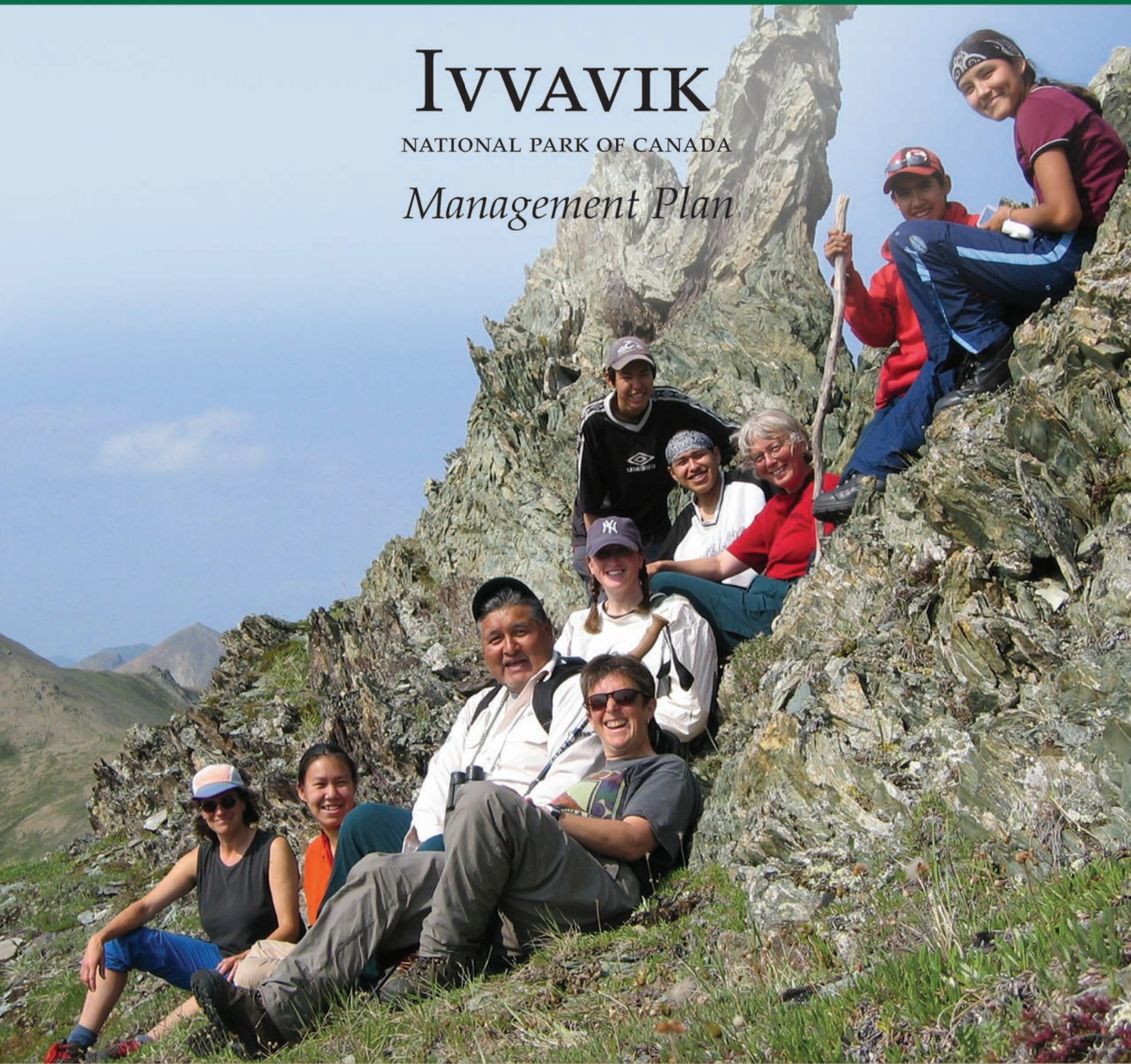




Ivvavik

NATIONAL PARK OF CANADA

Management Plan



Library and Archives Canada Cataloguing in Publication

Parks Canada

Ivvavik National Park of Canada : management plan.

Issued also in French under title: Parc National du Canada Ivvavik, plan directeur.

Available also on the Internet.

ISBN 978-0-662-47227-8

Cat. no.: R63-350/2-2007E

1. Ivvavik National Park (Yukon)--Management. 2. National parks and reserves--Yukon--Management. 3. National parks and reserves--Canada--Management. I. Title.

FC4014.I99 P37 2007

333.7809719'1

C2007-980256-7

© Her Majesty the Queen in Right of Canada, represented by the Chief Executive Officer of Parks Canada, 2007

IVVAVIK

NATIONAL PARK OF CANADA

Management Plan

October 2007

Foreword



Canada's national historic sites, national parks and national marine conservation areas offer Canadians from coast-to-coast-to-coast unique opportunities to experience and understand our wonderful country. They are places of learning, recreation and fun where Canadians can connect with our past and appreciate the natural, cultural and social forces that shaped Canada.

From our smallest national park to our most visited national historic site to our largest national marine conservation area, each of these places offers Canadians and visitors unique opportunities to experience Canada. These places of beauty, wonder and learning are valued by Canadians - they are part of our past, our present and our future.

Our Government's goal is to ensure that each of these special places is conserved.

We see a future in which these special places will further Canadians' appreciation, understanding and enjoyment of Canada, the economic well-being of communities, and the vitality of our society.

Our Government's vision is to build a culture of heritage conservation in Canada by offering Canadians exceptional opportunities to experience our natural and cultural heritage.

These values form the foundation of the new management plan for Ivvavik National Park of Canada. I offer my appreciation to the many thoughtful Canadians who helped to develop this plan, particularly to our dedicated team from Parks Canada, and to all those local organizations and individuals who have demonstrated their good will, hard work, spirit of co-operation and extraordinary sense of stewardship.

In this same spirit of partnership and responsibility, I am pleased to approve the Ivvavik National Park of Canada Management Plan.

A handwritten signature in black ink, which appears to read "John Baird". The signature is written in a cursive, flowing style.

John Baird
Minister of the Environment

EXECUTIVE SUMMARY

This document presents the management plan for Ivvavik National Park of Canada. Ivvavik, the first national park to be established in Canada as the result of an aboriginal land claim, protects and celebrates an ancient cultural landscape with a nearly pristine ecosystem. People have been part of this landscape for millenia, harvesting its still-abundant resources and traveling its mountain valleys and coastal shores. The interdependency of people and landscape is encapsulated in the park's vision statement, developed in consultation with Inuvialuit people: "The land will support the people who protect the land."

Ivvavik National Park of Canada was established in 1984 through the settlement of the Inuvialuit Final Agreement, which was legislated through the *Western Arctic (Inuvialuit) Claims Settlement Act*. The park is managed under the *Canada National Parks Act* and the provisions of the Inuvialuit Final Agreement (Indian and Northern Affairs Canada, 1984). In cases of any inconsistencies or conflicts between these pieces of legislation, the Inuvialuit Final Agreement takes precedence over the *Canada National Parks Act*.

Management plans are tabled in Parliament and reviewed every five years. Three significant changes since the last management plan for Ivvavik National Park of Canada (1994) are the passage of the new *Canada National Parks Act*, the release of the *Parks Canada Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks* (Parks Canada, 2000a) and the passage of the *Species At Risk Act*.

The Ivvavik National Park of Canada Management Plan was developed in partnership with the Wildlife Management Advisory Council (North Slope). Development of the plan involved consultation with Inuvialuit organizations, including the Inuvialuit Game Council and the Aklavik Hunters and Trappers Committee. Public presentations were also made at open houses in Inuvik, Aklavik, Whitehorse, Dawson City, and Old Crow.

Ivvavik National Park of Canada protects for all time portions of the Northern Yukon and Mackenzie Delta natural regions. Much of the region was not glaciated during the last ice age, making the Firth River the oldest river in Canada and the park itself part of the Beringia Refugium, an unglaciated area extending between North America and Siberia. Several of the park's archaeological sites are among the oldest in the Canadian Arctic. The oldest recorded site, Engistciak, is estimated to have been used 8,000 years ago. Eight different cultures are known to have traveled in and used the resources of what is now Ivvavik National Park.

Several basic principles guide the management of Ivvavik National Park of Canada: the stewardship of natural and cultural resources to achieve ecological and commemorative goals; management through cooperative means; the integration of scientific and traditional knowledge into park management; the importance of education and outreach; the recognition that people are a part of the ecosystem; and the importance of balancing environmental protection with economic benefits for local communities. Many of these principles are inherent in the recommendations from the *Parks Canada Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks*.

The park management plan details a predominantly wilderness zoning strategy. The zoning system does not apply to Inuvialuit beneficiaries exercising their subsistence harvesting rights.

However, wilderness zoning acknowledges and protects the experience sought by park visitors, and safeguards the resources of concern to Inuvialuit.

Understanding and protection are the focus of cultural resource management in the park. This is primarily achieved through research and education. Essential to the plan, which recognizes that the Inuvialuit culture is vibrant and active on the land today, is the involvement of various Inuvialuit organizations, including the Inuvialuit Regional Corporation, the Inuvialuit Social and Development Program, and the Inuvialuit Cultural Resource Centre. Integrating this living culture into all aspects of park operations is a key to the park management strategy in general.

Visitors come to Ivvavik National Park of Canada to raft, kayak, hike, and seek an arctic wilderness experience. Given the purpose and nature of the park, visitors are expected to be, and typically are, self-reliant and self-sufficient. Air access is provided for at a number of locations (Margaret Lake, Sheep Creek, Nunaluk Spit, Stokes Point, and Komakuk Beach) to facilitate wilderness recreation compatible with the management objectives. From a tourism perspective, the park's information and marketing strategies will emphasize Ivvavik's natural and cultural treasures, and highlight the variety of experiences available to park visitors – whether they are on extended excursions or day trips.

The major visitation corridor within Ivvavik National Park of Canada is the Firth River, an area of significant natural and cultural features. An effective heritage presentation program will contribute to the quality of the visitors' experience, the visitors' safety, and their appreciation and understanding of the park's natural and cultural treasures. Visitor pre-trip and orientation programs will continue to enlist visitors to support the park's vision and to increase the understanding of the cultural landscape in which they are traveling.

Visitation opportunities that showcase park themes and landscapes will be explored and promoted to increase the accessibility of the park to visitors. Appropriate sites for day-use and multi-day-use activities such as hiking, picnicking, and sightseeing will be determined during this planning period. The Sheep Creek Operations Centre built in 1988/89 has been downsized and will continue to be downsized to minimize the ecological footprint of the park's facilities. Parks Canada will explore and facilitate other development opportunities that will enhance community benefits.

Ivvavik National Park of Canada's ecological uniqueness and its cultural landscape that is both ancient, and yet still strongly alive in the modern era, make it relevant to all Canadians. The park is remote and costly to visit. For the many who will never visit Ivvavik, outreach activities will present Ivvavik National Park's stories to the rest of Canada.

During the life of the plan, park managers and staff are committed to ensuring that the park fulfills its various mandates. The commitments identified in this management plan will be achieved within the Parks Canada Field Unit budget.



Wildlife Management Advisory Council (North Slope)
P.O. Box 31539, Whitehorse, Y.T. Y1A 6K8 Canada
Telephone: (867) 633-5476 Fax: (867) 633-6900
E-mail: wmacns@web.ca www.taiga.net/wmac

Dear Minister:

The Wildlife Management Advisory Council (North Slope) is pleased to recommend the revised Ivvavik National Park Management Plan (2005) to you for your acceptance.

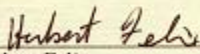
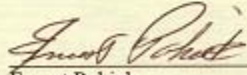
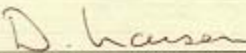
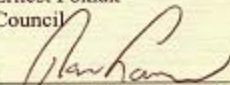
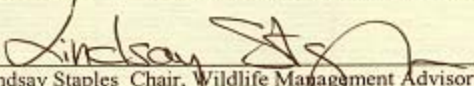
Ivvavik National Park was the first national park in Canada established pursuant to a comprehensive land claim agreement - the Inuvialuit Final Agreement. This unique origin is reflected in the cooperative management regime established for the Park in the Inuvialuit Final Agreement and fully developed in the Management Plan.

The Plan establishes a strong relationship between the Inuvialuit Final Agreement, the National Parks Act and this is reflected in the Plan's goals and objectives. The Plan gives full and explicit recognition to the rights of the Inuvialuit in the use and management of the Park's resources on which they have traditionally depended. It also recognizes the interest of all Canadians in conserving an area of outstanding national and international significance.

Revisions to Management Plan have been helpful in ensuring that the management of Ivvavik National Park is responsive to issues and challenges associated with ecosystem conservation, climate change and potential industrial disturbances. They also reflect a renewed commitment to optimizing the current and potential economic benefits associated with the establishment of the park - particularly as they may affect Inuvialuit interests and rights as provided for in the Inuvialuit Final Agreement.

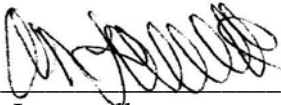
Cooperative management arrangements with other government agencies, Inuvialuit organizations and wildlife co-management bodies are important elements of the Plan. Parks officials have demonstrated their commitment to these arrangements throughout the planning process. This same cooperation will be vital to the conservation of migratory wildlife populations, the protection of critical habitat and the conservation of ecosystems extending beyond the Park.

This Plan represents an important element in the maintenance of a comprehensive conservation regime for the entire North Slope and we are pleased to endorse it.

 Herbert Felix	Inuvialuit Game Council	 Ernest Pokiak	Inuvialuit Game Council
 Doug Larsen	Yukon Department of Environment	 Ron Larsen	Parks Canada
 Lindsay Staples Chair, Wildlife Management Advisory Council (North Slope)			

IVVAVIK NATIONAL PARK OF CANADA
MANAGEMENT PLAN

This plan has been recommended by:



Alan Latourelle
Chief Executive Officer
Parks Canada



Alan Fehr
Superintendent
Western Arctic Field Unit

TABLE OF CONTENTS

EXECUTIVE SUMMARY i

1 INTRODUCTION 1

 1.1 Purpose of the Management Plan 1

 1.2 Management Planning Process 1

 1.3 Park Setting 2

2 ROLE OF IVVAVIK NATIONAL PARK OF CANADA IN THE NATIONAL PARKS SYSTEM 6

3 PLANNING CONTEXT 7

 3.1 Park Management in the Context of the Inuvialuit Final Agreement 7

 3.2 Parks Canada’s Commitment to the Inuvialuit 7

 3.3 Ivvavik’s Establishment History 8

 3.4 Current Park Users 9

 3.4.1 Inuvialuit 9

 3.4.2 Visitors 9

 3.4.3 Scientific Researchers 10

4 A VISION FOR IVVAVIK NATIONAL PARK 12

 4.1 Overview 12

 4.2 Key Components of the Park’s Vision 12

5 MANAGING FOR ECOLOGICAL INTEGRITY 14

 5.1 Overview 14

 5.2 Main Stressors Affecting Ivvavik National Park 18

 5.3 Maintaining Ecological Integrity in Ivvavik National Park: Goals and Objectives 20

 5.3.1 Cooperative Ecosystem-Based Management Plans 21

 5.3.2 Species-Specific Plans 23

 5.3.3 Other Wildlife and Species at Risk 26

 5.3.4 Aquatic Ecosystems 27

 5.3.5 Coastal Zone Ecosystem 28

 5.3.6 Vegetation 29

 5.3.7 Climate Change 30

 5.3.8 Solid Waste 31

 5.3.9 Human Dimensions 31

 5.3.10 Law Enforcement 32

 5.4 Indicators of Ecological Integrity 33

 5.5 Environmental Assessment 38

 5.6 Data Management 38

6	MANAGING CULTURAL RESOURCES	40
	6.1 Overview	40
	6.2 Presentation and Protection of Cultural Resources	42
	6.3 Inuvialuit History, Culture, and Involvement	43
	6.4 Archaeological Resource Monitoring Program	43
7	HERITAGE PRESENTATION	45
	7.1 Overview	45
	7.2 Heritage Presentation Goals and Objectives	45
8	VISITATION AND SERVICES	50
	8.1 Overview	50
	8.2 Visitation and Access	50
	8.3 Visitor Risk Management	55
	8.4 Aircraft Access	56
9	PARK FACILITIES	59
	9.1 Overview	59
	9.2 Facilities Management in Ivvavik National Park	59
	9.3 Environmental Management System	60
10	PARTNERSHIP AND PUBLIC INVOLVEMENT	61
11	PARK ZONING	63
	11.1 Overview	63
	11.2 Zoning in Ivvavik National Park	63
	11.2.1 Zone 1 – Special Preservation	64
	11.2.2 Zone 2 – Wilderness	64
	11.2.3 Zone 3 – Natural Environment	64
	11.2.4 Zone 4 – Outdoor Recreation and Zone 5 - Park Services	64
	11.2.5 Special Management Areas	64
12	SUMMARY OF THE ENVIRONMENTAL ASSESSMENT	68
13	GLOSSARY OF TERMS	69
14	LIST OF CONTRIBUTORS	71
15	REFERENCES	72

TABLES

1	Characteristics of Ivvavik National Park’s natural regions and ecoregions	17
2	Top five stressors affecting Ivvavik National Park, and actions taken to reduce or monitor the impact of those stressors	19
3	Components of an ecological monitoring program for Ivvavik National Park	35
4	Timeline of occupation in the Ivvavik National Park area	40
5	Archaeological resource monitoring activities for Ivvavik National Park	44
6	Criteria for determining appropriate use in Ivvavik National Park	53
7	Human dimension indicators	54
8	Summary of zoning in Ivvavik National Park	67

FIGURES

Figure 1:	Legislative Context of the Management Planning Process	11
Figure 2:	Terrestrial Food Web and Influences	16

MAPS

1	Western Arctic Region	2
2	Ivvavik National Park of Canada Region	3
3	Access Sites in Ivvavik National Park	58
4	Park Zoning in Ivvavik National Park	66

1 INTRODUCTION

1.1 Purpose of the Management Plan

The *Canada National Parks Act* requires each national park to have a management plan. These plans must be prepared in consultation with the public and must reflect Parks Canada's policies and legislation, as well as the provisions of comprehensive land claim agreements. Management plans are tabled in Parliament and reviewed every five years.

This management plan for Ivvavik National Park of Canada provides strategic direction for the next five years. The Western Arctic Field Unit business plan is prepared annually and is used to set out the implementation strategy for the management plan on three-year planning cycles, and allocates resources according to management plan priorities. Successful implementation of many of the key actions will involve working with partners and stakeholders. Annual reports will be used to assess progress of implementation.

This management plan will guide Parks Canada during the next five years, as we work with our partners to achieve our mandate: protection of ecological and cultural resources, contribute to regional economic and community benefits, provide facilities and access for visitors, and engage Canadians – especially youth – through an effective communications strategy and educational programs.

1.2 Management Planning Process

Developing this management plan required significant involvement of partners, stakeholders, and individuals with an interest in the park and its future. As such, public consultation played a fundamental role in shaping the revised management plan. Public involvement in the Ivvavik planning process occurred at two levels. First, the plan was developed in partnership with the Wildlife Management Advisory Council (North Slope), which involved in-depth consultation with Inuvialuit organizations, including the Inuvialuit Game Council and the Aklavik Hunters and Trappers Committee. Second, the plan was generally publicized through open houses in Inuvik, Aklavik, Whitehorse, Dawson City, and Old Crow, newsletters, and the Parks Canada website.

