de paysages glaciaires récents.

4.6.1.6 Objectifs touchant les activités récréatives

Ces objectifs visent à fournir aux visiteurs l'occasion de prendre part à des activités cadrant avec les objectifs de protection de la nature sauvage de la réserve du parc. Les activités suivantes se dérouleront pendant la période de gestion provisoire :

Les excursions de camping en sac à dos et sans impact sur l'environnement continueront d'être centrées sur le corridor lac Hazen-Tanquary Fiord, dans les vallées des rivières MacDonald et Very. Il s'agit de véritables expéditions dans la nature, étant donné qu'aucune piste n'est aménagée dans la réserve du parc. À l'heure actuelle, les visiteurs qui partent pour de longues excursions empruntent ce corridor, car ils doivent être emmenés par avion (et repartir de la même façon) à l'un des deux camps de base où se trouvent des pistes d'atterrissement, soit le camp de Tanquary Fiord et le camp du lac Hazen du Conseil de recherches pour la

défense. Toutefois, il existe de nombreuses autres possibilités de camping sauvage sur des parcours plus ou moins longs, autour des deux camps de base. Ainsi, les campeurs peuvent emprunter des circuits à travers les vallées Airforce, Rollrock et Red Rock près de Tanquary Fiord, et d'autres qui traversent le col Glacier et la vallée de Blister Creek, près du camp du lac Hazen. Ces circuits feront l'objet d'une inspection et d'une évaluation des risques par les gardes du parc avant d'être mentionnés dans les publications sur le parc et d'être recommandés aux visiteurs.

Les excursions d'une journée seront centrées dans les régions où les avions peuvent atterrir. Au cours de la période de gestion provisoire, ces excursions seront limitées aux environs des camps de Tanquary Fiord et du Conseil de recherches pour la défense. Plusieurs circuits ont déjà été repérés, et d'après les renseignements recueillis, un certain nombre d'entre eux peuvent être empruntés par les visiteurs. Les excursions d'une journée à Fort Conger constituent un cas spécial. Bien que l'accès à ce site archéologique fragile soit restreint en vertu des règlements de zonage, les visiteurs pourront atterrir à la piste située tout près et visiter le site en compagnie d'un garde du parc. Un tel contrôle est nécessaire, non seulement à cause de la fragilité des vestiges du site, mais pour des raisons de sécurité dictées par la présence possible d'ours polaires dans la région.

Études sur les ressources naturelles et culturelles. L'observation de la faune, l'identification des espèces végétales, les visites des sites archéologiques et les autres études informelles des ressources du parc constitueront l'élément majeur des activités des visiteurs. Certains de ces derniers s'adonnent à la peinture, au dessin ou à la photographie des nombreux éléments qui caractérisent la réserve du parc, alors que d'autres prennent des notes sur ce qu'ils ont étudié ou sur les oiseaux observés. Ces activités se déroulent pendant les excursions à pied ou en avion dans la réserve du parc.

Les excursions en avion donneront aux visiteurs l'occasion de voir des sections de la réserve qui sont essentiellement inaccessibles autrement. Ces excursions peuvent avoir lieu dans le cadre des vols d'arrivée ou de départ des visiteurs, des vols nolisés ou des excursions ponctuelles vers le pôle Nord. Ces dernières sont organisées par des pourvoyeurs et ont lieu vers la fin de l'hiver; les avions qui se dirigent vers le pôle Nord passent alors au-dessus de la réserve s'ils doivent effectuer une escale technique au lac Hazen.

La pêche sportive à l'omble arctique se pratique maintenant au lac Hazen. Bien que l'on puisse s'attendre que de

On procédera à l'inventaire des sites qui pourraient se prêter à des pourvoiries privées. Ces sites seront mis à la disposition du public après que l'on aura analysé la capacité de chacun sur le plan de son utilisation durable, de son accès et d'autres facteurs.

Pour préserver la nature sauvage du parc et ses ressources naturelles et culturelles, il faudra peut-être contingenter le nombre de visiteurs. Un tel contrôle constituerait une façon de s'assurer que les visiteurs voulant vivre une expérience dans un environnement sauvage atteignent leurs objectifs.

4.7 Activités coopératives et intégration régionale

4.7.1 Objectifs

Pendant la période de gestion provisoire, on poursuivra les objectifs suivants en matière d'activités coopératives et d'intégration régionale :

- a) maximiser les avantages socio-économiques que présente la réserve d'Ellesmere pour toute la région par des moyens conformes aux objectifs du parc et à l'entente sur sa création; et
- b) minimiser les effets néfastes que pourraient avoir les politiques ou projets mis en œuvre dans les régions adjacentes sur les ressources patrimoniales et les processus naturels du parc.

4.7.2 Lignes directrices

Grâce aux objectifs mentionnés ci-dessus et aux mesures prises pour les atteindre, on pourra, en premier lieu, s'assurer que les politiques de développement et de gestion de la réserve d'Ellesmere s'harmonisent le plus possible avec les objectifs de développement et de gestion des terres et des eaux entourant la réserve du parc. En deuxième lieu, le Service canadien des parcs s'assurera que les politiques applicables à la réserve d'Ellesmere sont comprises et acceptées par les résidents et par ceux qui se livrent à diverses activités dans la région. On fera appel aux collectivités locales de Grise Fiord et de Resolute Bay pour ce qui est du choix d'un nom inuktitut pour la réserve du parc. Le Service canadien des parcs s'est engagé à élaborer, en collaboration avec le gouvernement des territoires du Nord-Ouest et des ministères fédéraux, une stratégie commune et des projets conjoints touchant la planification du tourisme et des activités de mise en marché. Ces projets coopératifs seront axés sur l'administration et le fonctionnement du parc régional, l'accueil des visiteurs, les études sur les ressources et leur gestion. Le Service canadien des parcs s'est également engagé à faire appel à d'autres organismes et à des groupes et associations communautaires dans la résolution de problèmes soulevant des préoccupations et des intérêts communs. On consultera en particulier le Comité consultatif sur le parc de Grise Fiord et le Conseil de Resolute Bay sur une base régulière quant à la gestion, à la planification et à l'aménagement du parc, et aux sujets relatifs à l'intégration régionale.

Le Service canadien des parcs travaillera en collaboration avec d'autres ministères fédéraux et le Conseil danois des parcs nationaux afin de jumeler la réserve d'Ellesmere et le parc national du nord et de l'est du Groenland.

4.7.3 Revendications territoriales

La *Loi sur les parcs nationaux* telle que modifiée en 1988 crée la réserve du parc national de l'Île-d'Ellesmere en attendant le règlement des revendications territoriales dont les protagonistes sont le Canada et la Fédération Tungavik de Nunavut (FTN); ces revendications ont trait aux droits,

titres et intérêts des Inuit du centre et de l'est de l'Arctique quant à la région. Conformément à son statut de réserve de parc, l'île d'Ellesmere fera l'objet d'une gestion conforme à la *Loi et au règlement sur les parcs nationaux*, et les activités traditionnelles de chasse, de piégeage et de pêche des peuples autochtones des territoires du Nord-Ouest se poursuivront. Lorsque les revendications territoriales de la FTN seront réglées, un parc national sera créé par proclamation et soumis aux conditions de l'entente relative aux revendications territoriales. Des négociations entourant les revendications territoriales sont actuellement en cours entre le gouvernement fédéral et la FTN.

Deux ententes faisant partie du règlement global et qui sont particulièrement pertinentes à la réserve du parc ont été parafées par les négociateurs en chef. L'entente de 1983 sur les parcs nationaux prévoit, entre autres, que les Inuit prendront part à la planification et à la gestion du parc national, et qu'ils bénéficieront localement d'avantages comme des programmes de formation, la création de nouveaux emplois et d'autres retombées économiques. L'entente de 1986 sur la faune affirme les droits des Inuit quant à la récolte d'espèces fauniques dans les régions faisant partie des revendications territoriales, y compris la réserve du parc, sous réserve des mesures de conservation applicables; elle garantit en outre une représentation égale au Conseil de gestion de la faune de Nunavut. On s'attend que l'entente touchant les revendications territoriales prenne plusieurs années avant d'être conclue.

4.8 Recherche et planification ultérieures

4.8.1 Objectifs

Les objectifs touchant la recherche et la planification ultérieures sont les suivants :

- fournir les renseignements nécessaires à la gestion du parc et ceux dont le Service canadien des parcs a besoin;
- donner aux chercheurs la possibilité d'effectuer des recherches scientifiques fondamentales dans la réserve du parc; et
- compléter et mettre en oeuvre les plans sur lesquels se fonderont la gestion efficace du parc et ceux requis en vertu de l'entente sur la création d'un parc.

4.8.2 Lignes directrices

1. Le Service canadien des parcs coordonnera et favorisera la recherche à l'intérieur de la réserve du parc en collaboration avec d'autres organismes de recherche fédéraux et territoriaux, les universités, les organismes non gouvernementaux et les particuliers.
2. Le Service canadien des parcs administrera et coordonnera la recherche dans la réserve du parc, conformément à la Directive de gestion 2.4.5, Activités de recherche et de prélèvements dans les parcs. L'Étude du plateau continental polaire continuera d'offrir un appui logistique aux chercheurs travaillant dans la région. L'Institut des sciences des territoires du Nord-Ouest sera consulté quant aux demandes et aux activités de recherche avant la saison des travaux sur le terrain.
3. Le Service canadien des parcs collaborera avec le gouvernement des territoires du Nord-Ouest pour ce qui est des activités de recherche portant sur les ressources culturelles et naturelles.
4. Le Service canadien des parcs aura recours à un système de permis de recherche, conformément à la directive sur les Activités de recherche et de prélèvements dans les parcs nationaux.

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4.2.3 $\rho \sim \sigma^{\alpha}$ II (Zone II) $\rho \propto \sigma^{\alpha}$

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4.2.4 پنجهای سه‌گانه III (Zone III) میز.

ΔΛΓΑ ΠΕΡΙΠΟΙΗΣΗ

CABE-Tanguay Fjord

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C.P.S.

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4.2.5 『b>PΛΛ „ΛΛσ̄c 『PLcCDσd c

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b³R⁴ → dC⁴ Tanquary Fiord

4.3 Γενική Αποστολή, Επενδύσεις, Επιχειρήσεις

4.3.1 $\Lambda_{\text{CFL}} < \Lambda_{\text{CD}} < \Lambda_{\text{CFL}}$

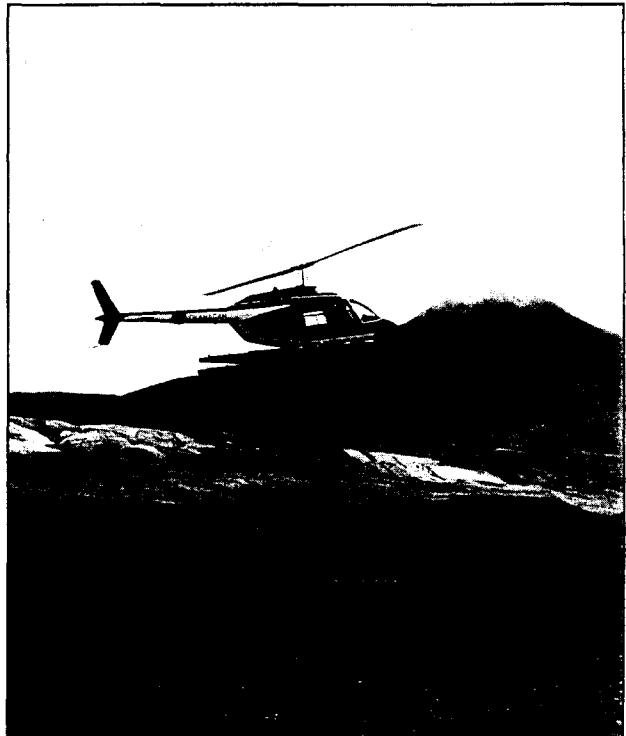
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ΣΔεσ Πέριμα' στην Καναδά. ΔέςΓ στην Αλεπού.
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 3. Κέπα ΔέςΦύον्दές Σ 20 Ναόσ
Φάληρα' στην Αλεπού. ΔέςΓ στην Αλεπού.
 4. Κρήτη Γ (Κέπα ΔέςΦύον्दές Σ 20 Ναόσ)
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 5. Κρητης Αλεπού Σ 20 Ναόσ
Fort Conger Γ ΔέςΓ στην Αλεπού.

4.3.2 Γενιάδες ταύτης είναι το *Twin Otter*. Tanquary Fiord Γενιάδες αυτής είναι Hawker Sidley 748. Διαφορά ήταν ότι η *Twin Otter* ήταν διθέσια, ενώ η 748 ήταν τετράθεσια.