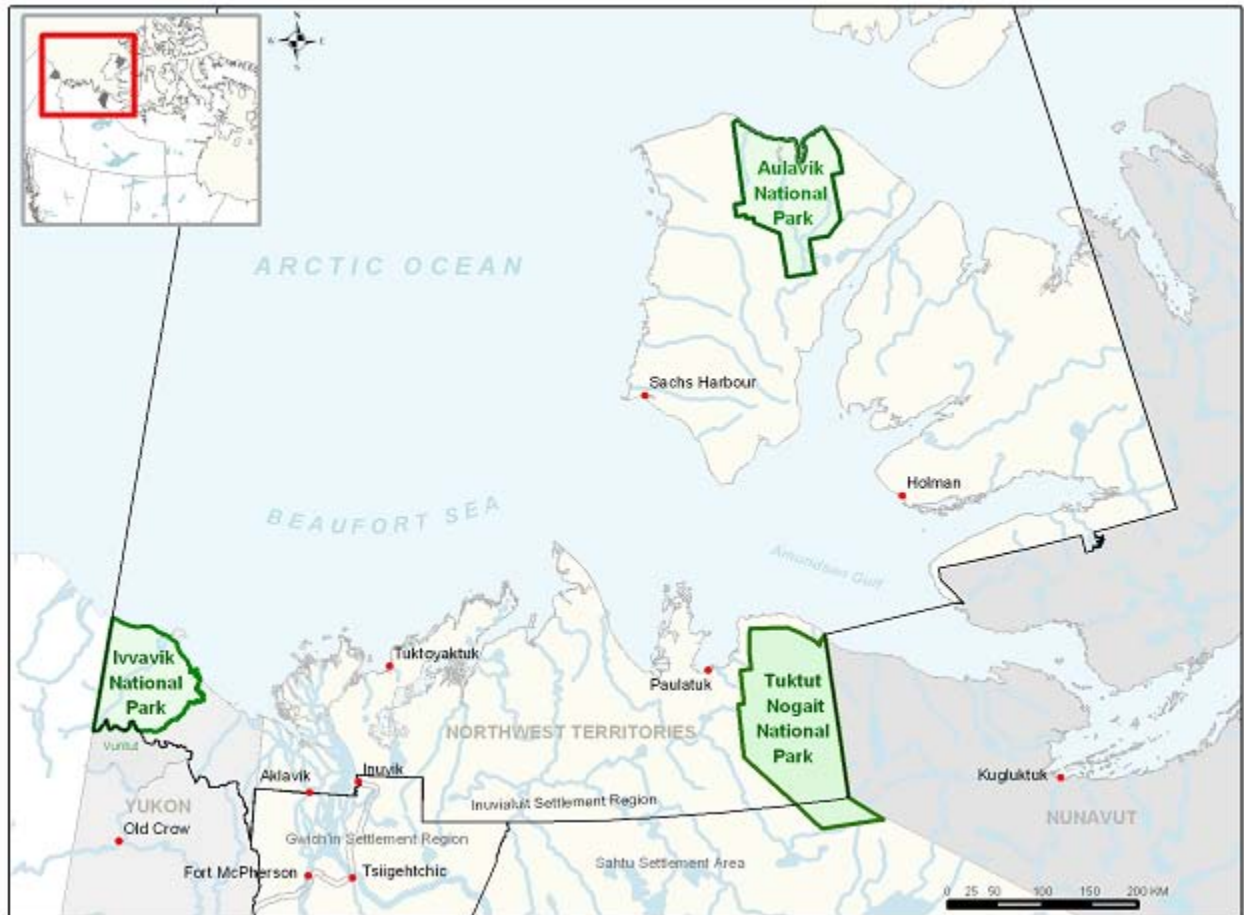
Three significant changes since the last management plan for Ivvavik National Park (1994) are the passage of the new *Canada National Parks Act*, the release of the *Parks Canada Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks* (Parks Canada, 2000a) and the passage of the *Species At Risk Act*.

The References section at the end of this plan lists the key legislation, policies, and reports that were considered in the drafting of this management plan.

1.3 Park Setting

Ivvavik National Park lies on the north slope of the Yukon Territory (Map 1). It is surrounded by lands managed predominantly for conservation. To the north, it is bordered by the Beaufort Sea, where Herschel Island Territorial Park lies off-shore. To the west is the vast Arctic National Wildlife Refuge in Alaska, and to the south is Vuntut National Park. The Babbage River delineates the eastern boundary of the park (Map 2). East of the river, along the North Slope, is a special land use and conservation area, as identified in the Inuvialuit Final Agreement (Indian and Northern Affairs Canada, 1984).

The closest communities to Ivvavik are Aklavik in the Northwest Territories, Old Crow in the Yukon Territory, and Kaktovik in Alaska. Inuvik, in the Northwest Territories, is the regional centre through which most visitors pass on their way to Ivvavik National Park. The park office is also located in Inuvik.



Map 1. Western Arctic Region

IVVAVIK NATIONAL PARK OF CANADA MANAGEMENT PLAN



Map 2. Ivvavik National Park of Canada Region

An Ecosystem-based Management Plan for Ivvavik National Park

Parks Canada strives to protect unique natural and cultural resources while optimizing visitor experiences and supporting local social and economic initiatives that are in keeping with the Parks Canada mandate. Each national park is part of a larger ecosystem within which there are complex relationships among all the components. Therefore, a holistic, multi-disciplinary approach—referred to as “ecosystem-based management”—is required to address the complexity of the park ecosystem.

The Ivvavik National Park management plan is founded on a number of ecosystem-based management principles. These principles are underpinned by both traditional knowledge and conventional science. Collectively, the principles represent an integrated approach that is essential for the maintenance of ecological integrity in Ivvavik National Park:

- Ecological boundaries:

Ecosystems are not contained within park boundaries. Whether inside or outside the park, management decisions and human activities have an impact on adjacent environments.

- System perspective:

Ecosystems are composed of a complex set of components, relationships, and processes. In turn, each ecosystem is part of a larger dynamic system.

- Adaptive management:

A course of action is decided upon, results are monitored, and the direction taken is evaluated based on what is learned. Due to the dynamic nature of ecosystems, it is critical that managers continually monitor and evaluate ecosystem effectiveness and adjust strategies accordingly.

- Multi-disciplinary management:

Understanding ecological, social, and economic realities requires input from a broad variety of disciplines. Such an approach ensures that management decisions will be based on the best available information and that all factors are considered.

- Human component:

Humans are an intrinsic part of the ecosystem, whether as subsistence harvesters or park visitors. Therefore, understanding how people interact with the land can lead to better management decisions. Addressing the social and economic needs of the people who use the park or live in proximity to it not only benefits the human component, but contributes to the biological health of the ecosystem.

continued

- Integrated and cooperative management:

Managing national parks is the primary responsibility of Parks Canada, although other jurisdictions play an important role in managing the resources of the parks. In the case of Ivvavik National Park, Parks Canada works closely with cooperative management boards and with other federal and territorial government agencies. A healthy cooperative relationship among agencies and boards results in better information sharing and decision-making. Inter-jurisdictional cooperation is also a reflection of the management setting in the region: Parks Canada's management decisions have an impact on jurisdictions beyond the park boundaries, and vice versa. Good communications and cooperation among the management bodies helps to harmonize management strategies.

- Precautionary approach:

Management decisions are based on the best available information. Because it is not always possible to delay action until *all* the information is gathered, a cautious approach will be taken for management decisions in such cases.

2

ROLE OF IVVAVIK NATIONAL PARK OF CANADA IN THE NATIONAL PARKS SYSTEM

National parks are part of a broader family of protected areas that include territorial and provincial parks, national historic sites, heritage rivers, special management areas, ecological reserves, and lands under private stewardship. The goal of Parks Canada is to establish at least one national park in each of the country's 39 natural regions. There are currently more than 40 national parks representing 27 of the natural regions. Three of these national parks are found in the Inuvialuit Settlement Region.

Ivvavik National Park is an area of exceptional ecological diversity. The park plays an important role in maintaining the ecological integrity of an area representative of the Northern Yukon and Mackenzie Delta natural regions, as identified in the *National Parks System Plan* (Parks Canada, 1997).

Ivvavik has a history of human use going back 8,000 years. The park offers the context for stories about human relationships with landscape over millenia, as eight cultures are known to have used the area now protected within the park's borders. As the first national park in Canada to be established as the result of an Aboriginal Land Claim, Ivvavik's story of people and the ecosystem they are part of flows into the modern era from an ancient past.

Three national parks (Aulavik, Ivvavik and Tuktot Nogait) are located within the Inuvialuit Settlement Region, all managed in the context of the Inuvialuit Final Agreement. These three parks, including Ivvavik, comprise approximately 20% of the land base of the Region and reflect the wish of the Inuvialuit to share their natural and cultural heritage with others. Parks Canada has significant obligations to ensure that benefits accrue to Inuvialuit and to adjacent communities from the presence of the national parks in their land claim area. In keeping with their traditions, Inuvialuit are guaranteed the right to continue subsistence harvesting activities within Ivvavik National Park. Throughout this management plan, "visitor" and the rules regarding visitation in Ivvavik National Park of Canada do not pertain to Inuvialuit exercising harvesting rights in the park.

The themes represented by Ivvavik National Park of Canada are relevant to all Canadians. Through Parks Canada's Engaging Canadians Strategy, and through Ivvavik, the Inuvialuit have an opportunity for the celebration and commemoration of their culture and their participation in Canada.

3

PLANNING CONTEXT

3.1 Park Management in the Context of the Inuvialuit Final Agreement

In the Inuvialuit Settlement Region, cooperation is the cornerstone of effective environmental management. Section 14(2) of the Inuvialuit Final Agreement states that “in order to achieve effective protection of the ecosystems in the Inuvialuit Settlement Region, there should be an integrated wildlife and land management regime, to be attained through various means, including the coordination of legislative authorities” (see *Figure 1: Legislative Planning Context*).

The Inuvialuit Final Agreement defines the boundaries of Ivvavik National Park and sets out conditions for planning and management. Section 12(6) of the agreement states that “the planning for the National Park and the management thereof shall have as their objects to protect the wilderness characteristics of the area, maintaining its present undeveloped state to the greatest extent possible, and to protect and manage the wildlife populations and the wildlife habitat within the area.”

An important provision of the Inuvialuit Final Agreement, under Sections 12(46) to 12(56), is the establishment of the Wildlife Management Advisory Council (North Slope), which is made up of representatives from an Inuvialuit community, the Yukon government, and the federal government. This council advises the minister responsible for national parks on aspects of park planning and management and recommends the park management plan to the minister. The council also advises both the federal and Yukon governments on wildlife and habitat management on the Yukon North Slope.

3.2 Parks Canada’s Commitment to the Inuvialuit

The Inuvialuit Final Agreement is at the centre of Parks Canada’s relationship with the Inuvialuit. It is not just a legal obligation, but is also good management sense. The Inuvialuit are central to the history, culture and present-day management of the park. With the signing of the Inuvialuit Final Agreement, the Inuvialuit, and Yukon, Northwest Territories, and federal governments recognized the national importance of protecting and celebrating the northern Yukon ecosystem. It was also evident to all signatories of the Agreement that this can only be achieved through a strong partnership.

In addition to the ecosystem-based management principle, Parks Canada is committed to advancing the following three principles of the Inuvialuit Final Agreement:

- to preserve Inuvialuit cultural identity and values within a changing northern society;
- to enable Inuvialuit to be equal and meaningful participants in the northern and national economy and society;
- to protect and preserve the Arctic wildlife, environment and biological productivity.

Ivvavik National Park offers a unique opportunity to contribute to all of these principles. For example, with respect to employment, the operation of Ivvavik National Park will provide a number of long-term jobs within the Inuvialuit Settlement Region.

- Action Items Parks Canada will:
- Hire and train staff, in consultation with the Inuvialuit Regional Corporation, so that the majority of staff for Ivvavik National Park will be Inuvialuit as per the Inuvialuit Final Agreement Section 12(42). To this end, Parks Canada will continue to employ appropriate recruiting strategies and training programs.
 - Implement the recommendations from Parks Canada’s response to *Northern Parks—A New Way. A Report of the Subcommittee on Aboriginal Economic Development in Relation to Northern National Parks* (Standing Senate Committee on Aboriginal Peoples, 2001).
 - Incorporate an Inuvialuit employment strategy within the Western Arctic Field Unit human resources plan.

In terms of how outfitting licences, tourism, and other economic activities will be handled, Section 12(43) of the Inuvialuit Final Agreement states that—to the extent that the management regime of Ivvavik National Park provides for economic activities—opportunities should be provided to Inuvialuit on a preferred basis.

Parks Canada is responsible for continuing to encourage local people to respect, use, and value the land. This can be achieved through local initiatives such as training and hiring Inuvialuit staff, developing community-based interpretation programs, providing learning opportunities for youth within the park, and promoting the preservation of traditional knowledge.

3.3 Ivvavik’s Establishment History

Ivvavik National Park was established in 1984 through the settlement of the Inuvialuit Final Agreement. The agreement is legislated through the *Western Arctic (Inuvialuit) Claims Settlement Act*, which led to the amendment of the *Canada National Parks Act* and resulted in the establishment of the national park. Ivvavik is managed under the *Canada National Parks Act* and the provisions of the final agreement. It is important to note that the agreement is the dominant legislation in cases where any inconsistencies or conflicts with the *Canada National Parks Act* arise.

During the 1970s, the northern Yukon received nation-wide attention as a result of the Mackenzie Valley Pipeline Inquiry, led by Justice Thomas Berger. The inquiry recognized the importance of the Porcupine caribou herd and called for the protection of the herd’s range. An “International Wildlife Refuge” was proposed to protect the herd in Alaska and Canada. Justice Berger made this recommendation after many Inuvialuit and Gwich’in people gave testimony to the importance and significance of this area.

On the Canadian side of the border, Justice Berger also recommended in 1977 the creation of a “northern Yukon Wilderness Park.” Parks Canada had earlier identified part of the northern Yukon Territory as a “Natural Area of Canadian Significance.” In 1978, the minister responsible

for national parks proposed a national wilderness park of 20,910 square kilometres. The proposed park would receive the highest level of environmental protection and would allow traditional aboriginal uses such as hunting, fishing, and trapping. Land was withdrawn from development, but it was necessary to settle aboriginal land claims in the region before the park could be established.

Today, Ivvavik National Park protects 9,750 square kilometres in the northern and western part of the area proposed in 1978. The southern part of the original park proposal falls within the traditional area of the Vuntut Gwitchin of Old Crow, located in the Yukon. Vuntut National Park was established in 1995 as part of the Vuntut Gwich'in First Nation Final Agreement (Indian Affairs and Northern Development, 1993) and protects 4,345 square kilometres.

3.4 Current Park Users

3.4.1 Inuvialuit

The Inuvialuit have lived along the Yukon North Slope and the area of Ivvavik National Park for generations. As a signatory to the Inuvialuit Final Agreement, the Government of Canada has specific objectives stemming from the Agreement's three major principles (Sec 3.2). Parks Canada supports the continuing traditional use of the North Slope, and under Sections 12(24) to 12(41) of the final agreement, recognizes Inuvialuit rights to harvest game within the park. This recognition includes, under Section 12(36), the right to use modern and traditional methods of harvesting and the right to possess and use all equipment reasonably needed to exercise that right. Inuvialuit also have the right to use existing hunting, fishing and trapping facilities associated with their game harvesting activities. Inuvialuit traditional use in the park is not affected by the zoning system described later in this plan. It is important to note that Inuvialuit who carry out activities as beneficiaries under the final agreement are not considered to be park visitors.

It is the definition of *conservation* in the Inuvialuit Final Agreement which governs the management of wildlife and Inuvialuit harvesting in the park. According to Section 2, conservation means "the management of the wildlife populations and habitat to ensure the maintenance of the quality, including the long term optimum productivity, of these resources and to ensure the efficient utilization of the available harvest."

Since the 1980s, harvesting by Inuvialuit within the Inuvialuit Settlement Region has been monitored by the Inuvialuit Harvest Study and other harvest reporting programs. Hunting quotas are in place within Ivvavik National Park for grizzly bears. These are established by the Wildlife Management Advisory Councils (North Slope and Northwest Territories) through the *Co-management Plan for Grizzly Bears in the Inuvialuit Settlement Region, Yukon Territory and the Northwest Territories* (Nagy and Branigan, 1997). Currently, harvest in the park is considered to be within sustainable levels.

3.4.2 Visitors

Ivvavik's visitors are passionate about the park. Most see themselves as active participants in the effort to maintain the park's ecological integrity, its pristine beauty and the wilderness character of the park experience. The park's remoteness, and the costliness of getting there by air charter, have kept visitation numbers low.

Ivvavik National Park attracts visitors seeking a rare, remote wilderness experience in an arctic setting. Visitors are also appreciative of and interested in the cultural landscape. Because the park is more than 200 kilometres from the nearest road, access is by chartered aircraft or boat. Currently, no motorized travel is permitted within the park except by Inuvialuit exercising their subsistence harvesting rights and by park staff for management purposes. Air access into the park is permitted at one of five designated landing strips and one lake. Given the remote nature of Ivvavik National Park, currently fewer than 200 people visit the park in a given year. All visitors must register with the park office in Inuvik.

Although there are many opportunities for experiencing Ivvavik National Park, visitation is generally concentrated along the Firth River corridor. Rafting, kayaking, and hiking are the primary activities, reflecting the non-motorized, wilderness nature of the park. Most visitors typically spend a week or more in the park. They are expected to be self-sufficient and self-reliant, and to practise no-trace user techniques.