4.3.3 የፌዴራል ተስፋዎች /
የጥቅምት የሚከተሉት ስምዎች

4.3.4 σ▷⁹?በርሃሱ ለተዘረዘሩ

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‘~~THE~~ JOURNAL OF THE AMERICAN MUSEUM OF NATURAL HISTORY Lake Hazen

4.4 $\sigma\alpha\Gamma\Delta C\sigma^{-b}$ $\leftrightarrow\Delta C\Gamma\sigma^b$

କ୍ରୀଡ଼ା, Tanquary Fiord, ଏଣ୍ଟଲ୍ ଫର୍ଟ କୋନ୍ଗର
ନେଟ୍‌ର୍‌ସ୍‌ପ୍ରୋଟୋକୋଲ୍‌ଓଫିକିନ୍‌ଗ୍ରାମ୍‌ପାର୍କ୍‌ରେ ଅନୁଷ୍ଠାନିକ ପରିଦର୍ଶନ କରିବାକୁ ପରିଚାରିତ କରିଛନ୍ତି।

4.4.1 ԵԳԼԵԿԳԸ

4.5 $\Delta c^{\alpha} d^{\beta} f^{\gamma} g^{\delta} h^{\epsilon} \lambda^{\zeta}$, $\Delta^{\alpha} c^{\beta} d^{\gamma} e^{\delta} f^{\epsilon} g^{\zeta} h^{\eta}$
 $\Delta^{\alpha} C^{\beta} \sigma^{\gamma} h^{\delta} \lambda^{\epsilon} \sigma^{\zeta} \sigma^{\eta}$ $\Phi D^{\alpha} C^{\beta} \sigma^{\gamma} \sigma^{\zeta}$

4.5.1 የኩስና ተቋማ

САЛС 4ДСУРС, АС-МУДИСА
ГІІЖДАУАГ 124768164.

4.5.2 Δεκτικότητα των προτύπων

4.5.2.1 የዕድገና ነው

4.5.2.2 Δες σήλασης

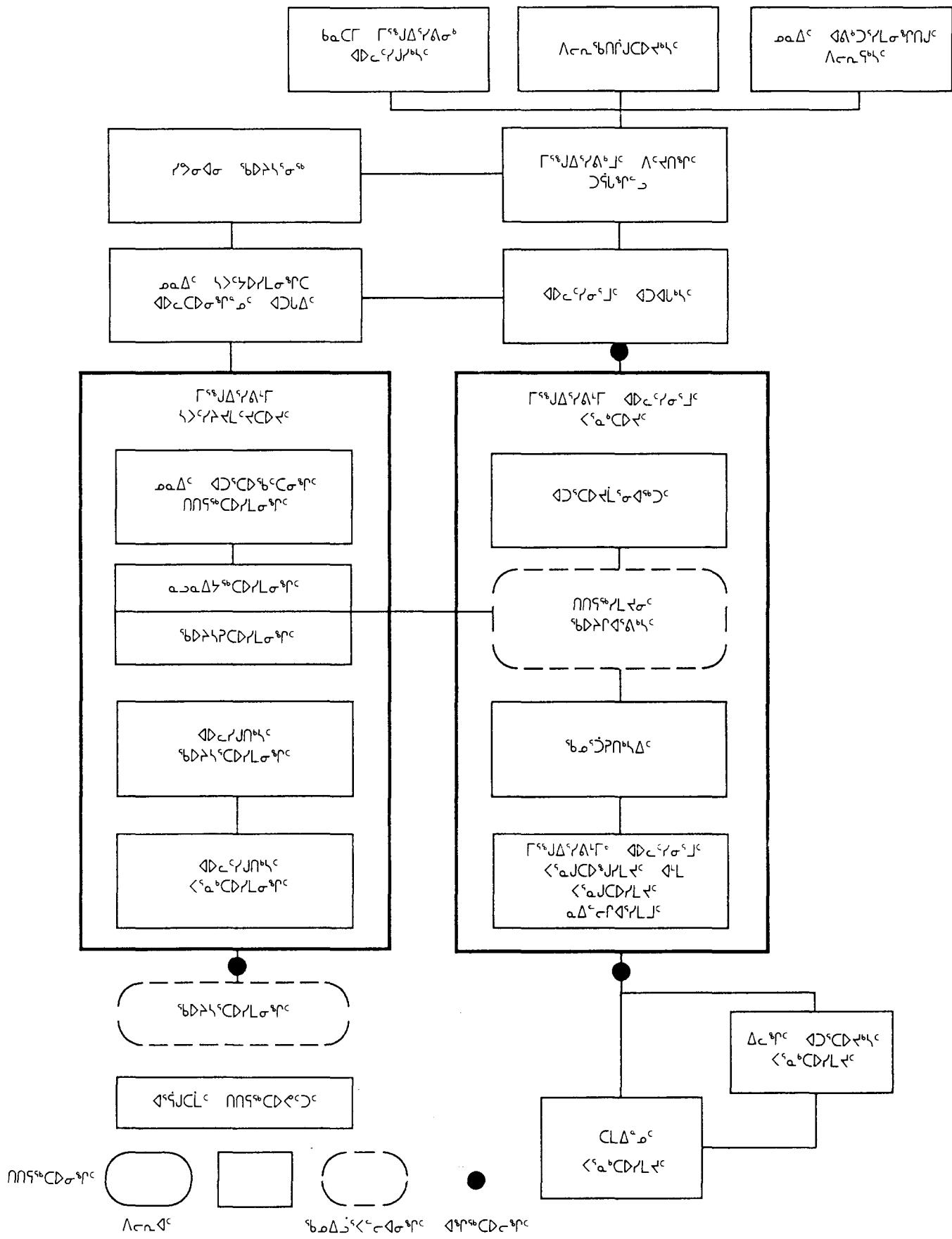
4.5.2 Δεκτή ημέρα ένταξης στην ΕΕ

4.5.2.3 CAD/LaserCutting

- 1) $\Delta C'GAB\sim \Delta C'G$ $\angle A'G'G = \angle B'G'G$, $A'G \perp G$
 $\angle A'G'G = \angle B'G'G$ $\angle A'G'G = \angle B'G'G$

Figure 2

መልቲස ደንብ የሚያስቀበው ስምምነት በመሆኑ ጥሩ ነው





98c 696

C.P.S.

4.6 σ▷ፋይናርድ እና ማስተካከለሁ

4.6.1 ችግር

4.6.1.1 ዓይነት ፈቃድ / ተናሸል

ՀԱՅՈՒԹՅՈՒՆ ԽՈՎՅԱՆ ԱՐԴՅՈՒՆՈՒԹՅՈՒՆ ՀԱՅՈՒԹՅՈՒՆ ԽՈՎՅԱՆ ԱՐԴՅՈՒՆՈՒԹՅՈՒՆ
ՔԱՅԼՈՎՅՈՒՆ ԽՈՎՅԱՆ ԱՐԴՅՈՒՆՈՒԹՅՈՒՆ ՀԱՅՈՒԹՅՈՒՆ ԽՈՎՅԱՆ ԱՐԴՅՈՒՆՈՒԹՅՈՒՆ

፳፻፲፭ ዓ.ም በ፳፻፲፭ ዓ.ም ከ፻፲፭ ዓ.ም ስለመስጠት የ፻፲፭ ዓ.ም ተከራካሪ
ች የ፻፲፭ ዓ.ም ተከራካሪ የ፻፲፭ ዓ.ም ተከራካሪ የ፻፲፭ ዓ.ም ተከራካሪ የ፻፲፭ ዓ.ም

4.6.1.2 የሚፈለጉትም ስርዓቱን አገልግሎት መሆኑን ተረጋግጧል

4.6.1.3 የሚገኘውን ስራውን በመሆኑ እና ተጨማሪ ስራዎች በመሆኑ እና ተጨማሪ ስራዎች

4.6.1.4 የዕድገትና ማስረጃዎች

4.6.1.5 ΔCC⁹σΔΔσ¹⁰ C₈ΔΔC₈Δ⁹C₈PL₉¹¹

Հետո այս պահին մարդկան աշխարհը կազմված է այս բարձր գործություններից՝ ուժագույն առաջնահարություններից:



Γενική έρευνα στην λίμνη Hazen

4.6.1.6. **מִבְּרָכָה**

CaL ማኅበርና አጋጥሬስ ስምምነት ተደርጓል፡፡

4.6.1.7 የለፈ በኋላ ስራ እና ተቋማ

ՀԵՂԻ ՏՈՒՄԸ ԳԼԵՆ ԱՐՆԱԿԻ

Tanquary Fiord C^UL^YA^DC A^YA^DC T^WJ^YA^DC T^WA^DC
R^UC^YD^YC^YA^DC^YW^YC^Y.

“**ԱՇԽՐԴՅԱԿԱԾ** ԱՌՆՋՎԿԸ ՐԵՀՄԸ ՐԱՋՎԱՐ ՋԿՆ”



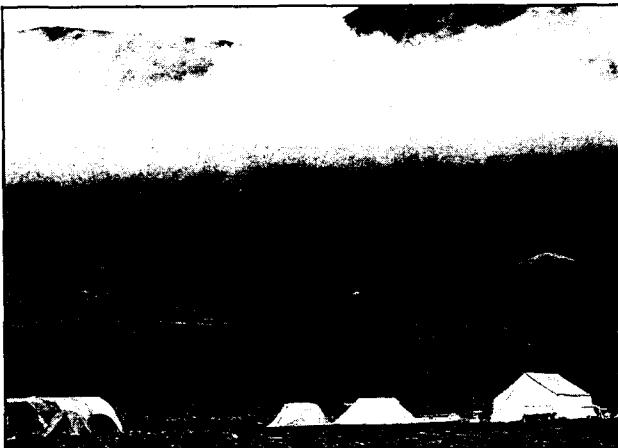
八九〇〇年 Red Rock Valley

C.P.S.

Tanquary Fiord

ՀԱՅՐ ԿԵՐպարան ՀԼԱԲ (North Shore)

CRAIG, Borek Camp (South Shore)



radCnrd sac-^ba^cL. Lake Hazen Cr^a

C.P.S

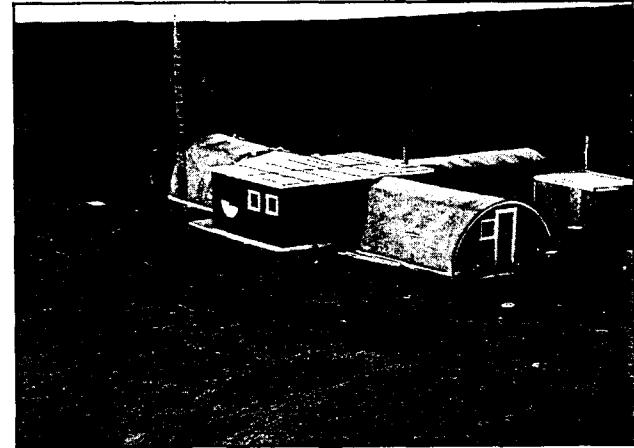
ΔΓ^gΓ^c Δ^c → Δ^c

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4.7 ለመናገድ በዚህ የለት ዘመን እና የለም ጥሩ የሚያስተካክል

4.7.1 ८९६४९

ՀԵՊԸ ԳՈՎԱԿԸՆԾԿՐՄԸ ԱՌԵՑՈՒՅՆ ԽԾՆՎԵԼՆ ԱՅ-



Borek Camp, Lake Hazen

C.P.S.

Δ) $\Gamma^{\alpha} J \Delta^{\beta} A^{\gamma} B^{\delta} \dots$ $\Delta b^{\alpha} \nabla^{\beta} A^{\gamma} \nabla^{\delta} \dots$ $\Delta a^{\alpha} \nabla^{\beta} c^{\gamma} \nabla^{\delta} \dots$
 $\times J \Delta^{\beta} A^{\gamma} \dots$ $\Delta^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} \dots$ $\Delta^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} \dots$

▷ $\Delta^{\alpha} A^{\beta} \nabla^{\gamma} \nabla^{\delta} C^{\gamma} \nabla^{\delta} \dots$ $\Delta^{\alpha} \nabla^{\beta} \nabla^{\gamma} C^{\gamma} \nabla^{\delta} \dots$ $\Delta^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} C^{\gamma} \nabla^{\delta} \dots$
 $\nabla^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} D^{\gamma} \nabla^{\delta} \dots$ $\nabla^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} \nabla^{\gamma} D^{\delta} \nabla^{\delta} \dots$ $\nabla^{\alpha} \nabla^{\beta} \nabla^{\gamma} \nabla^{\delta} \nabla^{\gamma} \nabla^{\delta} D^{\delta} \nabla^{\delta} \dots$

4.7.2

ԵաԾՐ Դ՞յՋԱ՞ՅԱՌԵՆԴՐԵՋ ԱՌՈՒՑՈՒՆԵԿՈՎ ԵաԾՐ ՏԵ-
ԼԵԺՈՒՄ ՏԵՂԵ ՀԱՌԵ ՀԱՌԵ ԴԱՌԵ ԴԱՌԵ ԵԱՌԵ ԵԱՌԵ
ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ
ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ ԵԱՌԵ

4.7.3

4.8 $\nabla \cdot \mathbf{B} = 0$ $\nabla^2 \phi = \rho / \epsilon_0$

4.8.1 ችግር

ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԿԱռավարության
ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ՎԱՐԱՐԱՐԱՆ



४८५

C.P.S.