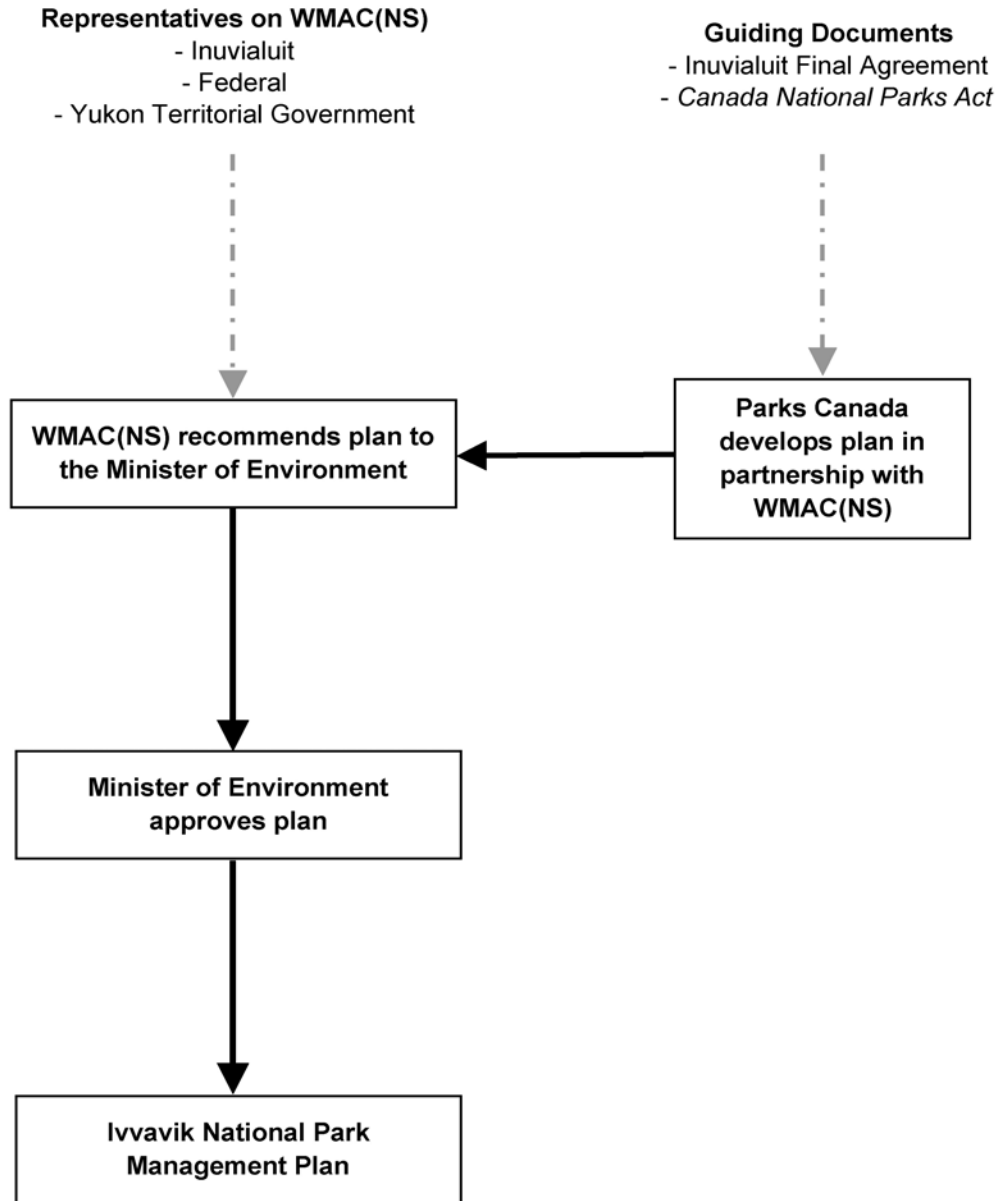
In addition to the park's recreational value, Ivvavik is a rich educational tool for all visitors. Parks Canada is committed to facilitating park access for local school groups, community members and artists in order to offer western arctic residents first-hand experience of the cultural and natural treasures of Ivvavik. Parks Canada will also continue to expose students, youth and beneficiaries to work experience in the park, as a way of encouraging the pursuit of secondary and post-secondary education and a career in the natural and cultural sciences.

3.4.3 Scientific Researchers

Ivvavik National Park provides an exceptional environment for study. Researchers in the natural and cultural sciences work on many park-related projects. Recent wildlife research in and around the park has focused on waterfowl as well as other birds, Porcupine caribou, muskoxen, moose, grizzly bears, Dall's sheep, and char. Other work has focused on vegetation and habitat mapping, archaeological research, and the study of coastal erosion. Such types of research and monitoring will be important in the continued maintenance of the park's ecological integrity.

Figure 1: Legislative Context of the Management Planning Process

WMAC (NS) : Wildlife Management Advisory Council (North Slope)



4

A VISION FOR IVVAVIK NATIONAL PARK

4.1 Overview

In 1993, a Parks Canada working group, with representatives from the community of Aklavik, created the following vision statement for Ivvavik National Park:

The land will support the people who protect the land.

This vision statement illustrates that Ivvavik National Park protects the land, the wildlife and their habitats. The land in turn will support the people, traditional users and visitors by supplying good camping areas, clean water, traditional harvests, enriching experiences and providing community benefits for local communities such as tourism, and educational and mentoring programs. Ivvavik, meaning “a place for giving birth, a nursery,” is a name that recognizes the park’s role as the calving ground for the Porcupine caribou herd—the traditional subsistence base for the Inuvialuit and other peoples of the Yukon North Slope for thousands of years. The name and vision also implicitly recognize that the Inuvialuit Final Agreement guarantees Inuvialuit the exclusive right to harvest wildlife within the park.

4.2 Key Components of the Park’s Vision

There are many components to this vision, which encompasses the core values of Ivvavik National Park and is intended to provide a guide for park planning, management, and operation. To achieve this vision, Parks Canada must ensure that:

- The integrity of ecosystems and cultural resources is protected using our understanding of the cultural and natural evolution of the park area.
- Wildlife populations such as the Porcupine caribou herd vary naturally and wildlife movement patterns continue unhindered.
- The undeveloped wilderness characteristics of the area are maintained to the greatest extent possible.
- Local residents, park visitors, and the Canadian public take an active role in protecting the park’s natural and cultural heritage and sharing the enjoyment of these with others.
- The park, through its wilderness and cultural values, plays an important role in the region’s heritage tourism activity, and the regional economy as a whole through the facilitation of economic opportunities and working with the communities.
- Students, youth and community residents are given the opportunity to learn, build capacity, and experience the park.
- There is cooperation with others in a regionally integrated ecosystem management framework.
- There is continued support for the relationship between Inuvialuit and the land.
- Inuvialuit beneficiaries are involved in the operation and management of the park.
- Traditional, local, and scientific knowledge is incorporated into park planning and management.
- Local residents, park visitors, and the Canadian public understand, appreciate, and enjoy park values through interpretation, outreach, and the provision of a range of appropriate wilderness recreation opportunities.

- Park visitors enjoy a range of appropriate recreational activities that are based on experiencing and respecting the park's natural and cultural heritage.
- Wildlife and natural resources are protected from stressors that impair the ability of natural systems to recover.

5

MANAGING FOR ECOLOGICAL INTEGRITY

5.1 Overview

Ivvavik is one of three national parks in the Western Arctic Region (see Map 1). Ivvavik national park partially represents the Northern Yukon and Mackenzie Delta natural regions, two of 39 Canadian natural regions identified in the National Park System Plan. Ivvavik lies in the northwest corner of the Northern Yukon natural region, and includes the western edge of the Mackenzie Delta natural region.

Ivvavik National Park is part of a larger, international, system of protected areas. Vuntut National Park, which also represents the Northern Yukon natural region, lies directly south of Ivvavik. The Arctic National Wildlife Refuge in Alaska lies alongside the western boundary of Ivvavik National Park.

The park landscape consists of the open tundra of the coastal plain, alpine tundra in the British Mountains; forested taiga ecosystems that are a transition between the boreal forest and the arctic tundra; freshwater lakes, rivers and wetlands; and brackish estuaries of rivers that empty into the Beaufort Sea. Elevation in the park ranges from sea level at the Beaufort Sea to 1675 m above sea level in the British Mountains.

There are two climatic regions in Ivvavik; the marine climate of the coastal plain and the more continental climate of the British Mountains. The climate of both regions is characterized by long, cold winters and short, cool summers, and moderate to strong winds. Mean air temperature along the coast is estimated to range from 4 to 10 °C in July and from -22 to -25 °C in January. Inland from the coast, mean air temperature is estimated to range from 10 to 12 °C in July and from -20 to -24 °C in January. February is usually the coldest month along the coast, when temperatures range from -25 to -27 °C. Mean annual precipitation, estimated from weather stations inside and adjacent to the park, ranges from approximately 126 mm to 400 mm. August is the wettest month and February to April are the driest months. The average temperature in the Arctic has increased at almost twice the rate of the rest of the planet in the past few decades and the Arctic is now experiencing some of the most rapid and severe climate change on earth. For example, winter increases in Alaska and western Canada have been around 3 to 4 °C over the past half century. Furthermore widespread melting of sea ice and rising permafrost temperatures present additional evidence of strong arctic warming (Arctic Climate Impact Assessment, 2004).

Soils in Ivvavik are different in two ways from those found in southern Canada. First, many of the geological materials have been subjected to millions of years of uninterrupted weathering because the region was not glaciated during the last ice age. Secondly, much of the soil in the park remains permanently frozen.

Water in Ivvavik flows north into the Beaufort Sea through three major river systems: the Malcolm, Firth and Babbage rivers. Most of the lakes and wetlands in the park are found on the coastal plain. These lakes are typically shallow and marshy. The foothills of the British Mountains are better drained than the coastal plain and contain many small lakes. There are few lakes in other parts of the British Mountains.

Arctic tundra, alpine tundra and taiga are the three major vegetation types in Ivvavik National Park. The arctic tundra supports sedges and low-growing shrubs such as cotton grass (*Eriophorum* spp.), willow (*Salix* spp.), dwarf birch (*Betula glandulosa*), Labrador tea (*Ledum* spp.) and cranberry (*Vaccinium vitis-idaea*). The alpine tundra has scattered patches of mountain avens (*Dryas integrifolia*), purple saxifrage (*Saxifraga oppositifolia*), bearberry (*Arctostaphylos* spp.), and lichens (*Cladina* spp.). In the taiga there are open stands of stunted white spruce (*Picea glauca*) and balsam poplar (*Populus balsamifera*), some of the most northern trees in Canada. Some of Ivvavik's plants are unique to this area.

A wide variety of mammals inhabit Ivvavik. The park includes a portion of the calving grounds of the Porcupine caribou herd, and other seasonal ranges of the herd. Other terrestrial mammals include grizzly bear, muskox, Dall's sheep, moose, wolf, arctic and red fox, wolverine, arctic ground squirrel, lemmings, shrews and voles. Marine mammals in the park include polar bears, and ringed and bearded seals. The park is also a major breeding and nesting area for a variety of migratory birds, as well as home to a few species of birds that are year-round residents. Arctic char, broad whitefish, arctic grayling and lake trout are some of the species of fish that are found in the park.

Figure 2: Terrestrial Food Web and Influences

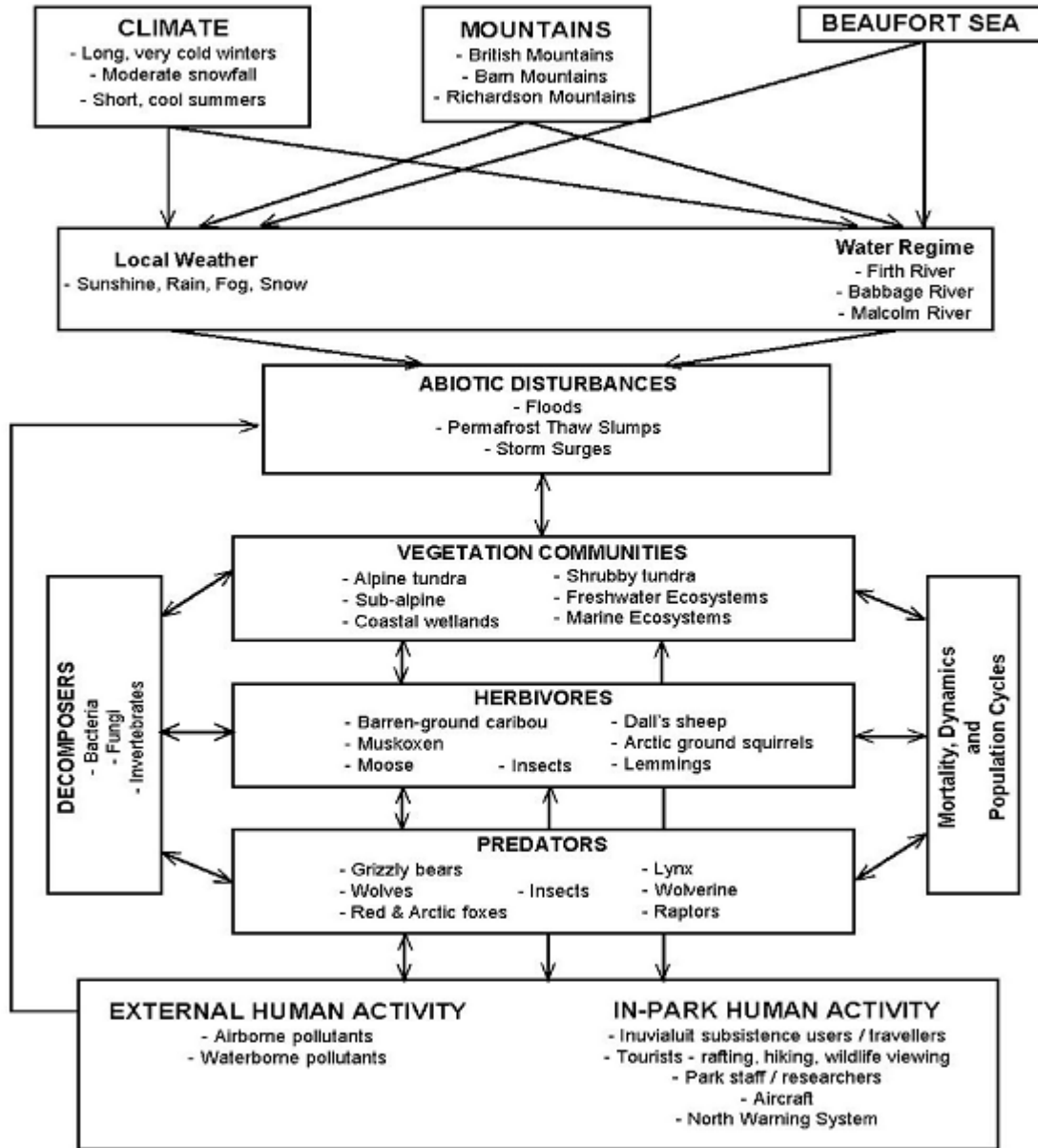


Table 1. Characteristics of Ivvavik National Park's natural regions and ecoregions

Natural Region	Ecoregion	Climate	Geology	Landform	Soils	Vegetation
Northern Yukon	British-Richardson Mountains	<ul style="list-style-type: none"> • short, cool summers and extremely cold winters 	<ul style="list-style-type: none"> • unglaciated mountain ranges reaching 1,650 m • southern range exhibits smooth, rounded profiles 	<ul style="list-style-type: none"> • periglacial landforms • continuous permafrost with increasing ice content towards the northern part of the region 	<ul style="list-style-type: none"> • turbic cryosols with static cryosols developed on colluvial and alluvial deposits 	<ul style="list-style-type: none"> • alpine tundra (lichens, mountain avens, ericaceous shrubs, sedge, cottongrass) at upper elevations • subalpine open woodland vegetation (stunted white spruce, willow, dwarf birch, Labrador tea) at lower elevations
	Yukon Coastal Plain	<ul style="list-style-type: none"> • short, cool summers and extremely cold winters 	<ul style="list-style-type: none"> • erosion surface cut into Tertiary sandstone and shale that is covered with a thin veneer of recent sediments 	<ul style="list-style-type: none"> • plain decreasing in elevation towards the west • continuous permafrost with high ice content and abundant ice wedges 	<ul style="list-style-type: none"> • turbic cryosols 	<ul style="list-style-type: none"> • shrubby tundra vegetation (dwarf birch, willow, Labrador tea, mountain avens, sedge tussocks)
Mackenzie Delta	Mackenzie Delta	<ul style="list-style-type: none"> • very cold winters and cool summers 	<ul style="list-style-type: none"> • a complex area of peat-covered deltas and fluvial marine deposits 	<ul style="list-style-type: none"> • a multitude of lakes and channels • wetlands extend over 50% of the ecoregion, and are characteristically polygonal peat plateau bogs with ribbed fens • permafrost occurs with low to medium ice content 	<ul style="list-style-type: none"> • regosolic static and gleysolic static cryosols with organic cryosols 	<ul style="list-style-type: none"> • a ground cover of dwarf birch, willow, ericaceous shrubs, cottongrass, lichen, and moss • tussocks of sedge, cottongrass, and sphagnum moss

5.2 Main Stressors Affecting Ivvavik National Park

The overall health of Ivvavik National Park has improved significantly through the management efforts of Parks Canada and its partners. Solid waste, including numerous abandoned fuel drums, has been removed from the park and a long-term monitoring program is established to track potential stressors. Despite some localized disturbances, the park's dynamic ecosystem continues to thrive.

Since 1994, Parks Canada has been producing the *State of Protected Heritage Areas Report*, a report on the general health of Canada's national parks. In 1997, Ivvavik National Park had a rating of 3 out of 5, indicating significant impairment to ecological integrity. In 1999, the park showed improvement with a ranking of 2, indicating minor impairment to ecological integrity.

These rankings are based on the "stressors" (stimuli that cause stress) for a given park. Identifying and ranking the major stressors affecting a park is a way of assessing the health of its environment. Activities or conditions are considered as stressors if they are known or suspected to be impacting the park environment.

The five main stressors identified in the *State of the Protected Heritage Areas 1999 Report* (Parks Canada, 1999) for Ivvavik National Park are climate change, solid waste, poaching, park management practices, and visitation (Table 2). These stressors will be reviewed during the annual management plan review as well as during the preparation of Ivvavik's State of the Park Report.

Table 2. Top five stressors affecting Ivvavik National Park, and actions taken to reduce or monitor the impact of those stressors (*State of Protected Heritage Areas 1999 Report*)

Rank	Stressor	Status	Description	Current Actions
1	Climate change	Increasing	According to the literature, temperatures in this region appear to be increasing. Empirical evidence also shows increased coastal erosion and slumping.	<ul style="list-style-type: none"> • Two automated weather stations are in place for monitoring air and ground temperature. • Coastal erosion and permafrost monitoring has been undertaken in partnership with the Geological Survey of Canada. • The environmental management system has been implemented.
2	Solid waste	Decreasing	The Distant Early Warning (DEW) Line Station at Stokes Point was cleaned up in 1992. Komakuk Beach clean-up began in 1999 and was concluded in 2001. Work has been done to remove garbage from mineral and oil exploration and coastal garbage that has washed up on shores.	<ul style="list-style-type: none"> • Monitoring program is in place for Komakuk Beach. • Assessment and monitoring program is being initiated at Stokes Point. • Old fuel caches and drums have been cleaned up along coast. • Strict controls are in place for fuel caching.
	Poaching	Stable	Poaching on the Yukon North Slope is a management concern for Parks Canada and our Alaskan counterparts. However, there is no indication that poaching is a common problem, or having an impact on wildlife populations.	<ul style="list-style-type: none"> • Law enforcement initiatives are being integrated with those of staff from Vuntut National Park and U.S. federal and state agencies.

continued

Rank	Stressor	Status	Description	Current Actions
4	Park management practices	Stable	Staff field operations focus on minimizing impacts.	<ul style="list-style-type: none"> • Visitor numbers, including staff and researchers, are recorded. • Sheep Creek Warden Station is to be downsized. • All projects undergo environmental assessments. • The environmental management system has been implemented.
5	Visitation	Stable	Localized impacts have been experienced in the Firth River corridor, primarily related to the trampling of vegetation, leaving of human waste, and wildlife disturbance at campsites. The scale of impact remains manageable. Increased visitation is sustainable and remains a desired goal of Parks Canada.	<ul style="list-style-type: none"> • Impacts on campsite vegetation are monitored, and campsites are closed as required. • Cultural sites are monitored. • Visitor registration is mandatory. • Public awareness, education, and interpretation programs are under way. • Removal of human waste has been made mandatory along the Firth River Corridor.

5.3 Maintaining Ecological Integrity in Ivvavik National Park: Goals and Objectives

In Section 2(1) of the *Canada National Parks Act*, ecological integrity is defined as “a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes.”

The *Act* also states that the national parks of Canada are “dedicated to the people of Canada for their benefit, education and enjoyment, subject to this Act and the regulations, and the parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations” (Section 4(1)); and that “maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes, shall be the first priority of the Minister when considering all aspects of the management of parks” (Section 8(2)).

Maintaining and, where relevant, restoring the ecological integrity of Ivvavik National Park depends on a wide variety of management considerations and actions. Ecosystem-based management of the park will be guided by one broad goal and several specific objectives, discussed below by general topic.

Good science and effective management of human dimensions and other stressors are important tools for maintaining ecological and commemorative integrity. Equally important are tools that enlist visitors, local residents, Inuvialuit, other cooperative management boards, and all Canadians in our vision of “protecting the land that supports the people”. These tools include an effective outreach and public education program that engages people in the stories of the place, nurturing their interest in Ivvavik’s heritage; opportunities for local residents and youth to learn about the role of national parks and to experience them through visits; and employment and economic development opportunities that provide direct and indirect benefit by the presence of the national parks.

Goal: Maintaining Ecological Integrity

To cooperate with other agencies to maintain or restore ecological integrity in Ivvavik National Park within the context of the Inuvialuit Final Agreement and the Canada National Parks Act.

5.3.1 *Cooperative Ecosystem-Based Management Plans*

Within the Inuvialuit Settlement Region, a number of cooperative resource management plans guide ecosystem management in the region. For the management of Ivvavik National Park, Parks Canada works with the Wildlife Management Advisory Council for the Yukon North Slope (WMAC(NS)), the Fisheries Joint Management Committee, the Environmental Impact Screening Committee, the Environmental Impact Review Board, the Inuvialuit Game Council, the Aklavik Hunters and Trappers Committee, the Yukon Territory Department of Environment, and various other government departments and cooperative management bodies.

Plan Objective:

To use the management plans developed by cooperative management and Inuvialuit organizations to guide the ecosystem-based management of Ivvavik National Park.

This management plan for Ivvavik National Park is compatible with, and will help Parks Canada achieve, the goals of the three plans described below.

Yukon North Slope Wildlife Conservation and Management Plan

In 1999, Parks Canada began to work with the Wildlife Management Advisory Committee for the Yukon North Slope to prepare the *Yukon North Slope Wildlife Conservation and Management Plan* (Wildlife Management Advisory Committee (North Slope), 2003). Working together, both organizations have adopted a regional ecosystem approach to wildlife and conservation management. Parks Canada plans to survey and assess present and future threats to ecosystems, cultural resources, and public safety in consultation with other managers in the region. Strategies to overcome these threats will then be developed.

The Yukon North Slope Wildlife Conservation and Management Plan implements Section 12 of the Inuvialuit Final Agreement and other provisions that affect the management and conservation of wildlife on the Yukon North Slope. It is intended to promote cooperative initiatives among government agencies, Inuvialuit organizations, and local communities, as well as to set priorities for environmental protection, research, monitoring, and management.

Action Item Parks Canada and the Wildlife Management Advisory Council (North Slope) will jointly:

- Contribute to the implementation of the Yukon North Slope wildlife conservation and management plan.

The Yukon North Slope Long-term Research and Monitoring Plan

The *Yukon North Slope Long-term Research and Monitoring Plan* (Wildlife Management Advisory Council (North Slope), 1999) identifies the current issues, concerns, and priorities for environmental research and monitoring on the Yukon North Slope, with a focus on fulfilling the information needs of people who live in the region and rely on its resources. The research priorities identified in the *Aklavik Hunters and Trappers Committee Research Priorities* document (Aklavik Hunters and Trappers Committee, 1999) for the Yukon North Slope are incorporated in the plan.

The goal of the plan is to develop truly interdisciplinary and multi-agency programs that involve local communities and their knowledge of the environment. To that end, it identifies important information gaps, identifies opportunities to use existing data, provides a guide to community involvement in projects (including the use of traditional and local knowledge), and promotes cooperative initiatives among government agencies, communities, and universities.

Action Item Parks Canada will:

- Continue to be involved in the development and implementation of the *Yukon North Slope Long-term Research and Monitoring Plan* with the Wildlife Management Advisory Council (North Slope) and will use this document in developing research and monitoring activities for Ivvavik National Park.

Aklavik Inuvialuit Community Conservation Plan

The *Aklavik Inuvialuit Community Conservation Plan* (Community of Aklavik, Wildlife Management Advisory Council (NWT) and Joint Secretariat, 2000) is a community-based planning document that was originally prepared in 1993 by the Aklavik Hunters and Trappers Committee, Aklavik Community Corporation, Aklavik Elders Committee, and the Wildlife Management Advisory Council (North Slope). These same groups contributed to the updated 2000 plan, along with government agencies and cooperative management bodies. The plan is intended to provide guidance to all those with an interest in the Aklavik planning area, which includes Ivvavik National Park.

The document contains a brief description of the current conservation and resource management system in the Inuvialuit Settlement Region and outlines a strategy to address the following broad goals:

- To identify and manage wildlife habitat, seasonal harvesting areas and cultural sites.
- To promote a community process for making land use decisions and managing cumulative impacts.
- To provide education initiatives that promote conservation, understanding and

appreciation.

- To support a general system of wildlife management.
- To help enhancement of the local economy.

— **Action Item** Parks Canada will:

- Use the *Aklavik Inuvialuit Community Conservation Plan* for guidance when developing research and monitoring activities for Ivvavik National Park. This plan and its research results will also guide the management actions for Ivvavik National Park.

5.3.2 Species-Specific Plans

Along with the broad ecosystem-based management plans that exist for the region, there are also several species-specific plans that offer guidance in the management and protection of various species.

Grizzly bears

Ivvavik National Park and the surrounding region support grizzly bears. Although the bears on the Yukon North Slope are considered healthy, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has listed them as “a species of special concern” due to declining populations and loss of habitat in Canada (COSEWIC, 2000). People not just of Inuvik and Aklavik, but of the Northwest Territories, Canada, and the world generally have an interest in grizzly bears. Many are concerned about the potential impacts of harvesting and habitat loss on this key species.

Parks Canada outlined its commitment to the cooperative management of grizzly bears in the *Co-management Plan for Grizzly Bears in the Inuvialuit Settlement Region, Yukon Territory and Northwest Territories*. Examining and minimizing interactions between humans and bears on the Yukon North Slope has also been identified as a research priority in the *Aklavik Hunters and Trappers Committee Research Priorities*.

Plan Objective:

To maintain the grizzly bear population along the Yukon North Slope at natural levels by continuing to protect grizzly bear habitat and ensuring that the total number of bears removed from the population is sustainable.

Action Items Parks Canada will:

- Participate with other agencies to determine baseline population levels and to monitor population trends over the long term.
- Assist the Wildlife Management Advisory Council (North Slope) and the Yukon government to conduct a vegetation classification to assess habitat for bears on the Yukon North Slope.

- Assist the Northwest Territories Department of Environment and Natural Resources and the Yukon government with updating the regional grizzly bear population information database and the regional grizzly bear radio location database.
- Complete action items as outlined in the *Co-management Plan for Grizzly Bears in the Inuvialuit Settlement Region, Yukon Territory and Northwest Territories*.
- Monitor the harvest of grizzly bears in cooperation with the Yukon Department of Environment and with the Northwest Territories Department of Environment and Natural Resources.
- Reduce the potential for conflicts between humans and grizzly bears by promoting safe conduct in bear country.
- Review and implement appropriate recommendations resulting from research conducted on grizzly bears in the Firth River corridor.
- Record grizzly bear observations using the Parks Canada wildlife cards, and analyze and present the results annually.
- Work together with other enforcement agencies to prevent the illegal harvest of grizzly bears.

Porcupine caribou herd

Ivvavik National Park was established, in part, to protect a portion of the habitat that is important to the Porcupine caribou herd. The annual migrations of the approximately 123,000-strong herd take them into and through the park to calving and post-calving areas on the coastal plain. The tundra of the coastal plain provides the caribou with rich forage and the coastal breezes give relief from biting insects.

Inuvialuit, Gwich'in and Inupiat from 18 communities in the Northwest Territories, Yukon, and Alaska hunt Porcupine caribou for subsistence. Some non-native residents of the area also hunt the herd for both meat and sport. Inuvialuit have the exclusive right to harvest wildlife in Ivvavik National Park.

The Porcupine caribou herd is co-managed under the *Porcupine Caribou Herd Interim Management Plan, 2003-2005* (Porcupine Caribou Management Board, 2003). Parks Canada is a member on the Porcupine Caribou Management Board, with the representation rotating between staff from Vuntut National Park and Ivvavik National Park.

A meeting in Dawson City, Yukon, in the fall of 1994 brought together interested parties to start an ecological monitoring program for the Northern Yukon. The Arctic Borderlands Ecological Knowledge Co-op grew from that meeting and was established to monitor ecosystem health within the range of the Porcupine caribou herd, to improve communication and understanding among governments, aboriginal and non-aboriginal communities and scientists, and to foster capacity building and training opportunities in northern communities. The Co-op is a non-

profit organization that uses both science-based studies and traditional knowledge to meet these goals.

Plan Objective:

To work in cooperation with the Porcupine Caribou Management Board and other wildlife management boards and agencies, towards maintaining a healthy and abundant Porcupine caribou herd and ensuring the continued, sustainable, traditional use of the caribou and their range.

Action Items Parks Canada will:

- Work with the U.S. Fish and Wildlife Service, the Arctic National Wildlife Refuge, and the Yukon government to determine caribou birth rate and conduct population censuses.
- Work with Porcupine Caribou Management Board to analyze the effects of harvesting on caribou populations.
- Continue to support the gathering of traditional ecological knowledge through the Arctic Borderlands Ecological Knowledge Co-op.
- Support harvest monitoring initiatives.
- Participate with other agencies (as outlined in the *Porcupine Caribou Herd Interim Management Plan, 2003-2005*) in the cooperative management and research of the Porcupine caribou herd in Ivvavik National Park.

Muskoxen

Archaeological research and knowledge from aboriginal peoples of the Mackenzie Delta show that muskoxen were present on the Yukon-Alaska coastal plain in the past. The decline and eventual disappearance of the animals occurred between 1858 and 1865, probably as a result of excessive harvesting by whalers, explorers, and, subsequently, commercial hunters and fur traders. A herd of 31 muskoxen from Greenland were released on Nunivak Island, Alaska, over a two-year period in 1935 and 1936. Then, in 1969, 51 muskoxen were transplanted from Nunivak Island to Barter Island. The first sighting of a muskox in the Yukon was in the early 1970s. A research project was conducted from 1999 to 2005 by the Government of Yukon and Parks Canada to determine the population size and trend, and the movements and distribution of the Yukon North Slope muskoxen population. This project was conducted under the direction of the draft Canadian North Slope Muskoxen Co-management Plan (Wildlife Management Advisory Council (North Slope), 2002), developed by the Wildlife Management Advisory Council (North Slope). Today there are believed to be approximately 300 muskoxen on the Alaska/Yukon North Slope, with roughly 86 to 186 of the animals located between the Mackenzie Delta and the Alaskan border (1993 to 2005 estimates). Parks Canada and the other agencies involved in drafting the muskox co-management plan have agreed that the population in the Yukon should be maintained at the current population size.

Plan Objective:

To work towards maintaining a stable population of muskoxen in Alaska, Yukon, and the Northwest Territories, undertake muskox research and monitoring activities, and provide opportunities for the Inuvialuit to exercise their hunting rights for subsistence purposes subject to the principles of conservation.

Action Items Parks Canada will:

- Work with the Wildlife Management Advisory Council (North Slope) and other cooperative management partners to draft a Canadian North Slope muskox co-management plan.
- As directed by the draft *Canadian North Slope Muskoxen Co-management Plan*, and in cooperation with the Yukon and Northwest Territories Governments, conduct population surveys of muskoxen on the Yukon North Slope.
- Cooperate on research, along with the Yukon government and Northwest Territories Department of Environment and Natural Resources, on habitat use by muskoxen, muskox movements and the presence, levels and effects of parasites on muskoxen and other species of wildlife on the Yukon North Slope.
- Determine harvest rates, along with the Wildlife Management Advisory Council (North Slope), Inuvialuit Game Council, the Aklavik Hunters and Trappers Committee and the Yukon government, for muskoxen on the Yukon North Slope.

5.3.3 *Other Wildlife and Species at Risk*

A number of other species are not identified in current management plans, but play an integral part in Ivvavik National Park's ecosystem. Population research and management of these species will be addressed through the Wildlife Management Advisory Council (North Slope) and will consider the *Yukon North Slope Wildlife Conservation and Management Plan*, the *Yukon North Slope Long-term Research and Monitoring Plan*, the *Aklavik Hunters and Trappers Committee Research Priorities* and the *Aklavik Inuvialuit Community Conservation Plan*. "Species at risk" is defined in the federal *Species at Risk Act* to mean an extirpated, endangered or threatened species or a species of concern. Within this classification system, grizzly bear, wolverine, polar bear, the tundra subspecies of peregrine falcon and short-eared owl are listed as species of special concern. Parks Canada will work in cooperation with the Wildlife Management Advisory Council (North Slope), and other cooperative wildlife management boards and agencies to manage and monitor the status of these species as required by the *Act*.

Plan Objective:

To continue to collect baseline information to further our understanding of other wildlife communities representative of the ecosystem of Ivvavik National Park and the Yukon North Slope.

Action Items Parks Canada will:

- Undertake moose surveys to establish population trends of moose in Ivvavik National Park, and share this data with cooperative management partners in order to track moose population trends throughout the entire Yukon North Slope and the Richardson Mountains.
- Undertake Dall’s sheep surveys towards establishing population trends of sheep in Ivvavik National Park.
- Complete a peregrine falcon population survey of the Yukon North Slope every five years.
- Encourage staff and park visitors to complete wildlife cards documenting wildlife observations, and maintain a database of these observations. Systematically recording wildlife observations is an inexpensive method of collecting information about wildlife populations (e.g. presence/absence, trend, movements).
- Encourage staff and park visitors to complete the Northwest Territories / Nunavut Bird Checklist Survey forms, and maintain a database of these observations. The bird checklist survey is part of a national effort to collect scientific information about the distribution, abundance and breeding status of birds in the north.
- Conduct inventories, research and monitoring for other wildlife species as priorities are identified through the cooperative management process.

5.3.4 *Aquatic Ecosystems*

With little or no human activity occurring within hundreds of kilometres of Ivvavik National Park, the aquatic ecosystems of the park face very few threats and remain in near-pristine condition.

Ivvavik National Park watersheds drain into the Beaufort Sea through three major drainage systems: the Malcolm, Firth, and Babbage rivers. The coastal plain contains most of the lakes in the park. Many of these lakes are shallow or marshy and occur in areas that were once glaciated. The foothills region is better drained and contains some small lakes; the British Mountains contain very few lakes. Sheets of *aufeis* (a German word meaning “ice on top of ice”) are found throughout the park. The largest sheets are on the Firth River close to the U.S. border and in the delta where the river empties into the Beaufort Sea. *Aufeis* is formed when water from underground springs runs over river ice and then freezes. These extensive sheets can become two to five metres thick and they rarely melt completely during the summer. *Aufeis* helps maintain water levels throughout the summer by contributing run-off to the major rivers.

The park has important fish habitat in salt, brackish, and fresh water. “Fish holes”, underground springs that provide fresh water throughout the year, on the Firth River and Joe Creek are prime wintering, spawning, and feeding areas. The Babbage River provides important summer habitat for Dolly Varden char and Arctic grayling which overwinter in a

tributary outside the park. The narrow coastal strip of the Beaufort Sea is important to arctic and least cisco. Some of the deeper lakes and ponds of the coastal plain that do not freeze to the bottom also support populations of pond smelt, broad whitefish, and lake trout.

The long-range transport of atmospheric pollutants can affect the water quality of Ivvavik National Park. As well, the natural flow of rivers in the park may be affected by climate change. High water quality and a natural, dynamic hydrological regime are important aspects of the ecosystem of the park.

Plan Objective:

To research and monitor components of the aquatic ecosystem in Ivvavik National Park.

Action Items Parks Canada will:

- Continue to monitor annually the quality and quantity of water in the Firth River.
- Re-establish aspects of the baseline water quality study of streams in the Stokes Point area.
- Regulate sport fishing in Ivvavik National Park in accordance with the *Canada National Parks Act* and Regulations, and in consultation with the Fisheries Joint Management Committee and affected Hunters and Trappers Committees.
- Work with the Department of Fisheries and Oceans, Fisheries Joint Management Committee, and the Aklavik Hunters and Trappers Committee to produce the West Side Fish Management Plan.
- Work with the Department of Fisheries and Oceans and the Fisheries Joint Management Committee as a partner of the West Side Working Group to draft and implement the research and monitoring priorities identified in the integrated fish management plan.

5.3.5 *Coastal Zone Ecosystem*

The north coast of Ivvavik National Park meets the Beaufort Sea (an embayment of the Arctic Ocean) to the north. There are three main marine habitats near the park: lagoons and estuaries, open beaches, and the continental shelf. The Beaufort Sea is ice-free for three to four months in the summer. Marine mammals found in the Beaufort Sea include bowhead whales, beluga whales, polar bears, and ringed and bearded seals. The Beaufort Sea is also the summer feeding ground for Dolly Varden char before they return to freshwater rivers to spawn. To the east of the park is the Mackenzie Delta. The park's near-shore marine environment is influenced by the outflow and mixing of the Mackenzie River with the Beaufort. The outflow of the river dominates the sea's oceanographic conditions at least as far west as Herschel Island. Waters influenced by the Mackenzie River are warmer, fresher, and more turbid than nearby parts of the Arctic Ocean.

The coastal plain has been identified as a sensitive environment that is ecologically and culturally important. Accordingly, it has been zoned as an Environmentally Sensitive Area. This area represents the entire Canadian portion of the concentrated calving grounds of the

Porcupine caribou herd. As well, the coastal plain is a significant area for nesting, staging, and moulting waterfowl.

Since 1997, oil and gas activity has resumed in the Beaufort Sea and Mackenzie Delta regions. Due to this activity, there is risk of near-shore environmental emergencies in the proximity of Ivvavik National Park. Environmental management, research, and monitoring activities for the coastal zone have been recommended in the *Yukon North Slope Wildlife Conservation and Management Plan* and the *Yukon North Slope Long-term Research and Monitoring Plan*.

For more information about cultural inventory and cultural resource monitoring actions included in the Ivvavik National Park management plan—as they pertain to addressing natural disturbances—see Sections 6.2, 6.3 and 6.4.

Plan Objective:

To conserve and protect the marine and coastal environments in cooperation with other Canadian and U.S. federal agencies, governments of the Yukon and Northwest Territories, and Inuvialuit cooperative management organizations.

Action Items Parks Canada will:

- Continue to work with the Geological Survey of Canada and the Department of Fisheries and Oceans to monitor storm surges and tidal levels in the Beaufort Sea, and if appropriate, other aspects of the marine environment.
- Work with the U.S. and Canadian Coast Guards to develop a spill contingency program.
- Cooperate with the Department of Fisheries and Oceans in the development of coastal zone management initiatives.
- Support the work of the Geological Survey of Canada in monitoring coastal erosion along the Beaufort Sea.