4.9

፳፻፭፻፮፯፻፯፻ (፲፻፭፻፮፯፻፯፻፯፻)

ხატი დაკვირვებული ასაკი
და ძრიგის სისტემის სისტემის
მასშტაბით 1:1000000 1988



DNL. Hazen Plateau

Canadian Parks Service (CPS)

DNL:

J. E. Hardy

DNL 24, 1988

DNL
PPRC
JADYAS

6 Douglas Harper

DNL 25, 1988

CCL HAD
DCCR bCD
DCCG DCCG DCCG JADYAS

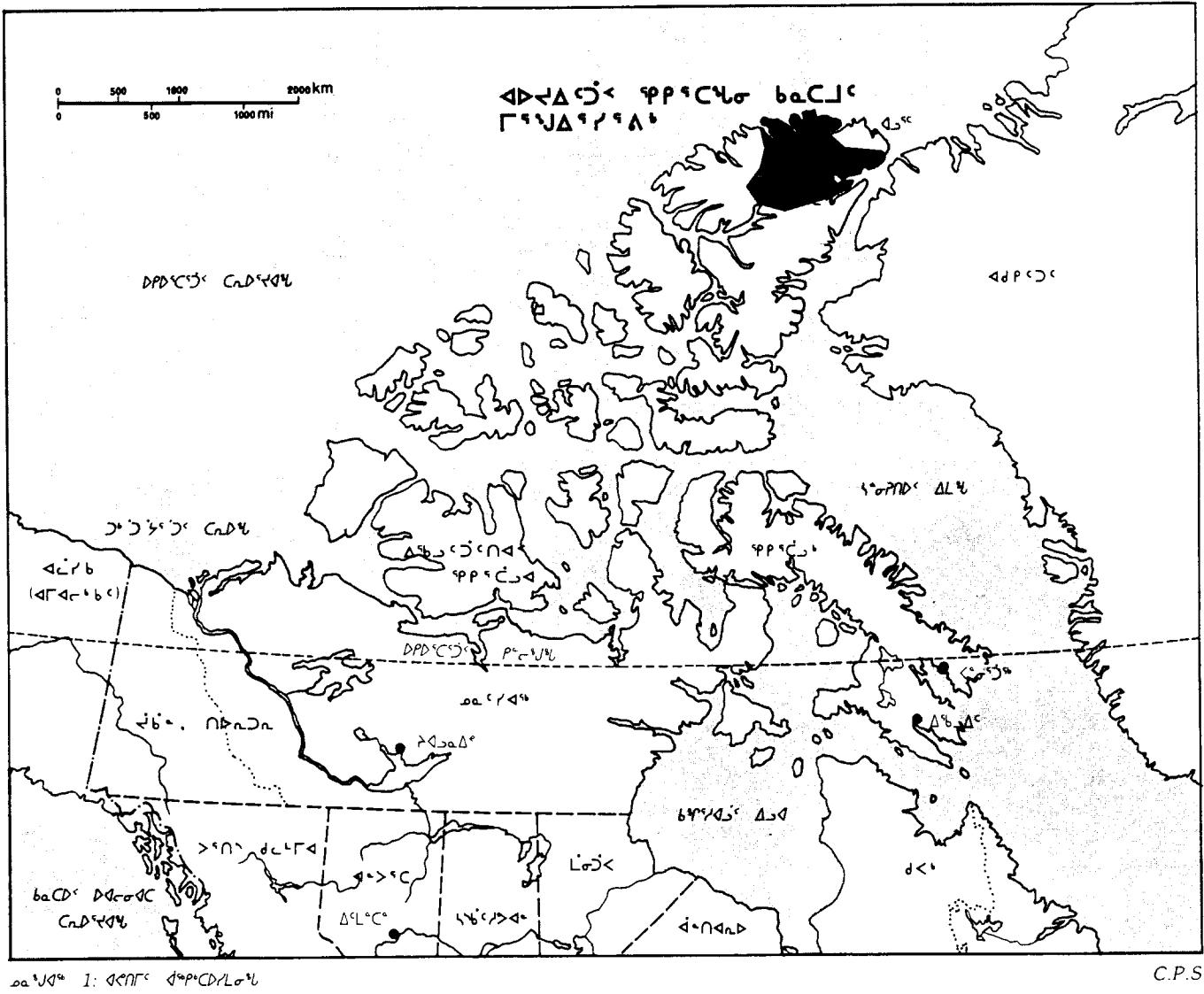
ΔΙΑΓΩΝΙΣΜΟΙ

Հ Ա Յ Ա

۹۸۱۴

1	መርሃር ደልጋጭ ማስረጃዎች	1
2	Tanquary Fiord—ጥሩት ለማኅበያ	ጥሩት ለማኅበያ
3	፩፻፮፮፻፯ የሞኑርያዎች	ጥሩት ለማኅበያ

a₂aΔ^bdCΔ^c



0 **ଓଡ଼ିଆ ମୁଦ୍ରଣ**

2.0

2.2

Lrb 64

Figure 1-G. Cyclic CDK5/p35 protein kinase activity in the hippocampus of aged rats. The hippocampus of aged rats shows a significant increase in CDK5/p35 protein kinase activity compared to young rats. The hippocampus of aged rats shows a significant increase in CDK5/p35 protein kinase activity compared to young rats.

3.0

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3.1

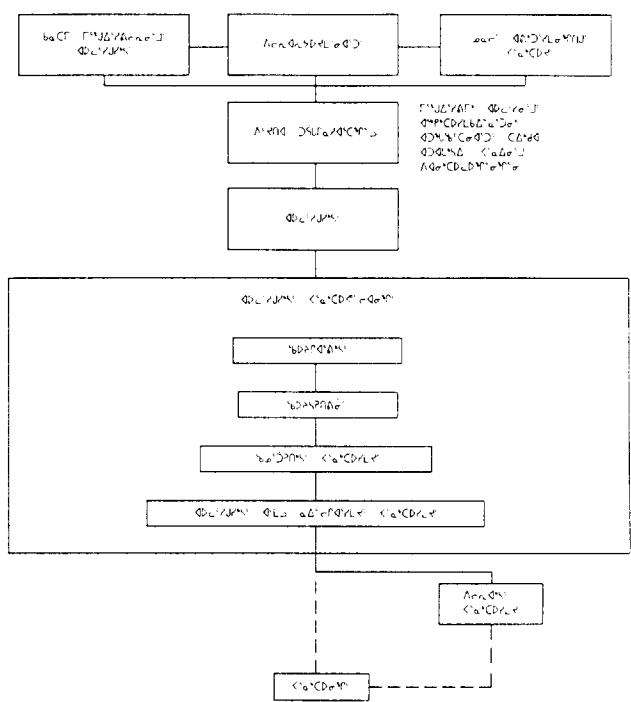
Г҃ИДАГИКАСІУСЫЛЫ

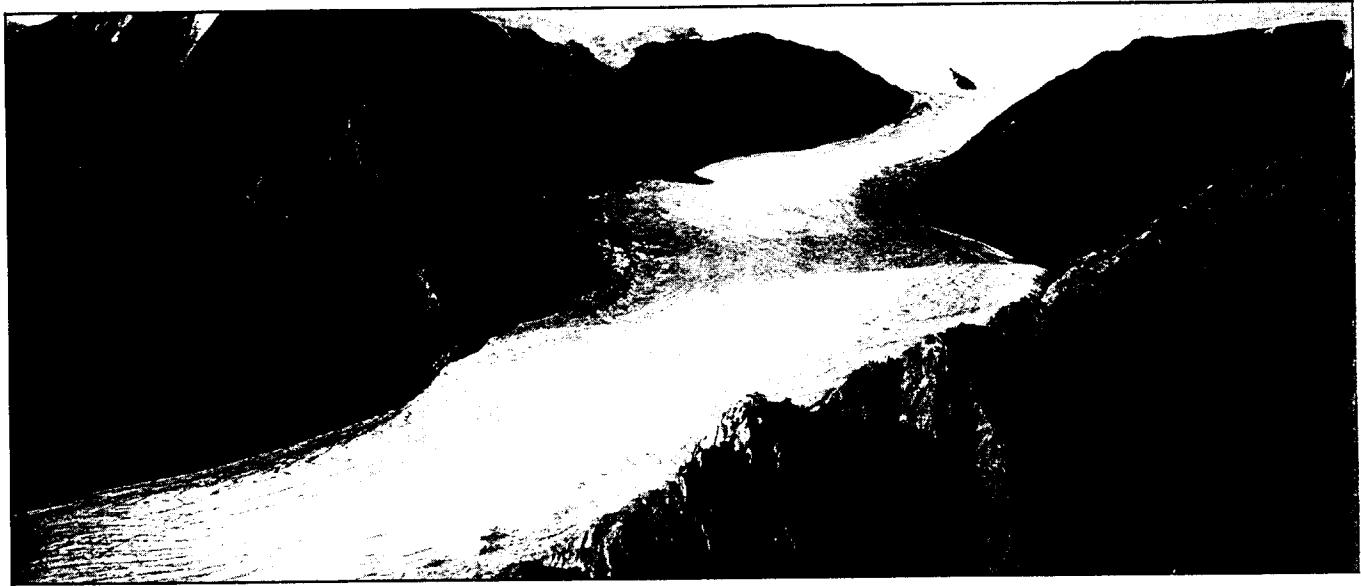
3.2

3.2.1

ГІУДІЯНІГ · АДІЛІСТ · СІАСДЕСІС

Figure 1





19th, Dec 19th 19th 19th

C.P.S.

Grant Land Mountains گلستان کوہاں ۲,۶۴۷-
۲,۵۰۰ میٹر اونچائی کے ۹۰۰ تک سو ۸۰۰-
۸۱۰ میٹر کے Hazen Plateau. CL پر ۲,۷۴۳ میٹر
لہستان کے ۱۰۰,۰۰۰ دھنیوں پر ۲,۶۴۷ میٹر
پر ۲,۵۰۰ تک اونچائی کے (۸,۲۵۰ آفٹن) ایک لہا-
ڈیس ریز بہاری۔ ہاگ پر ۲,۶۴۷ میٹر کے ۸۱۰ میٹر
Barbeau Peak پر ۲,۶۱۶ تک سو ۸۰۰ (۸,۶۳۳
آفٹن).

Հայոց Տէղական Հայք Հովհաննես 80 թ-
շտամ (50 լարս) Տէղական Հայք Հովհաննես
Քաղաքացիութեան պահանջման համար՝ Discovery Harbour:

30-42c 1144c 11P144c<CC> 11L1C ba
CD< CnD>144C 11P144c 11-14c 11P144C C1144
11P144C<CC> 11P144C 11-14A144C.

ЦДАДА 19^сСГАС^с РЮС-СДН^сСДАС^с 19^сС^сС^с бАСГ
Г^сСДА^сСДА^с СДАС^с. АЧ^сСДА^сСДАС^с АД^сРПД^сС^сЛ
19^сС^сС^сГА СДА^с СДАС^с.

ይገደብናኩርድር ልሆነ ከፌርዴር ሰነድናኩርድር ዘመኖችናኩርድር
ለየሚከተሉትና CD-ROM ለማስረጃዎችን በፊት የሚያስፈልግ ይገባል፡ የሚያስፈልግ የሚያስፈልግ
CD-ROM የሚያስፈልግ የሚያስፈልግ የሚያስፈልግ የሚያስፈልግ የሚያስፈልግ የሚያስፈልግ

СДЛ АЧЛнДГД^с >ОИГД^с, АГД^сБГД^с, АпД^с мАб^с-
ГД^с, баCГД^с АЧЛ^с СДГ^сГД^с.