5.3.6 *Vegetation*

Glaciers covered a small portion of the coastal plain during the last ice age. The remainder of the park escaped glaciation. Ivvavik National Park is part of the Beringia Refugium, an unglaciated area extending between North America and Siberia. There are no cirques, U-shaped valleys, or upland moraine deposits typical of glaciated landscapes. Instead, the British Mountains were shaped by uninterrupted river and stream erosion. The park exhibits V-shaped valleys, isolated conical hills and gently sloping surfaces thinly covered with layers of sediment.

The soils of the park differ from those of southern Canada in two major ways. First, most of the region was not glaciated during the last ice age and therefore many of the geological materials have been subject to millions of years of uninterrupted weathering. Second, much of the soil environment remains continuously frozen. Permafrost extends from within a half metre of the soil surface to many hundreds of metres deep. The soils in Ivvavik National Park are

dominantly cryosols. On both a national and a regional scale, the most striking soil features are ice wedges and massive ice bodies revealed by coastal erosion.

There are three major terrestrial vegetation types in Ivvavik National Park: arctic tundra, alpine tundra, and taiga. The arctic tundra supports sedges and low-growing shrubs such as willow, dwarf birch, Labrador tea, cranberry, and cloudberry. The alpine tundra has scattered patches of mountain avens, saxifrage, alpine bearberry, and lichens. In the taiga, there are open stands of stunted white spruce and balsam poplar, some of the most northern trees in Canada. Patterned ground and permafrost phenomena such as tussock and heath tundra are well represented.

Management and research actions contribute towards an understanding of maintaining healthy vegetation communities in Ivvavik National Park. The need for research and management of vegetation in Ivvavik National Park and the Yukon North Slope is supported by the *Yukon North Slope Long-term Research and Monitoring Plan* and the *Yukon North Slope Wildlife Conservation and Management Plan*.

Plan Objective:

To inventory and preserve representative vegetation communities and plant species in Ivvavik National Park.

Action Items Parks Canada will:

- Cooperate with other agencies to determine the need and process for vegetation mapping in the Yukon North Slope.
- Through inventory and literature review, develop a list of rare, and pre-glacial flora, and document their distribution and relative abundance within the time frame of this document.
- Implement a vegetation monitoring program focusing on plant biodiversity.
- Through inventory and literature review, assess the presence and status of species at risk as listed in the schedules to the *Species At Risk Act*.

5.3.7 *Climate Change*

Climate change was recognized by the Western Arctic Field Unit as one of the five top stressors affecting the park. Monitoring climatic factors such as temperature, rainfall, and depth to permafrost in Ivvavik National Park is part of regional, national, and international efforts to document the effects of climate change. Parks Canada works with federal, territorial and international agencies, cooperative management partners, and communities involved in the Yukon North Slope to share scientific, traditional and local information about climate change, and to develop strategies to address climate change issues. While long-term monitoring can alert us to disturbing trends, with climate change it can often be difficult to point the blame at a single source, or to enact changes in policy to alleviate the problem. Strong national and international cooperation will be vital to the resolving the issue.

Plan Objective:

To research and monitor components of the ecosystem to determine the effects of climate change in Ivvavik National Park.

Action Items Parks Canada will:

- Maintain two weather stations in Ivvavik National Park and expand the permafrost monitoring program by installing permafrost probes at or near each weather station.
- Work with the Geological Survey of Canada to monitor the effects of climate change on coastal erosion.
- Continue to monitor the water gauge on the Firth River to document long-term variations and seasonal water levels.

5.3.8 Solid Waste

As Table 2 showed, solid waste was identified as one of the top five stressors for Ivvavik National Park. Recent clean-up initiatives have resulted in some improvements. Distant Early Warning Line Stations were located at Stokes Point and Komakuk Beach in Ivvavik National Park. Although the original Distant Early Warning Line Stations have been dismantled, smaller North Warning Sites remain. Solid waste at these sites has the potential to negatively affect park ecosystems. Other types of solid waste, such as fuel drums that wash up on the beach and garbage left at old camps, are also present in the park.

Plan Objective:

To monitor and reduce the effects of solid waste in Ivvavik National Park.

Action Items Parks Canada will:

- Implement a monitoring program for the hydrocarbon spill and landfills at Komakuk Beach in cooperation with the Department of National Defense, the Inuvialuit Regional Corporation, the Inuvialuit Land Administration, and the Aklavik Hunters and Trappers Committee.
- Implement a post-clean-up monitoring and assessment program for the Stokes Point Distant Early Warning Line Station site.
- Record locations of solid waste (e.g., old camps, fuel drums) in Ivvavik National Park as they are found. Immediately assess the historic value of these sites and the need for clean up, and undertake clean up activities whenever possible.

5.3.9 Human Dimensions

Ivvavik National Park is currently used by Inuvialuit beneficiaries, visitors, researchers, Parks Canada staff, film crews, and other government employees. Despite the remote nature of the park, humans have been a vital component of the northern Yukon ecosystem for centuries and, indeed, contribute greatly to its ecological health. However, some human activities such as harvesting, recreation, park operations, the operation of Short Range Radar Sites, and illegal

pursuits (e.g., poaching) can impact the park and regional ecosystems. Although park management practices and visitation have been specifically identified as stressors or potential stressors, affecting Ivvavik National Park, their impact is minimal. In fact, increased visitation in the park – a desired goal of Parks Canada – can be achieved without causing undue stress on the environment. Parks Canada minimizes the impacts of its management practices to the greatest degree possible. A variety of methods for managing human dimensions are currently applied, including recording visitor statistics, placing quotas on river use, limiting group sizes, monitoring campsites, and staggering the start date of river trips.

Plan Objective:

To record, monitor, and manage human dimensions in Ivvavik National Park so as to minimize impacts on the park and regional ecosystems.

Action Items Parks Canada will:

- Record numbers, person-days, and the type and location of activities carried out in Ivvavik National Park by visitors and Parks Canada staff, as part of the ecological monitoring program.
- Monitor the impacts of visitation at campsites along the Firth River corridor.
- Continue applying visitation limits to protect the natural and cultural environment and ensure a high quality wilderness experience for visitors.
- Implement the environmental management system (see section 9.3).
- Continue to support Inuvialuit subsistence harvest reporting and monitoring programs.

5.3.10 *Law Enforcement*

Parks Canada is committed to the protection of park resources through the delivery of an effective law enforcement program. The role of the law enforcement program in Ivvavik National Park is to identify existing and potential law enforcement issues facing the park and develop strategies for mitigating any threats to ecological integrity or the public peace.

To this end, Parks Canada has developed close working relationships with other enforcement agencies such as the RCMP, U.S. Fish and Wildlife officers, and conservation officers from the Yukon and Northwest Territories. Though Parks Canada remains the primary agency of jurisdiction for the enforcement of the *Canada National Parks Act*, wardens in Ivvavik work closely with these other agencies to protect the public and the park’s natural resources. The RCMP remain the primary agency of jurisdiction for maintenance of public peace, with wardens providing logistic support. Multi-agency initiatives have included joint patrols, letters of agreement, and annual meetings.

Plan Objective:

To protect the natural resources and maintain public peace within Ivvavik National Park through the delivery of a professional law enforcement program.

Action Items Parks Canada will:

- Develop a law enforcement plan describing how we will work with neighbouring enforcement agencies on cooperative operations, prevention programs, and education programs to protect the natural resources and maintain the public peace in Ivvavik National Park and the surrounding area.
- Work with the Inuvialuit Game Council, the Aklavik Hunters and Trappers Committee, and cooperative management partners to develop harvesting regulations that are consistent with both the *Canada National Parks Act* and the Inuvialuit Final Agreement.

5.4 Indicators of Ecological Integrity

A range of indicators have been developed to measure the effectiveness of actions outlined in this plan. They represent components of the ecosystem that either reflect overall ecosystem health or are sensitive to change. Progress made towards achieving ecological integrity can be assessed by comparing the status of an indicator to a target or desired level.

The *State of Protected Heritage Areas 1999 Report* identified three areas for assessing ecological integrity: biodiversity, ecosystem function, and stressors. Indicators for Ivvavik National Park are classified based on these areas.

There is not enough information to establish targets for some indicators. In these cases, actions have been identified to collect this information.

Most of Parks Canada's actions in Ivvavik National Park are conducted with cooperative management partners and other government agencies. Time lines for these actions are often part of other management processes that are currently under way.

Many of the indicators for Ivvavik National Park are related to the ecological monitoring that is being conducted in the park. Ecological monitoring will take place over the long term and go beyond the boundaries of the park to be effective. Ivvavik provides an exceptional environment where research and monitoring can be conducted. Researchers in the natural and cultural sciences are working on many projects related to the park. These projects play an important role in the continued maintenance of ecological integrity. Implementing effective ecological monitoring programs for Ivvavik National Park and the Yukon North Slope are compatible goals of the *Yukon North Slope Wildlife Conservation and Management Plan* and *Yukon North Slope Long-term Research and Monitoring Plan*. The need for monitoring is also stated in the *Aklavik Hunters and Trappers Committee Research Priorities*.

Action Items Parks Canada will:

- Maintain an ecological monitoring program for Ivvavik National Park. The program will include collecting, analyzing, and reporting monitoring information (monitoring activities to be conducted on a long-term basis are listed in Table 3).

- Develop protocols that clearly outline methods for collecting, analyzing, and storing information collected through ecological monitoring activities. The effectiveness of monitoring activities will be reviewed annually.
- Report annually, where possible, on information collected through the monitoring program. Monitoring information will be shared with cooperative management agencies, communities involved with the ecosystem management of the Yukon North Slope, and the scientific community (e.g., the Ecological Monitoring and Assessment Network (North), the Arctic Borderlands Ecological Knowledge Co-op).
- Expand or adapt the ecological monitoring program as necessary to meet the objectives of ecosystem management for Ivvavik National Park.

Table 3. Components of an ecological monitoring program for Ivvavik National Park

Objectives	Indicators	Targets	Park Management Initiatives*
<p>Strive to maintain natural levels of large mammal populations in the park and surrounding areas.</p>	<ul style="list-style-type: none"> • Numbers of grizzly bears, moose, muskoxen and caribou in the park and surrounding areas 	<p><u>Grizzly Bear,</u> <u>Muskoxen and</u> <u>Moose</u></p> <ul style="list-style-type: none"> • Determine population size and fluctuation trends, and maintain bear population within known historical levels(when determined). 	<ul style="list-style-type: none"> • Grizzly bear research, including population estimates, to be conducted. • Continue to participate in the cooperative management of grizzly bears, through the draft <i>Co-management Plan for Grizzly Bears in the Inuvialuit Settlement Region, Yukon Territory and Northwest Territories.</i> • Sustainable harvest limits for grizzly bear and muskoxen are established by the Wildlife Management Advisory Council (North Slope) once population estimates are determined. • Surveys of muskoxen are conducted on the Yukon North Slope to determine current population size and fluctuations. • Western Arctic Field Unit will continue to participate in the development of a North Slope muskoxen co-management plan. • Surveys of moose are conducted every five years to determine current population size and fluctuations. The first survey was conducted in 2000. • Conduct population estimates for moose in the Babbage river watershed. <p style="text-align: right;"><i>continued</i></p>

Objectives	Indicators	Targets	Park Management Initiatives*
		<p><u>Caribou</u></p> <ul style="list-style-type: none"> A Porcupine caribou herd size within the historical estimated range of 100,000 to 178,000 animals. 	<ul style="list-style-type: none"> Support caribou population size, sex and age composition, body condition, productivity, overwinter survival of calves, adult female mortality, disease, harvest and movements and distribution monitoring activities conducted by the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, Government of Yukon, the Government of the Northwest Territories and the Canadian Wildlife Service. Continue to participate in the cooperative management of caribou through the <i>Porcupine Caribou Herd Management Plan</i>.
<p>Endeavour to maintain the diversity and natural population levels of native birds breeding in the park.</p>	<ul style="list-style-type: none"> The abundance and composition of breeding birds in the park. The number of occupied peregrine falcon territories in the park and surrounding areas. 	<ul style="list-style-type: none"> Current number and composition of native bird species breeding in the park does not decline. Number of active peregrine falcon territories in the park does not drop below 7 territories. 	<ul style="list-style-type: none"> Species richness and composition, and abundance, of breeding birds are surveyed annually at two locations in the park. Species richness and composition, and abundance, of birds in the Northwest Territories, Nunavut and Yukon are monitored throughout the park through the Northwest Territories /Nunavut Bird Checklist Survey since 1995. Species composition of raptors, number of active peregrine falcon territories and productivity of peregrine falcons are monitored every five years by Parks Canada. <p style="text-align: right;"><i>continued</i></p>

IVVAVIK NATIONAL PARK OF CANADA MANAGEMENT PLAN

Objectives	Indicators	Targets	Park Management Initiatives*
Commit to preserving representative and productive vegetation communities and plant species in the park.	<ul style="list-style-type: none"> Plant productivity, assessed using the Normalized Differential Vegetation Index (NDVI). 	<ul style="list-style-type: none"> Determine natural variation of NDVI in the park. 	<ul style="list-style-type: none"> Satellite monitoring of plant productivity has been conducted since 1997.
Reduce the amount of solid waste in the park.	<ul style="list-style-type: none"> Number of fuel drums, and kilograms of solid waste in the park. 	<ul style="list-style-type: none"> No fuel drums in the park. No solid waste in the park. 	<ul style="list-style-type: none"> All known solid waste sites, excluding Stokes Point, were cleaned up by 2003. Stokes Point has been identified as a Priority 1 contaminated site by Parks Canada. Additional solid waste sites that are found will be documented and cleaned-up.
Reduce the number and extent of contaminated sites in the park.	<ul style="list-style-type: none"> Number of contaminated sites. Extent of contamination of fuel spill at the former Distant Early Warning Line Station at Komakuk Beach. 	<ul style="list-style-type: none"> No contaminated sites in the park, excluding Komakuk Beach. No detectable increase in extent of fuel spill at Komakuk Beach. 	<ul style="list-style-type: none"> Assessment of contamination of Stokes Point conducted in 2000 and 2001. Stokes Point has been identified as a Priority 1 contaminated site by Parks Canada. Monitoring program for fuel spill at Komakuk Beach is in place.
Ensure that traditional harvesting of wildlife populations is sustainable.	<ul style="list-style-type: none"> Number and location of subsistence harvests for species under quota (i.e. grizzly bear). 	<ul style="list-style-type: none"> Viable populations of wildlife are maintained in the park to support subsistence harvesting. 	<ul style="list-style-type: none"> Information about the subsistence harvest of grizzly bear are collected by Parks Canada and the Government of the Northwest Territories.

* Ecological monitoring and research activities are described by Parks Canada, Western Arctic Field Unit, in the Annual Research and Monitoring Report (produced every year since 2000) and the State of the Protected Heritage Area Report (produced every five years).

5.5 Environmental Assessment

The Environmental Impact Screening Committee screens the management activities of Parks Canada and other government departments, the issuing of business licences, and government-funded research. The committee, established under the Inuvialuit Final Agreement, is responsible primarily for determining whether proposed projects could have a significant negative environmental impact on the Inuvialuit Settlement Region and the national parks. Researchers refer to the draft *Yukon North Slope Research Guide* (Wildlife Management Advisory Committee (NS), 2000) for instructions on conducting research on the Yukon North Slope and in Ivvavik National Park.

5.6 Data Management

Information on the natural and cultural resources of Ivvavik National Park is available from a number of sources. These include specific studies conducted by Parks Canada and various agencies and groups, monitoring information, local and traditional knowledge, and historical information. This information must be organized and made readily accessible to resource planners and managers so that it can be used effectively and duplication of efforts minimized. Considerable information is still required to supplement existing data so that decisions can be made on the basis of sound knowledge. Effective information management is a prerequisite for reporting to Parks Canada stakeholders and the public.

Plan Objective:

Information on the natural and cultural resources of Ivvavik National Park will be used to direct the protection, maintenance, and presentation of natural and cultural resources in the park.

Action Items Acting on the advice of the Board, Parks Canada will:

- Develop information and data collection and storage protocols for information and resources collected through research, monitoring and heritage initiatives.
- Where possible, consider following or adapting collection and storage protocols from standardized formats developed by recognized national and international bodies.
- Where possible, coordinate the collection and sharing of information with initiatives operated by cooperative management bodies, academic researchers, and other governmental organizations, etc. to ensure that:
 1. duplication of collection efforts and/or data is prevented;
 2. gaps in current knowledge-base are filled;
 3. cost-sharing benefits of coordinated activities are encouraged.
- Develop a set of databases and geographic information system (GIS) capabilities for Ivvavik National Park. This geo-referenced data, once integrated and analysed, will be used to provide direction in the protection, maintenance, and presentation of natural and cultural resources in the park.

- Maintain an up-to-date 'metadata' of collected information to:
 1. ensure information is internally 'tracked' and catalogued within Parks Canada in a reliable and efficient manner, in accordance with recognized standards.
 2. promote ease of internal and external search and access to active and archived information ('external' referring to all bodies external to Parks Canada).
- Develop a social science database that tracks patterns of visitation in the park.
- Follow the national guidelines as set out in Parks Canada's Management Directive 2.4.9 (Parks Canada, 2001) for ecological data management in support of ecosystem management in Ivvavik.

6
MANAGING CULTURAL RESOURCES

6.1 Overview

People and the land intersect in Ivvavik National Park to create a cultural landscape layered with history and rich in stories. In Ivvavik, a long history of human activity continues into the present: Inuvialuit people still travel there, still hunt, and still camp, fish and whale along the coast. Archaeological sites exist next to modern fishing and hunting camps, attesting to millennia of sustainable use of the area’s rich resources.

Ivvavik National Park has more than 130 archaeological sites, several of which are among the oldest in the Canadian Arctic. Some sites date back to Paleo-Inuit cultures; others to modern Inuvialuit and non-Inuvialuit cultures. The oldest recorded site is Engigstciak and it is estimated to have been used 8,000 years ago.

Eight different cultures are in evidence in the park. Table 4 summarizes these cultures, approximate dates of their occupation in the north, and their characteristics.

Table 4. Timeline of occupation in the Ivvavik National Park area

PHASE	DATE	CHARACTERISTICS
<u>NORTHERN ARCHAIC</u> 1. British Mountain 2. Flint Creek	6000 – 2200 BC	<ul style="list-style-type: none"> tundra animals (mainly caribou) hunted semi-subterranean houses stone-lined tent rings
<u>ARCTIC SMALL TOOL</u> 3. New Mountain ----- 4. Choris	2200 – 1600 BC ----- 1600 – 500 BC	<ul style="list-style-type: none"> caribou (inland) and seal hunting and fishing along the coast houses with divided interiors and central hearth ----- more caribou hunting adaptation than in seal hunting or fishing houses with central hearths
5. Norton	500 BC – AD 0	<ul style="list-style-type: none"> more seal hunting adaptation single houses pottery
<u>THULE</u> 6. Western Thule ----- 7. Inuvialuit	AD 1000 – 1778 ----- AD 1778 – present	<ul style="list-style-type: none"> dramatic change in hunting technology (sea mammal hunting and use of bow and arrow) driftwood houses pottery use of bone and ivory ----- driftwood houses specialized tools and regional variation use of stone and clay lamps
8. Non-Inuvialuit	AD 1826 – present	<ul style="list-style-type: none"> driftwood houses log cabins prospector camps lean-to shelters

Reconstructing and interpreting the oldest of these cultures requires investigating the archaeological resources and records in the North. Ivvavik National Park is significant not only for its historic resources, but also because of its continued importance in the maintenance of both traditional and modern Inuvialuit culture and heritage. Pre-contact sites in the park include sod houses made of driftwood and sod that are only found in the Western Arctic because of the abundance of wood and logs in these areas. The sod houses, which have varied in style and size through the years, went into disuse in the early 20th century. Many historic sites in the park are traditional camping areas that Inuvialuit continue to use today for the purpose of hunting, fishing, and trapping.

The Vuntut Gwitchin of Old Crow, Yukon, traditionally lived in the area to the south of Ivvavik National Park. They came to the park to fish in areas known as the “fish holes,” and travelled through the park to trade at Herschel Island.

While Herschel Island is not part of Ivvavik National Park, it is related to the park both spatially and historically. The population at Herschel Island, off the Yukon coast, grew significantly after 1889 when Canadian, European, and American whalers established winter quarters on the island, along with missionaries, traders, and the North-West Mounted Police (NWMP). At its height, nearly 2,000 people lived at Herschel Island, but with the decimation of the whale population, Herschel Island was slowly abandoned by the whalers. By 1914, whalers no longer came to the island. Traders, missionaries and the NWMP continued to inhabit the island, but they too eventually abandoned the place.

Prior to 1889, Herschel Island had been a traditional Inuvialuit settlement for centuries and many Thule and historic Inuvialuit sod houses can be found on the island. The significance and importance of the island to the Inuvialuit is not only obvious in the archaeological resources and records, but also as told in the oral history of the Inuvialuit. The proximity of the island to the Yukon North Slope and its fertile waters provided an excellent hunting and fishing locale for both permanent residents and temporary visitors who made their home along the Yukon coast. In 1972, Herschel Island was designated a National Historic Event by the Historic Sites and Monuments Board of Canada.

In the early to mid-20th century, Inuvialuit and non-Inuvialuit discovered gold in Ivvavik National Park. The rush for gold here, however, was not as animated as the gold rush in the southern Yukon. While Inuvialuit and non-Inuvialuit miners went looking for gold in what is now the park, the oral history does not tell of them becoming rich from their pursuit of gold. The next major quest for gold in the park occurred at what is now known as Sheep Creek, where a placer gold mine operated from the 1970s up until the establishment of the park in 1984.

In the 1950s, Distant Early Warning Line Stations were built across Canada and Alaska. The Distant Early Warning Line Stations were built in response to the Cold War and possible nuclear threat to North America. Distant Early Warning Line Stations were built at Komakuk Beach (Bar-1, the first line station constructed in Canada) and Stokes Point (Bar-B). The stations were dismantled in the 1960s and 1990s, respectively, and both are now unmanned North Warning Stations located in Ivvavik National Park.

The cultural resources in Ivvavik National Park tell a history of continuous use of the park over time. An important role for Parks Canada is to protect and document the existence of these resources in order to present and interpret their importance to all Canadians.

6.2 Presentation and Protection of Cultural Resources

A cultural resource is a human work that has been determined to be of historic value, or a place that gives evidence of human activity or has spiritual or cultural meaning. The objective of Parks Canada’s cultural resource management policy is to manage cultural resources in accordance with the principles of value, public benefit, understanding, respect, and integrity. “Cultural resource management is an integrated and holistic approach to the management of cultural resources. It applies to all activities that affect cultural resources administered by Parks Canada, whether those activities pertain primarily to the care of cultural resources or to the promotion of public understanding, enjoyment and appropriate use of them” (*Parks Canada Guiding Principles and Operational Policies*; Parks Canada, 1994).

Parks Canada is mandated under the *Canada National Parks Act* and the Cultural Resource Management Policy and guided by the Inuvialuit Final Agreement to protect and present the cultural resources of Ivvavik National Park. The park lies in an area of significant historical value and considerable cultural resources.

Goal: Protecting Cultural Resources

To document, protect, and present the cultural resources of Ivvavik National Park so that the rich and diverse human history is preserved, understood and appreciated.

Plan Objective:

To document the cultural resources and educate Canadians about those that exist along the Beaufort Sea coast and cultural sites along the Firth River corridor.

Action Items Parks Canada will:

- Facilitate cultural resource research, protect cultural resources, and use cultural resource information in park management and interpretation in partnership with the Inuvialuit Social Development Program and the Inuvialuit Cultural Resource Centre.
- Develop materials for park visitors to orient them to past and present cultures in Ivvavik National Park and on the North Slope. Make materials available in pre-trip orientation programs.
- Develop a cultural resource guide for the Firth River.
- Develop educational material on the cultural resources in Ivvavik National Park for schools in the Western Arctic in partnership with Inuvialuit Social Development Program and the Inuvialuit Cultural Resource Centre.
- Develop a Western Arctic Field Unit Cultural Resource Work Plan to guide the management of cultural resources through the life of this management plan and beyond.

6.3 Inuvialuit History, Culture, and Involvement

The cultural environment of Ivvavik National Park encompasses a range of cultural resources, cultural activities, and ongoing Inuvialuit use of the land. Within the cultural environment are archaeological and historical sites, Inuvialuit knowledge of the land and its history, and the continuing ties between Inuvialuit and the Yukon North Slope. Inuvialuit oral histories and traditional knowledge are an important cultural component of the park and will help guide park management. Parks Canada will promote respect for Inuvialuit culture, language, and traditions, both past and present.

Plan Objectives:

To document, use, and present knowledge about Inuvialuit history and culture.

To incorporate Inuvialuit knowledge, experience, and skills in park planning and management.

Action Item Parks Canada will:

- Work with Inuvialuit communities, elders, and organizations to ensure Inuvialuit participation in cultural resource management, the use of Inuvialuktun (the Inuvialuit language), and the dissemination of cultural information and traditional knowledge in park management and interpretive messages.
- Make the Inuvialuit history and current use of the park and region a key theme in interpretive or marketing materials.
- Working with community organizations, develop a community outreach plan for Aklavik and Inuvik that brings the results of archaeological and oral history investigation back to the communities.

6.4 Archaeological Resource Monitoring Program

In the same way that Ivvavik National Park’s ecological monitoring program protects natural resources, the archaeological resource monitoring program is an important part of protecting the cultural resources of the park.

Plan Objective:

To implement and maintain a long-term program for monitoring the cultural resources in Ivvavik National Park.

Action Items Parks Canada will:

- Maintain a cultural resource monitoring program for Ivvavik National Park. The program will include collecting, analyzing, and reporting monitoring information (monitoring activities to be conducted on a long-term basis are listed in Table 5).
- Develop protocols that clearly outline methods for collecting, analyzing, and storing information collected through cultural resource monitoring activities. The effectiveness of monitoring activities will be reviewed annually.

- Develop and implement a cultural resource protection program for archaeological sites along the Firth River, including monitoring for natural erosion. Emphasis will be placed on education and protection.
- Develop and implement a cultural resource monitoring program for coastal sites that will include the identification of high risk sites and salvage archaeology.

Table 5. Archaeological resource monitoring activities for Ivvavik National Park

Monitoring Activity	Method	Partners
Firth River	Develop a monitoring program for sites along the Firth River with emphasis on monitoring natural erosion.	<ul style="list-style-type: none"> • Inuvialuit Social Development Program • Inuvialuit Cultural Resource Centre • Aklavik Community Corporation
Beaufort Coast	Develop a monitoring program, including salvage archaeology projects, for threatened sites along the Beaufort Coast.	<ul style="list-style-type: none"> • Inuvialuit Social Development Program • Inuvialuit Cultural Resource Centre • Aklavik Community Corporation

HERITAGE PRESENTATION

7.1 Overview

Interpretation, outreach and education activities are key to Parks Canada's mandate of fostering public awareness, understanding and enjoyment of its national parks. The low number of visitors to Ivvavik National Park means that most heritage presentation activities will take place outside the park itself: whether with visitors prior to their visit; with students and residents of both the western arctic region, and across Canada; or with the many people across the country and around the world who are interested in Canada's north, and in the unique stories that Ivvavik has to tell.

Ivvavik National Park has no visitor centre. The main outlet for education and information about the park is the Parks Canada office in Inuvik. Visitor and interpretive information is provided personally at the Parks Canada office and at the Western Arctic Visitor Centre operated by the territorial government. Information is also available on the park's website and by mail. Heritage presentation activities take place across the western arctic in schools and communities. The primary delivery agents of interpretive messages within the park itself are the commercial outfitters who take clients out on the Firth River.

Parks Canada is also committed to working with the Inuvialuit to seek out and develop opportunities for interpretation and heritage presentation that confer economic benefits to communities and individuals.

7.2 Heritage Presentation Goals and Objectives

Heritage presentation, including interpretation (on-site), outreach (off-site) and education (through formal education systems) will incorporate the principles inherent in Ivvavik National Park's vision statement: "The land will support the people who protect the land." This means that interpretation will communicate how the protection of the area benefits Inuvialuit, as well as other users of the Porcupine caribou herd, visitors, and all Canadians. Interpretation will also facilitate presentation of Inuvialuit history and traditional lifestyles in this landscape.

Interpretive themes specific to Ivvavik National Park include:

- the tundra and taiga ecosystems and the Mackenzie Delta;
- geology, climate and geomorphology, including the park's Beringian context as a glacial refugium and the effects of climate change;
- the Porcupine caribou herd, and its ecological and cultural significance;
- western arctic cultures through the millenia and into the present day, including the Inuvialuit history of whaling, hunting, fishing, trapping and travel; the Gwich'in history of travel, trading and other activities;
- human activity in the modern era including mining, and military activity such as the establishment of the Distant Early Warning Line Stations;
- the park being a product of an agreement between the governments of Canada and the Yukon, and the Inuvialuit (the Inuvialuit Final Agreement) including the history of the Mackenzie Valley pipeline and subsequent land claim.

As a result of Ivvavik's heritage presentation programs, Canadians, regional residents, students and visitors will:

- learn about the park as a special place with an important role in protecting and sustaining local and regional ecosystems and cultural resources;
- understand the land claim and subsistence harvest rights of the Inuvialuit;
- gain an appreciation of the park's importance as an area of Canadian significance, part of Canada's system of national parks;
- understand their responsibility for stewardship on a regional and national level; and
- learn about the long history of human use of the region.

Additionally, visitors will:

- understand, value and exercise their own capability to take care of the park while they are in it;
- understand how to ensure their personal safety in this remote place.

Many park visitors currently travel in outfitted parties. Parks Canada will work to ensure that guides, outfitters, and others working with visitors are aware of, and can inform visitors about, the significance of the park, its unique stories, and how to experience the park with minimal impact.

The following have been identified as primary audiences for Ivvavik National Park's heritage presentation programs:

- Inuvialuit;
- multi-day visitors;
- day-use visitors;
- vicarious visitors, including web surfers and armchair travellers from around the world who enjoy reading about the arctic in books and magazines, attending local presentations about our parks, or viewing documentaries on arctic subjects;
- local community members from Aklavik and Inuvik;
- Yukon and Northwest Territories residents;
- schools in the western arctic region;
- the education system nationally;
- Canadians in general;
- tourism companies and trip outfitters;
- air charter companies;
- researchers;
- print and broadcast media.

Messages of Significance in Ivvavik’s Heritage Presentation Programs

A system of protected areas: Ivvavik is a national park in a Canada-wide “family” of national parks and historic sites administered by Parks Canada.

Ecological integrity: Ivvavik is a protected area within a larger regional and international ecosystem. Interpretive programs will identify challenges to the ecological integrity of the park, and what is being done to address them. Parks Canada and the Inuvialuit are the lead stewards in the protection of the park, but success can only be achieved through cooperation and shared stewardship with visitors, communities, cooperative management partners, tourism companies, the military, oil and gas industry, and others. Communications activities will strive to enlist all audiences in the park’s vision: “The land will support the people who protect the land.”

Inuvialuit history and use of the park: The Inuvialuit have used the park for traditional activities such as hunting, fishing, trapping, and travelling for a long time and continue to use the park today. The park presents the living history of the Inuvialuit and their connection to the land.

Cooperative management: Ivvavik National Park was created as a result of the Inuvialuit Final Agreement and the park is managed cooperatively through the Wildlife Management Advisory Council (North Slope).

A sense of place: Ivvavik represents the Yukon North Slope and Mackenzie Delta natural regions. Interpretive programs will highlight the special character and unique features of Ivvavik’s Yukon North Slope environment: the processes that created and continue to shape the landscape; its climatic influence on flora and fauna; its long human history and present-day activities. This arctic environment and its wilderness characteristics are an enduring legacy that strengthens our identity as Canadians.

Goal: Developing Park Heritage Presentation Programs

To provide opportunities for people to learn about and understand the natural and cultural values of Ivvavik National Park, and to encourage individuals to participate in the celebration and protection of our heritage.

Plan Objective:

Expand the reach and scope of heritage presentation programs and messages about Ivvavik National Park.

Action Items Parks Canada will:

- Target more audiences that have a multiplier effect (travel media, documentary producers, education system, tourism associations and trip outfitters).

- Work with other organizations in the western arctic region to develop and deliver educational and communication initiatives.
- Collaborate with other northern field units of Parks Canada to reach out to the southern Canadian public with northern messages and themes that fit into school curricula.
- Maintain Ivvavik's website and keep it up to date, as well as exploring new and innovative ways of attracting virtual visitors and achieving the site's fullest potential as an outreach tool.

Plan Objective:

To engage and inform adjacent communities and community residents, including youth, in the management, appreciation and protection of Ivvavik National Park and its unique themes and stories.

Action Items Parks Canada will:

- Visit schools frequently to increase awareness and promote the mandate of Parks Canada and the significance of Ivvavik National Park, and assist educators with the development of teaching material about environmental stewardship based on the Northwest Territories and Yukon school curricula.
- Provide opportunities for people from Inuvik and Aklavik to be in the park as volunteers, employees, contractors or to participate in camps and special events.
- Develop opportunities for youth, particularly from Aklavik, to work and travel in Ivvavik through youth camps, mentoring programs and youth hiring.

Plan Objective:

To engage park visitors in the understanding, appreciation and protection of Ivvavik National Park and in planning for their own safety while in the park.

Action Items Parks Canada will:

- Work with business licence holders, including air service companies and outfitters, to enable them to add value to their services to clients by providing more in-depth information on their Ivvavik destinations.
- Develop, in the second year of the plan, an orientation session aimed at outfitters and private groups who visit Ivvavik National Park.
- Explore and promote day-use opportunities with an interpretive focus to increase the number of visitors who can safely and manageably access Ivvavik National Park.
- Continue to provide mandatory registration services and pre-trip information to prospective park visitors.
- Develop a Babbage River guide for visitors.

Plan Objective:

Facilitate the participation of Inuvialuit in the presentation of their heritage and involvement in tourism opportunities

Action Items

Parks Canada will:

- Revise the Firth River Memorandum of Understanding between the Inuvialuit Regional Corporation and Parks Canada to incorporate a cultural interpreter program.
- Continue to provide community interpreter training with Inuvialuit tourism interests, the Aklavik Community Corporation and the Northwest Territories Department of Resources, Wildlife and Economic Development.
- Explore and facilitate heritage presentation and economic development opportunities with the Aklavik and Inuvik Community Corporations, the Inuvialuit Regional Corporation and other regional partners.

Plan Objective:

To address gaps in current outreach themes presented to visitors and communities, learn more about audience needs and interests, and to assess the effectiveness of heritage messages.

Action Items

Parks Canada will:

- Identify each target audience's needs and expectations for interpretation and outreach.
- Develop materials that interpret the exploration, settlement, military and industrial history of the western arctic and their impact on the lives of the Inuvialuit, focusing initially on the Komakuk Distant Early Warning Line Station.
- Measure the effectiveness of awareness and educational activities aimed at schools and visitors to the park.
- Consult the Aklavik Community Corporation and Aklavik Hunters and Trappers Committee about heritage presentation messages and media for their delivery.

8

VISITATION AND SERVICES

8.1 Overview

Visitation to Ivvavik National Park is very low. People that do visit are typically highly motivated wilderness travellers who are able to commit to the multi-day trips and high costs that currently comprise the Ivvavik experience. These visitors place a high value on the pristine and spectacular wilderness, and on the sense of remoteness their Ivvavik trip provides them. The qualities of solitude and remoteness are significant marketing advantages used by commercial outfitters promoting Ivvavik trips. Visitor management measures put in place to protect the visitor wilderness experience include quotas on commercial outfitters and staggered start dates. Most outfitters and visitors see themselves as partners in the maintenance of the park’s ecological integrity and are vigilant in protecting it.

The choice of travel for a majority of the park’s visitors is by raft, concentrating most visitor traffic in the Firth River corridor and leaving the rest of the park largely unvisited. Parks Canada is exploring the promotion and facilitation of day-use and multi-day opportunities that will allow more people to have the unforgettable experience of a visit to Ivvavik National Park, and that will provide economic opportunities to beneficiaries of the Inuvialuit Final Agreement. Such opportunities will be developed in consultation with cooperative management partners and regional businesses and will take place within the framework established by zoning.

Parks Canada is committed to working with the Inuvialuit, particularly of Aklavik, to ensure their full participation in opportunities for community and economic benefit that may arise out of park visitation and tourism.

8.2 Visitation and Access

Access to Ivvavik National Park will be managed in a manner consistent with the Inuvialuit Final Agreement, the *Canada National Parks Act*, Parks Canada regulations, and National Park Policy and Directives. Visitor access to the park will be encouraged and access will be managed to avoid damaging park resources, impairing the wilderness experience of other visitors or affecting the subsistence activities of the Inuvialuit.

Goal: Providing Visitor Services
To provide visitors to Ivvavik National Park with opportunities to enjoy high quality, wilderness experiences that foster understanding and appreciation of the park’s natural and cultural resources and their long-term protection, and that afford community and economic benefits to the Inuvialuit and other tourism partners.

Plan Objective:

To encourage and facilitate the participation of Inuvialuit in tourism opportunities.

The Firth River Memorandum of Understanding was undertaken between Parks Canada and the Inuvialuit Regional Corporation and the Aklavik Community Corporation to manage commercial activities in the Firth River corridor and to ensure that the Inuvialuit derive economic benefits.

Action Items Parks Canada will:

- Revise the Firth River Memorandum of Understanding, in conjunction with the Inuvialuit Regional Corporation and the Aklavik Community Corporation, to incorporate and promote the use of cultural interpreters by commercial rafting operators.
- In cooperation with the Inuvialuit Regional Corporation and Aklavik Community Corporation, identify and develop programs or projects that provide community and economic benefits.
- Work with Aklavik and regional tour operators to develop and promote the Babbage River Falls area as a day-use destination.

Plan Objective:

To promote visitor experiences and encourage sustainable tourism by working with commercial operators and Inuvialuit to streamline park licensing and permitting processes.

Action Items Parks Canada will:

- Revise the Firth River Memorandum of Understanding in consultation with the Inuvialuit and commercial operators to clarify guidelines for operators.
- Harmonize business licensing and guide permitting processes and standards.
- Work with tourism operators in the region to conduct a workshop in which participants can identify issues and actions needed to promote tourism in the national parks.
- Ensure business licence applications are promptly and efficiently processed.

Plan Objective:

To encourage appropriate day-use and multi-day activities that allow a wider variety and greater number of visitors to enjoy the park while not impairing the Inuvialuit uses of park lands.