1950 ዓዲስ ልጻል ተመርሱ ነው ይህንን ስምምነት የሚያሳይ ይችላል
በመጀመሪያ የሚከተሉ የሚያሳይ ይችላል ይህንን ስምምነት የሚያሳይ ይችላል
በመጀመሪያ የሚከተሉ የሚያሳይ ይችላል ይህንን ስምምነት የሚያሳይ ይችላል
የሚከተሉ የሚያሳይ ይችላል ይህንን ስምምነት የሚያሳይ ይችላል

«ԵՐԵՎԱՆ» օՏՊԵԿ ՁԱՂՋՄԸ մարտ ՀԿԵ
ՀՅԴՐՈՒՆԴԱԿԱՆԵՐՆԻՆ ։ Լար ՀՅԴՐՈՒՆԻՆ օՏՎՏՄԸ
ՇԽԱՆՆԵՐՆ ։

3,4

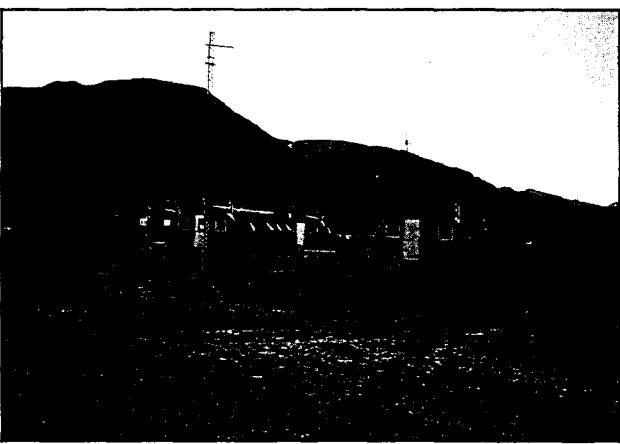


C.P.S.

3.5 ΔԵԼԵԿՏՐՈՋՈՒՐՆԱԳԻ

ገኘናንድ የሚያስተካክለውን ስምምነት በመሆኑ እንደሚከተሉት የሚከተሉት ስምምነት መረጃዎች ይፈጸማል፡፡

Γ^εΙΔ^γΑ^δ Δ^εδ^εΛ^ε Δ^ρΡ^ε Γ^εΙΔ^γΑ^δσ^ε Δ^ει^εσ^εσ^ε 20^ρΓ^εΓ^ε Robeson ChannelΓ^ε. δ^εΔ^ε Λ^ε Γ^εΙ-



ΤΑΝΚΡΙΑ ΦΟΡΔ
Tanquary Fiord

C.P.S.

ΔԵՐՁԻ ՊԵՏՈՒԹՅՈՒՆԸ ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅՈՒՆ ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅՈՒՆ

3.6.1.1 ΔL^{sc} , ΔL^{sc} $\Delta \Gamma \Delta C^{\text{sc}}$

3.6.1.2 Δεύτερη Δεκαετία

- **የዕድል** የሚገኘውን ስምምነት እና በዚህ የሚገኘውን ስምምነት የሚያስፈልግ ይችላል

- የዕቅድ ደረሰኝ እና በዕቅድ ስራው የሚገኘውን ደረሰኝ ተመዝግበ ይችላል
 - የዕቅድ ደረሰኝ የሚገኘውን ደረሰኝ ተመዝግበ ይችላል

3.6.3 σ-εργασία Αποδεύτηση

ՀԵՇ ՈՂԻՆԴՐԸՆԴՐԸ ԳԵՎԱՆԵ-ՑԵԽԱԼՏԸ ՋԸՆԿԸՆԸ ՀԵՇ
ՋԸՆԿԸՆԸ ԳԵՎԱՆԵ-ՑԵԽԱԼՏԸ ՀԸՆԿԸՆԸ ՀԸՆԿԸՆԸ ՀԸՆԿԸՆԸ ՀԸՆԿԸՆԸ

ՀԵՐԿ ՎԻՐԱԾՈՎՆ ՏԵՂՄԱՆ ՄԱՐԴ ԱԼԻՇ ՄԱՐԴԸՆ ՀԵՇՆԱՐ ՎԻՄԱՆ ԼԵՆԱԾ.

4.2 $\rho \leftarrow \text{clip}(\sigma, \underline{\sigma}, \overline{\sigma})$

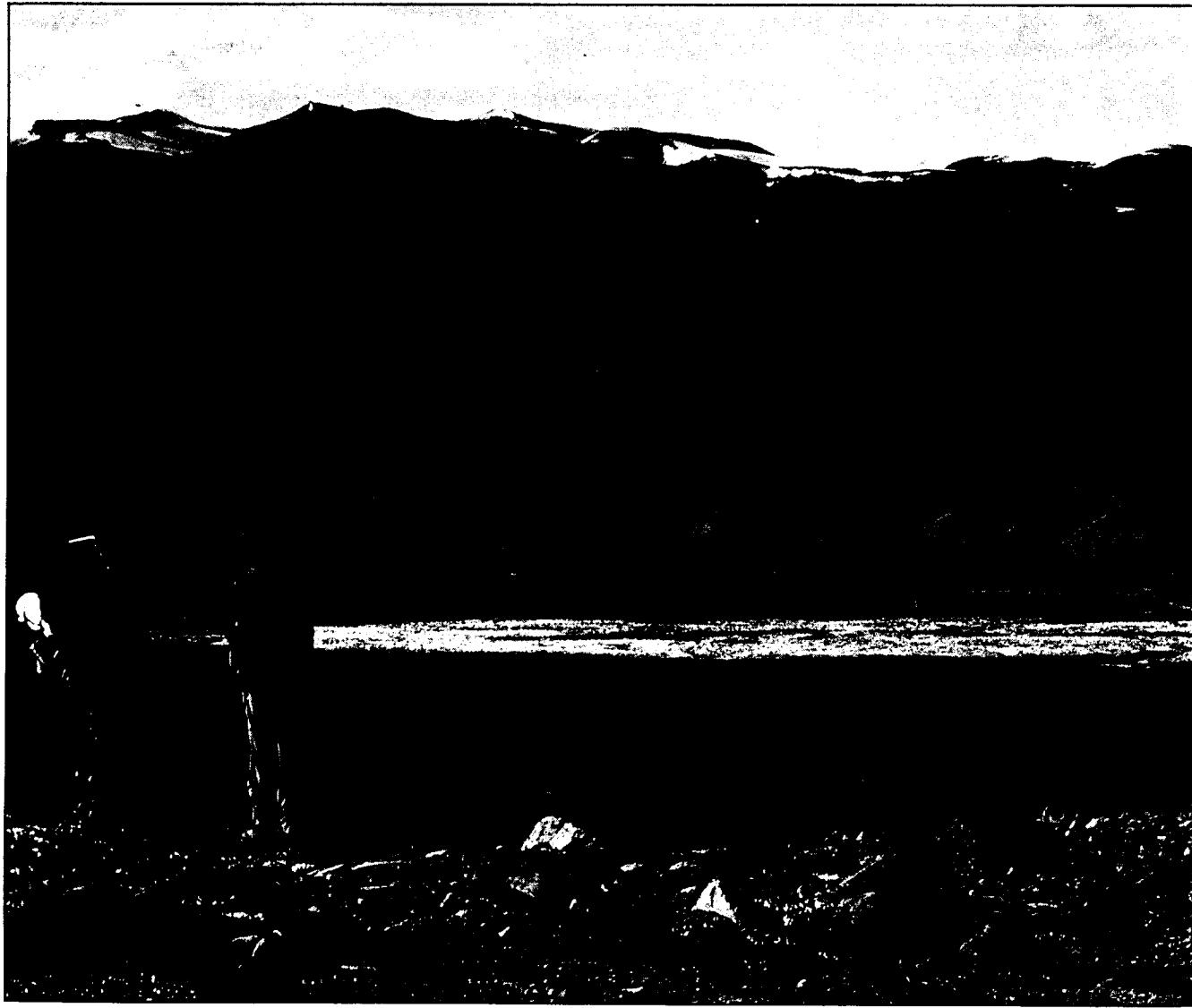
Γ“⁹ΔγΔγΔ⁹ Ρ⁹ccΔ⁹CDσΔ ΔC⁹γσΔL⁹ Δ⁹L⁹Δ⁹Δ⁹
Δ⁹L⁹Δ⁹CD⁹Δ⁹L⁹Δ⁹ γ⁹σΔσ. Γ“⁹ΔγΔ⁹Δ⁹Γ⁹ Ρ⁹ccΔ⁹γ⁹L⁹Δ⁹
L⁹Δ⁹Δ⁹ Δ⁹C⁹γ⁹Δ⁹, γ⁹Δ⁹Δ⁹CD⁹Δ⁹L⁹Δ⁹. Ρ⁹ccΔ⁹σ⁹