Opportunities exist for interpretive tours, birding and photographic tours, coastal sea kayaking, motorized boat trips, dog-mushing, school trips, and corporate leadership and team building events. All activities will be permitted and evaluated based on criteria such as those listed in Table 6, and on consultations with partners. Day-use activities will be considered at Margaret Lake for Inuvialuit tour operators, during the time period allotted to Inuvialuit operations. Before day-use permits for the lake are issued, Parks Canada will consult with active multi-day-users of the Firth River and with the Aklavik Community Corporation and the Aklavik Hunters and Trappers Committee.

Other than the day-use activities being considered at Margaret Lake, no other day-use activities will be permitted in the Firth River valley. This will limit overlap between day-use and multi-day visitors and minimize impacts to this area.

Action Items Parks Canada will:

- Consider all proposals for day-use activities on a case-by-case basis until day-use sites are identified.
- Assess the environmental suitability of potential areas for day-use activities. The assessment should consider public safety, heritage presentation of key park values, and potential enforcement issues.

Plan Objective:

To apply criteria for assessing new activities or changes in the level of use associated with existing activities.

Action Items Parks Canada will:

- Develop monitoring programs for day-use and multi-day-use areas to ensure that impacts do not exceed acceptable levels (Table 7).

In cases where the *Canada National Parks Act*, the Inuvialuit Final Agreement, *Parks Canada Guiding Principles and Operational Policies*, or the park management plan are not clear on use, Parks Canada relies on other criteria to help it come to a decision. For example, the criteria presented in Table 6 were developed by the Banff–Bow Valley Study Round Table’s *Summary Report* (Banff-Bow Valley Task Force, 1996) and can be useful in decision-making.

The following activities can occur in the park:

- | | |
|--|--|
| <ul style="list-style-type: none"> • day hiking • backpacking • snowshoeing • backcountry skiing • picnicking • nature study • birding • photography | <ul style="list-style-type: none"> • sightseeing • interpretive programs • rafting • sea kayaking • whitewater kayaking • canoeing • dog mushing • fishing |
|--|--|

The following criteria will be used by Parks Canada and its partners to evaluate the merits of a new use, a change in an existing use, or a significant change in the level or intensity of use in Ivvavik National Park. The criteria are all relevant, though this list is not meant to be exhaustive or absolute. The primary consideration for a criterion is how the proposed change contributes to or detracts from the spirit and intent of the management plan, the *Canada National Parks Act*, Parks Canada’s policies, and the Inuvialuit Final Agreement. The criteria are adapted from the Banff-Bow Valley Study Round Table’s *Summary Report*.

Table 6. Criteria for determining appropriate use in Ivvavik National Park

Impact on Environment	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could impact the ecological integrity of the region. The assessment would include the effect of participation in the activity, as well as the facilities and services required to support the activity.
Effects on Culture and Heritage	<ul style="list-style-type: none"> Seeks to assess the qualitative dimension and preservation of a use that contributes to the region’s heritage and cultural integrity. The assessment would reflect an understanding of and respect for the region’s heritage and for the evolving cultural identity of its aboriginal people.
Quality of Experience	<ul style="list-style-type: none"> Seeks to assess the extent to which the participants’ and others’ quality of experience could be enhanced or diminished as a result of the proposed change. The assessment recognizes that different visitors seek a broad range of different experiences and value different resources, facilities, and services in a variety of ways.
Economic Effects	<ul style="list-style-type: none"> Seeks to assess the potential economic effects that the proposed change could have on the park. Issues that would be considered include: cost for visitors to the park; cost and revenues to Parks Canada; and effect on local, regional, and national economies and market conditions.
Public Safety	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could impose risks or dangers to participants or others.
Equity and Access	<ul style="list-style-type: none"> Seeks to assess the extent to which all citizens could be assured a fair, reasonable, and equitable opportunity to participate in, and benefit from, the range of appropriate activities and experiences available in park. It would consider such factors as economic status, physical capabilities, and place of residence of the visitor.
Social Effects/ Quality of Life	<ul style="list-style-type: none"> Seeks to assess the social implications that the proposed change could have on the park. The assessment would include: level of change to the region’s existing social patterns and needs, effects on the social service structure, and effects on social indicators (e.g., income distribution, housing costs, levels of crime, etc.).
Education and Awareness	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could contribute to better understanding and appreciation of the park’s natural and cultural heritage, its role within the Canadian national park system, and its role in the larger ecosystem.
Level of Use: Frequency, Timing, and Quantity	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could affect the park’s level of use. It would ask questions such as: How often does a proposed activity occur? When does it occur (e.g., season)? How many individuals are involved? What is the level of support required?
Physical Setting Related	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change is (i) suited to the physical setting of the park; and (ii) requires a national park setting.
Heritage Tourism	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could contribute to the park’s heritage tourism goals.
Environmental Stewardship	<ul style="list-style-type: none"> Seeks to assess the extent to which the proposed change could contribute to the park’s environmental stewardship goals.

Table 7. Human dimension indicators

Objective	Indicator	Target	Park Management Initiatives
<p>To provide opportunities for quality visitor experiences that support ecological and commemorative integrity objectives.</p>	<p>Levels and patterns of use:</p> <ul style="list-style-type: none"> • Number of visitors • Number of user nights • Number of user days • Visitor origin • Activities • Temporal and spatial use patterns 	<p>To be developed.</p>	<p>Registration system is in place.</p>
	<p>Appropriateness of activities:</p> <ul style="list-style-type: none"> • Based on appropriate use criteria 	<p>100% of activities support the park’s visitor experience objectives and conform to the appropriate activities identified in the management plan.</p>	<p>Ongoing monitoring by park staff.</p>
	<p>Level of satisfaction with recreation experience</p>	<p>85% of visitors are “satisfied”, including 50% “very satisfied” with their recreational experience.</p>	<p>Annual visitor survey program is in place. Survey methodology was adjusted in 2004 to maximize the response rate. Questions will be re-evaluated to ensure client satisfaction measures and others are comparable with national human dimension measures.</p>
	<p>Level of satisfaction with quality of services and facilities</p>	<p>85% of visitors are “satisfied”, including 50% “very satisfied” with their overall park visit.</p>	
	<p>Level of satisfaction with onsite and outreach programming</p>	<p>85% of visitors are “satisfied”, including 50% “very satisfied” with onsite and outreach programming.</p>	
	<p>Level of understanding key messages</p>	<p>75% of visitors are aware of key messages.</p>	

8.3 Visitor Risk Management

The park has prepared a public safety plan and this plan guides the visitor risk management program at the park. Visitors to Ivvavik National Park must be fully informed about the remoteness of the park and about the park's limited search and rescue capabilities. Several hazards exist, including weather extremes, challenging terrain, a lack of shelters, the risk of hypothermia, and the risk of human-wildlife conflicts. Good pre-trip planning is essential to preparedness and ensuring an enjoyable experience.

Plan Objective:

Continue to provide appropriate safety messages and a response capability in keeping with the park's geography and remoteness.

Action Items Parks Canada will:

- Promote, maintain, and monitor the registration system for the park.
- Ensure visitors are aware of the hazards and risks inherent in visiting Ivvavik National Park, of their responsibility for their personal safety, and of the planning skills and physical fitness required for a safe visit to the park.
- Update the visitor information package annually.
- Prepare a series of hiking route descriptions to aid in visitor safety.
- Continue to provide search and rescue services and maintain search and rescue capability consistent with the type of activities encouraged in the park.
- Update the Firth River Guide for visitors on a regular basis.
- Develop a boating guide for Parks Canada staff.

Plan Objective:

To address visitor risk management through the continued implementation and improvement of the public safety plan and the operational guidelines.

Action Items Parks Canada will:

- Ensure that public safety is an integral component of the planning and delivery of all the park's programs.
- Work with regional and national organizations involved in emergency response (e.g., RCMP, Canadian Rangers, Inuvik Regional Health Board, Canadian Search and Rescue Association, Department of National Defense, and the Canadian Coast Guard) to establish Memoranda of Understanding and ensure that the park public safety program is integrated into the region's network.

- Review annually the public safety plan for Ivvavik National Park and revise the operational guidelines as necessary.
- Provide a Parks Canada presence on Ivvavik National Park's coast, in keeping with increases in visitation.

Plan Objective:

To place a priority for service delivery on prevention, education and information programs.

Action Items Parks Canada will:

- Place the priority for service delivery on prevention, education, and information programs in partnership with tourism marketers and outfitters.

8.4 Aircraft Access

Aircraft access is permitted in national parks under certain conditions: where no reasonable transportation alternative exists; where the management plan authorizes it, subject to specific conditions (times, locations, flight lines, and altitude); or where public safety, resource management, or law enforcement requires it.

Parks Canada's Air Access Regulations identify six landing sites in Ivvavik National Park: Margaret Lake, Margaret Lake strip, Nunaluk Spit and the Firth River lagoon, Sheep Creek, Stokes Point, and Komakuk BAR-1 strip (Map 3). All landings in the park require a Parks Canada landing permit.

Concerns about aircraft use and access to and around Ivvavik National Park were brought up in the 1999 plan review public meetings. The two main issues raised were aircraft use over the Firth River corridor and aircraft use over the coastal areas of Ivvavik National Park and surrounding areas. Because not all air traffic in the area is going to Ivvavik, it is the intent of Parks Canada to work with the regional air service companies and communities to cooperate in responsible aircraft use.

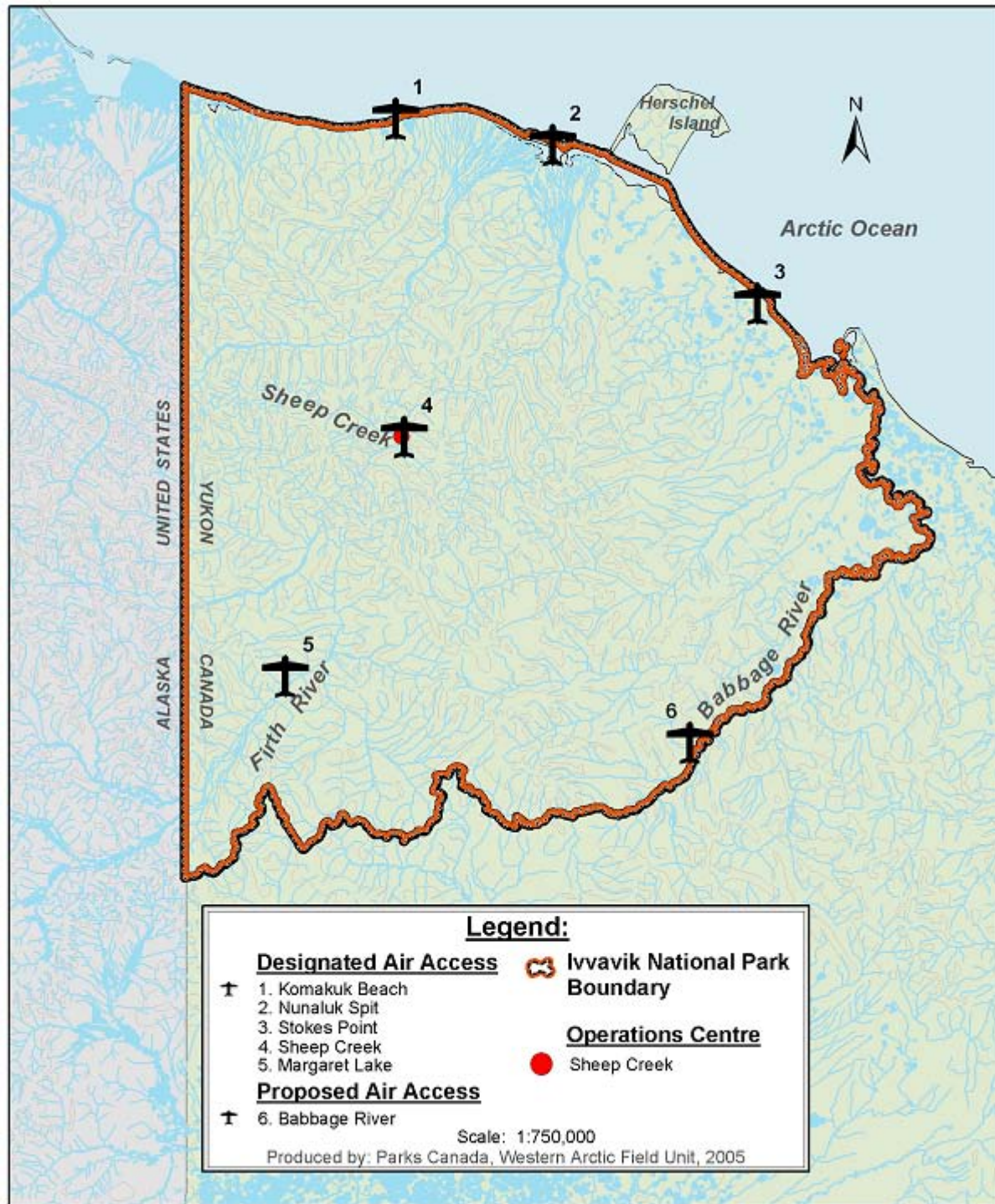
Plan Objective:

To continue to manage aircraft access to designated landing areas in a manner consistent with the Air Access Regulations and the management plan zoning, while minimizing potential impacts on wildlife, Inuvialuit harvesters, and the wilderness experience of park visitors.

Action Items Parks Canada will:

- Work with regional air service companies and communities to promote responsible aircraft access to the park.
- Work with regional partners to develop information packages to communicate to visitors the effects of low-level flight on wildlife and people in the area.

- Minimize the impacts of air access required for park operations, approved research, and visitor access. Visitors to the Firth River corridor will be informed of planned flights in the area, whenever practicable.
- Investigate options for establishing a landing strip on Babbage River that is suitable for day-use and expansion of hiking opportunities.



Map 3. Access Sites in Ivvavik National Park

PARK FACILITIES

9.1 Overview

In keeping with the directions laid out in the Inuvialuit Final Agreement, Ivvavik National Park will be managed in a manner that protects the wilderness character of the area, maintaining its present undeveloped state. Structures that are currently existing will be downsized, reducing maintenance costs and visual impact. Permanent structures or facilities for park management purposes will only be considered after consultation with cooperative management and tourism partners; such structures would be designed to protect the visitor experience, to minimize the ecological footprint, and prevent impacts to subsistence harvesting activities.

9.2 Facilities Management in Ivvavik National Park

The operations centre at Sheep Creek is the major facility in Ivvavik for park management purposes. It was built in 1988/89 in accordance with requirements of the Interim Management Guidelines established by Parks Canada for the park (Environment Canada, 1988). A portion of the facility was designed to be removed after the life of the guidelines. The station, built within the site of the pre-existing placer mine, was used to house researchers during the resource description and analysis carried out for the park.

Today the facility serves as a centre for resource management, public safety, outreach and education programs, and law enforcement activities. It is currently larger than necessary for park management purposes. Downsizing was started in 2004 and will continue, in response to concerns by park users and in keeping with the recommendation made by the Panel on the Ecological Integrity of Canada's National Parks that the ecological footprint of park facilities be reduced (Parks Canada, 2000b).

Plan Objectives:

To maintain the wilderness character of the park by ensuring that only facilities or structures that are required for park management purposes are developed.

To demonstrate sound environmental practices in the management of park facilities.

Action Items Parks Canada will:

- Refer all proposals for temporary research and commercial tourist camps to the appropriate assessment processes.
- Use the environmental management system (established by Parks Canada; see section 9.3) to guide daily operations in the park and help achieve ecological integrity in the region.
- Ensure that the Sheep Creek Warden Station is downsized within five years, leaving three of the current seven buildings on the site for park management purposes.

9.3 Environmental Management System

The Government of Canada is committed to the concept of environmental stewardship. This ensures that every government department or agency meets or exceeds environmental laws and regulations, follows the best environmental practices available, and develops and implements a sound environmental management system. An environmental management system (EMS) helps Parks Canada apply environmental stewardship considerations to every agency decision.

Goals: Practising Environmental Stewardship

- *Parks Canada demonstrates sound environmental practices in all its activities, services and products.*
- *Visitors contribute to the principles of environmental stewardship and sustainability.*

Plan Objectives:

To improve environmental performance by developing and implementing an environmental management system.

To encourage local residents and park visitors to share responsibility for environmental stewardship.

Action Items Parks Canada will:

- Reduce solid waste by 50% of the 1998 levels within five years, through purchasing, reusing, and recycling.
- Assist (either financially or in kind) local recycling initiatives.
- Prepare protocols for handling hazardous materials, including the handling and caching of fuel within the park and park facilities.
- Apply safe and environmentally responsible management practices to the acquisition, reporting, monitoring, handling, storage, safe use, transportation, and disposal of hazardous waste.
- Purchase products and services that meet environmental specifications, and replace as many products and services as is reasonably possible with others that are more environmentally friendly.
- Reduce the Inuvik fleet of vehicles by 20%.
- Assess the grey water treatment system at Sheep Creek.
- Reduce air emissions by identifying sources of pollution and minimizing activities and products that cause harmful air emissions.

10

PARTNERSHIP AND PUBLIC INVOLVEMENT

Strong partnerships and public involvement are critical to achieving the mandate of the park.

Parks Canada engages in a wide range of formal and informal partnerships and consultative and cooperative activities to accomplish park objectives. Central to the management of Ivvavik National Park is the legislated framework that formalizes working relationships through cooperative management committees. Cooperative management facilitates a variety of other formal and informal partnerships in order to implement park management projects and programs. Partnerships can range in scope from collaborating with other government agencies on research and monitoring operations or the clean-up of old fuel drums; working with a school principal to develop an educational resource for Aklavik youth; working with Inuvialuit and government agencies to develop tourism products; or signing on a volunteer to assist with a youth camp.

Consultation and involvement with regional communities will ensure that residents can benefit from economic, cultural and educational opportunities resulting from the presence of the national park. Community involvement will strengthen the relationship of regional residents to the national park, to the cultural and natural resources it protects, and to the stories it tells. Parks Canada also has the opportunity to develop initiatives that help strengthen the health of communities, for instance, by offering options for youth that encourage them to stay in school.

Parks Canada will continue to invite the public to play an active role in advancing regional tourism services, by facilitating skills development and capacity building for residents who show an interest in getting involved in the tourism industry. Partnerships with Inuvialuit and government organizations will be vital when developing a comprehensive regional marketing strategy and encouraging local participation in the development of quality tourism services that support park objectives.

During the life of this park management plan, various groups and individuals will be asked for their input concerning the implementation of recommendations in this management plan.

Plan Objectives:

To foster partnerships and public involvement in park activities.

Action Items Parks Canada will:

- Facilitate skills development and capacity building for Inuvialuit and other local residents to enable them to take advantage of opportunities as they arise.
- Work with other government departments to address educational issues that may be barriers to employment and business success.
- Work with Inuvialuit and government organizations to develop tourism products and promote the region as a tourist destination.
- Participate in cooperative management meetings on a regular basis, and provide community-based organizations with regular updates on park initiatives.

IVVAVIK NATIONAL PARK OF CANADA MANAGEMENT PLAN

- Meet annually with cooperative management bodies with responsibilities related to the management of Ivvavik National Park. The objectives of the meetings will be for Parks Canada to report on management plan implementation activities, and for all parties to identify and review priorities for further implementation.
- Issue a five-year State of the Park Report for Ivvavik National Park.
- Issue an annual research and monitoring report for internal use and distribution to cooperative management partners and the public.