4.2.2 $\rho_{\text{c-c}} \gg \sigma^{\text{sc}}$ I (Zone I) $\Delta c \ll d$

Հ Ե Ճ Ծ Վ Ե Ա Ր Ա Ր Ո Ւ Մ Տ Ա Ր

የፌርድ ማኅበር የፌርድ ቀን አንቀጽ 1-2 Zone I እና የፌርድ ቀን አንቀጽ 3-4 Zone II እና የፌርድ ቀን አንቀጽ 5-6 Zone III እና የፌርድ ቀን አንቀጽ 7-8 Zone IV እና የፌርድ ቀን አንቀጽ 9-10 Zone V እና የፌርድ ቀን አንቀጽ 11-12 Zone VI እና የፌርድ ቀን አንቀጽ 13-14 Zone VII እና የፌርድ ቀን አንቀጽ 15-16 Zone VIII እና የፌርድ ቀን አንቀጽ 17-18 Zone IX እና የፌርድ ቀን አንቀጽ 19-20 Zone X እና የፌርድ ቀን አንቀጽ 21-22 Zone XI እና የፌርድ ቀን አንቀጽ 23-24 Zone XII እና የፌርድ ቀን አንቀጽ 25-26 Zone XIII እና የፌርድ ቀን አንቀጽ 27-28 Zone XIV እና የፌርድ ቀን አንቀጽ 29-30 Zone XV እና የፌርድ ቀን አንቀጽ 31-32 Zone XVI እና የፌርድ ቀን አንቀጽ 33-34 Zone XVII እና የፌርድ ቀን አንቀጽ 35-36 Zone XVIII እና የፌርድ ቀን አንቀጽ 37-38 Zone XVIX እና የፌርድ ቀን አንቀጽ 39-40 Zone XX እና የፌርድ ቀን አንቀጽ 41-42 Zone XXI እና የፌርድ ቀን አንቀጽ 43-44 Zone XXII እና የፌርድ ቀን አንቀጽ 45-46 Zone XXIII እና የፌርድ ቀን አንቀጽ 47-48 Zone XXIV እና የፌርድ ቀን አንቀጽ 49-50 Zone XXV እና የፌርድ ቀን አንቀጽ 51-52 Zone XXVI እና የፌርድ ቀን አንቀጽ 53-54 Zone XXVII እና የፌርድ ቀን አንቀጽ 55-56 Zone XXVIII እና የፌርድ ቀን አንቀጽ 57-58 Zone XXIX እና የፌርድ ቀን አንቀጽ 59-60 Zone XXX እና የፌርድ ቀን አንቀጽ 61-62 Zone XXXI እና የፌርድ ቀን አንቀጽ 63-64 Zone XXXII እና የፌርድ ቀን አንቀጽ 65-66 Zone XXXIII እና የፌርድ ቀን አንቀጽ 67-68 Zone XXXIV እና የፌርድ ቀን አንቀጽ 69-70 Zone XXXV እና የፌርድ ቀን አንቀጽ 71-72 Zone XXXVI እና የፌርድ ቀን አንቀጽ 73-74 Zone XXXVII እና የፌርድ ቀን አንቀጽ 75-76 Zone XXXVIII እና የፌርድ ቀን አንቀጽ 77-78 Zone XXXIX እና የፌርድ ቀን አንቀጽ 79-80 Zone XL እና የፌርድ ቀን አንቀጽ 81-82 Zone XLI እና የፌርድ ቀን አንቀጽ 83-84 Zone XLII እና የፌርድ ቀን አንቀጽ 85-86 Zone XLIII እና የፌርድ ቀን አንቀጽ 87-88 Zone XLIV እና የፌርድ ቀን አንቀጽ 89-90 Zone XLV እና የፌርድ ቀን አንቀጽ 91-92 Zone XLVI እና የፌርድ ቀን አንቀጽ 93-94 Zone XLVII እና የፌርድ ቀን አንቀጽ 95-96 Zone XLVIII እና የፌርድ ቀን አንቀጽ 97-98 Zone XLIX እና የፌርድ ቀን አንቀጽ 99-100 Zone XLI እና የፌርድ ቀን አንቀጽ 101-102 Zone XLI

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ѧՐԳՆԵՐԸ, ԵՎՐԱՇՅՈՒՐԸ Tanquary Fiord

C.P.S.