11 PARK ZONING

11.1 Overview

The national parks zoning system is an integrated approach to classifying land and water areas according to: 1) ecosystem and cultural resource protection requirements; and 2) the areas' capability and suitability in providing appropriate opportunities for visitor experiences. The zoning system provides a framework for the area-specific application of policies and programs, such as for resource management, appropriate visitor activities, managing human dimensions, and research.

Some areas may require special recognition or management that is not provided by the zoning designation. Thus, park management plans may designate specific sites in any zone as environmentally or culturally sensitive areas and set out guidelines for their protection and use.

Parks Canada's zoning system for national parks consists of five zones:

Zone 1 - Special Preservation. This is a zone where public use may be controlled to protect especially important or fragile resources. No motorized access is permitted, including visitor air access.

Zone 2 – Wilderness. This is a zone that covers large areas that are good representations of the ecosystems of the park and will be maintained in a wilderness state. The perpetuation of ecosystems with minimal human interference is a key consideration. Motorized use is not permitted, although strictly controlled air access to remote areas may be permitted.

Zone 3 - Natural Environment. This zone is for areas that are maintained in a natural state, although allowing for more use than Zone 2 wilderness. Zone 3 allows for limited motorized access, usually by public transport.

Zone 4 - Outdoor Recreation. This zone is capable of accommodating a broad range of opportunities for education, outdoor recreation, and related facilities for visitor enjoyment, in ways that respect the natural landscape and the park environment. Motorized access is permitted.

Zone 5 - Park Services. This zone accommodates communities in existing national parks which contain a concentration of visitor services and support facilities. Specific activities, services and facilities in this zone will be defined and directed by the community planning process. Major park operation and administration functions may also be accommodated in this zone. Wherever possible, Parks Canada will locate these functions to maintain regional ecological integrity.

11.2 Zoning in Ivvavik National Park

According to the Inuvialuit Final Agreement, planning and management of the park must "protect the wilderness characteristics of the area, maintaining its present undeveloped state to the greatest extent possible" (Section 12(6)). It further states that "the National Park shall be zoned and managed as a wilderness oriented park" (Section 12(7)). Zoning in Ivvavik National Park (Map 4) reflects the intent of the Inuvialuit Final Agreement and the wilderness qualities

of the park. However, zoning does not imply that visitors and wilderness are mutually exclusive. Zoning does not apply to Inuvialuit beneficiaries exercising their subsistence harvesting rights in the park.

11.2.1 Zone 1 – Special Preservation

Zone 1 – Special Preservation areas include: five archaeological areas along the coast; the Firth River corridor between Sheep Creek and the beginning of the delta; and two areas around “fish holes” on the Firth River and Joe Creek (Table 8). The Firth River corridor and the five coastal areas are the major focus of visitor activity in the park and thus require careful monitoring and management. Over the next five years, ecosystem and cultural resource information will be mapped and necessary adjustments to the zoning plan suggested for the next management plan review.

11.2.2 Zone 2 – Wilderness

The majority of Ivvavik National Park is Zone 2 - Wilderness (Table 8). This zoning guides visitation (low density, dispersed, unobtrusive, temporary, non-motorized activity), as well as service or facility development (minimal, primitive, and appropriate to a wilderness experience). For Ivvavik, the wilderness zoning designation is in keeping with the park vision, establishment and management objectives, and the Inuvialuit Final Agreement.

The presence of unstaffed Department of National Defense North Warning Stations at Stokes Point and Komakuk Beach is considered to be a non-conforming use. Both of these facilities are governed by a consent agreement between the Inuvialuit and the Government of Canada.

11.2.3 Zone 3 – Natural Environment

One Zone 3 - Natural Environment area is designated in Ivvavik National Park: the Sheep Creek Warden Station (Table 8). In such zones, a natural setting must be maintained while basic facilities are provided. Opportunities for experiencing a park’s natural and cultural heritage values are offered through outdoor recreation activities requiring minimal services and facilities of a rustic nature.

11.2.4 Zone 4 – Outdoor Recreation and Zone 5 – Park Services

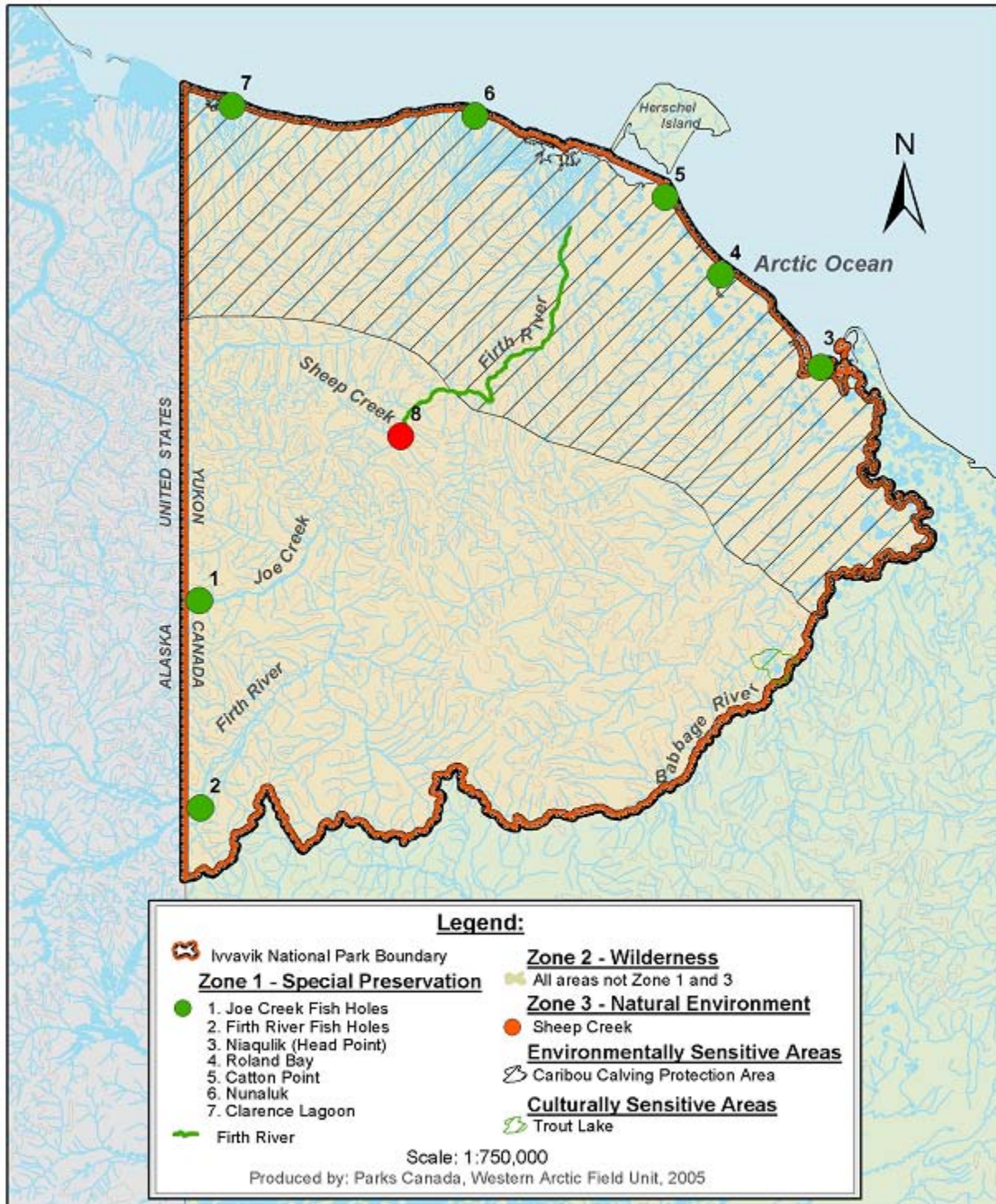
No Zone 4 – Outdoor Recreation or Zone 5 – Park Services areas have been designated in Ivvavik National Park.

11.2.5 Special Management Areas

As well as the Zone 1 to Zone 3 designations in Ivvavik, two areas have been identified as requiring special management not provided through established zoning (Table 8). An Environmentally Sensitive Area has been designated to protect the calving areas of the Porcupine caribou herd. Should the need arise, special management measures could be put in place during the calving and post-calving periods in May and June. A Culturally Sensitive Area has also been designated to protect the cultural resources and lake environment at Trout Lake.

Action Items Parks Canada will:

- Complete an environmental assessment of the Trout Lake area, in consultation with the Parks Canada archaeologists, the Inuvialuit Regional Corporation, and the Aklavik Hunters and Trappers Committee to determine the suitability of air access and day-use.
- Conduct a review of zoning along the Firth River and the coast in consultation with the public, the community of Aklavik, and various cooperative management agencies prior to the preparation of the next management plan.



Map 4. Park Zoning in Ivvavik National Park

Table 8. Summary of zoning in Ivvavik National Park

Zone or Special Management Area	Location	Value	Description
Zone 1 - Special Preservation	Clarence Lagoon	Cultural	Important because of its cultural resources, including a cluster of early Inuvialuit sites.
	Catton Point	Cultural	Has historic and late pre-contact resources, including a cluster of early Inuvialuit sites.
	West end of Nunaluk and Niaqulik (Head Point)	Cultural	Two village sites from the historic and late pre-contact periods.
	Roland Bay	Cultural	Important Inuvialuit site, with the remains of several structures.
	Firth River (from Sheep Creek to the coast)	Cultural	Several sites relating to the Canadian western arctic Inuit culture, notably in the Engigstciak area. Several sites related to placer mining and trapping.
		Ecological	Important habitat for fish and birds of prey, and Dall's sheep.
	Firth River "fish holes" and Joe Creek "fish holes"	Ecological	Both critical as breeding and overwintering habitat for Dolly Varden char. Both areas are small, with a very high density of fish for over six months of the year.
Zone 2 - Wilderness	The majority of Ivvavik National Park	Ecological and cultural	All areas within the park that are not otherwise designated as within the Zone 1, Zone 3, or "special management" areas.
Zone 3 - Natural Environment	Sheep Creek Warden Station area	Park management	Facilities provided for park operations and management.
Environmentally Sensitive Area	Coastal plain	Ecological	Represents the entire Canadian portion of the concentrated calving grounds of the Porcupine caribou herd.
Culturally Sensitive Area	Trout Lake area	Cultural	Protects a lake ecosystem and archaeological resources relating to the Canadian western arctic Inuit culture.

SUMMARY OF THE ENVIRONMENTAL ASSESSMENT

The “Ivvavik National Park of Canada Management Plan” was subjected to an environmental assessment according to “The 1999 Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals”. The environmental screening was conducted on a draft of the management plan, to ensure that the environmental effects of the initiatives contained in the plan were fully considered before any irrevocable decisions had been taken.

The environmental assessment focused on the cumulative effects of management actions on eight valued components as identified by the management plan: cooperation, wildlife, vegetation and soils, aquatic ecosystems, coastal zone ecosystems, climate, visitors and cultural resources. Potential cumulative effects are identified which need to be addressed prior to implementation. For example, project level environmental assessments of day-use areas should address the impacts of increased aircraft access on wildlife and visitor’s wilderness experience. Day-use areas will also receive greater use on the ground, increasing impacts to vegetation and soil. The potential need for hardening the site should be addressed in environmental assessments prior to opening up day-use areas. Hiking trails should be monitored if visitor numbers warrant. Positive cumulative effects include greater knowledge of the ecosystems through research and monitoring, restored ecological integrity at the Sheep Creek Warden Station and improved visitor experiences. Monitoring protocols, a geographic information system, databases and results publication are critical ways the management plan protects ecological integrity. The information collected through research and monitoring will then be useful for future generations protecting the park.

Some of the initiatives are conceptual in nature and will require further assessment under the “Inuvialuit Final Agreement” or the *Canadian Environmental Assessment Act* when specific proposals have been developed. The required mitigation, surveillance and follow-up will be developed when the proposals progress from the conceptual phase to the design and implementation phase.

The environmental screening has determined that the potentially adverse environmental effects from the proposals in “Ivvavik National Park of Canada Management Plan” can be mitigated to insignificance.

GLOSSARY OF TERMS

Conservation: the management of wildlife populations and habitat to ensure the maintenance of the quality, including the long term optimum productivity, of these resources and to ensure the efficient utilization of the available harvest (Inuvialuit Final Agreement definition).

Ecological Integrity: a condition where the structure and function of an ecosystem are unimpaired by human-caused stresses and are likely to persist; a state of ecosystem development that is optimized for its geographic location. For parks and protected areas, this optimal state has been referred to by such terms as natural, naturally evolving, pristine, and untouched. It implies that ecosystem structures and functions are unimpaired by human-caused stresses, that native species are present at viable population levels and that, within successional limits, the system is likely to persist. Ecosystems with integrity do not exhibit the trends associated with stressed ecosystems. Parks and protected areas are part of larger ecosystems and determinations of integrity in national parks must consider these larger systems.

Ecosystem: group of organisms and its accompanying cycles, processes, structures and energy flows. Ecosystems are systems of interacting organisms and species, including humans, and their non-biological environments. For example, a tundra ecosystem is made up of muskoxen, wolves, lemmings, people, lichens, mosses, shrubs, grasses, cold dark winters, rivers, rain, snow, wind, soil and permafrost. It also includes the relationships, such as muskoxen eating lichen, wolves eating caribou, people hunting wolves and muskoxen, lemmings digging in the ground, and wind-blown snow blasting the shrubs.

Inuvialuit Final Agreement: the agreement which settled the Western Arctic Land Claim of the Inuvialuit, originally brought forward by the Committee for Original Peoples Entitlement. Also referred to as the IFA.

Inuvialuit Settlement Region: that portion of the Yukon and Northwest Territories and offshore that is under the jurisdiction of the Inuvialuit Final Agreement.

Monitoring: is an effort that:

- a) provides repeatable ecological measurements that influence natural resource management decisions, or
- b) monitors either long-term changes in regional ecosystems or specific threats to those ecosystems.

Subsistence usage: as defined in the Inuvialuit Final Agreement:

- a) with respect to wildlife other than migratory game birds, migratory non-game birds and migratory insectivorous birds, subject to international conventions, the taking of wildlife by Inuvialuit for their personal use for food and clothing and includes the taking of wildlife for the purpose of trade, barter and, subject to section 12, sale among Inuvialuit and trade, barter and sale to any person of the non-edible by-products of wildlife that are incidental to the taking of wildlife by Inuvialuit for their personal use; and
- b) with respect to migratory game birds, migratory non-game birds and migratory insectivorous birds, subject to the Migratory Birds Convention Act, the taking of such

birds by Inuvialuit for their personal use for food and clothing, and includes the taking of such birds for the purpose of trade and barter among the Inuvialuit and trade, barter and sale to any person of the non-edible parts of such birds to the extent permitted under regulations made pursuant to Migratory Birds Convention Act.

Traditional knowledge: knowledge that comes from, or is rooted in the traditional way of life of people. Traditional knowledge is the accumulated knowledge and understanding of the human place in relation to the universe. This encompasses spiritual relationships with the natural environment and the use of natural resources, relationships between people, and is reflected in language, social organization, values, institutions, and laws.

14

LIST OF CONTRIBUTORS

Ivvavik National Park Management Planning Team:

Ian Brown, Parks Canada
Alan Fehr, Parks Canada
Brian Johnston, Parks Canada
Ron Larsen, Parks Canada
Hillary Zimmermann, Parks Canada

With assistance from:

Christian Bucher, Parks Canada
Cathy Cockney, Parks Canada
Pat Dunn, Parks Canada
Ian McDonald, Parks Canada
Angus Simpson, Parks Canada
Steve Travis, Parks Canada

Special thanks:

Jacques Biron, Parks Canada
Joan Eamer, Wildlife Management Advisory Council (North Slope)
Danny C. Gordon, Wildlife Management Advisory Council (North Slope)
Jean-Robert Gauthier, Parks Canada
David Murray, Parks Canada
Per Nilsen, Parks Canada
Brian Pelchat, Wildlife Management Advisory Council (North Slope)
Bernard Potvin, Parks Canada
André Savoie, Parks Canada

The Management Planning Team would like to express a sincere thank you to all those who took the time to attend the public open houses, read the draft management plan, telephone, visit with staff personally, email the park, and write letters to the Management Planning Team expressing their comments. Your input was greatly appreciated and will continue to be valuable.

REFERENCES

- Aklavik Hunters and Trappers Committee. 1999. *Aklavik Hunters and Trappers Committee Research Priorities*. Aklavik.
- Arctic Climate Impact Assessment. 2004. *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*. Cambridge University Press.
- Banff-Bow Valley Task Force. 1996. *Banff-Bow Valley: At the Crossroads. Summary Report*. Ottawa.
- Canadian Parks Service. 1993. *Northern Yukon National Park Resource Description and Analysis*. Natural Resource Conservation Section, Canadian Parks Service, Prairie and Northern Region, Winnipeg.
- Committee on the Status of Endangered Wildlife in Canada. 2000. *Canadian Species at Risk*. COSEWIC Secretariat, Canadian Wildlife Service, Environment Canada, Ottawa.
- Community of Aklavik, the Wildlife Management Advisory Council (NWT) and the Joint Secretariat. 2000. *Aklavik Inuvialuit Community Conservation Plan*. Inuvik.
- Environment Canada. Canadian Parks Service. 1988. *Northern Yukon National Park Interim Management Guidelines*. Minister of Supply and Services Canada, Ottawa.
- . 1989. *Northern Yukon National Park. Park Conservation Plan*. Winnipeg.
- Environment Canada. 1990. *State of the Parks 1990 Report*. Minister of Supply and Services Canada, Ottawa.
- . 1995. *Characteristics of Ivvavik National Park's Ecoregions*. Ecological Stratification Working Group. Ottawa.
- Government of Canada. 1984. *Western Arctic (Inuvialuit) Claims Settlement Act*. Queen's Printer, Ottawa.
- . 2000. *Canada National Parks Act*. Queen's Printer, Ottawa.
- . 2002. *Species at Risk Act*. Queen's Printer, Ottawa.
- . 2003. *Canadian Environmental Assessment Act*. Queen's Printer, Ottawa.
- Indian and Northern Affairs Canada. 1984. *The Western Arctic Claim. Inuvialuit Final Agreement*. Ottawa.
- Indian Affairs and Northern Development. 1993. *Vuntut Gwitchin First Nation Final Agreement*. Minister of Supply and Services Canada, Ottawa.

Nagy, John and Marsha Branigan; Wildlife Management Advisory Council (North Slope and NWT). 1997. *Co-management Plan for Grizzly Bears in the Inuvialuit Settlement Region, Yukon and Northwest Territories: April 1997 to March 2002*. Whitehorse.

Parks Canada. 1994. *Parks Canada Guiding Principles and Operational Policies*. Ottawa.

———. 1997. *National Parks System Plan*. Ottawa.

———. 1999. *State of Protected Heritage Areas 1999 Report*. Ottawa.

———. 2000a. *Parks Canada Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks*. Ottawa.

———. 2000b. *Unimpaired for Future Generations? Protecting Ecological Integrity with Canada's National Parks*. Vol. II. *Setting a New Direction for Canada's National Parks*. Report of the Panel on the Ecological Integrity of Canada's National Parks. Ottawa.

———. 2001. *Management Directive 2.4.9. Ecological Data Management*.

Porcupine Caribou Management Board. 2003. *Porcupine Caribou Herd Interim Management Plan, \2003-2005*. Whitehorse, Yukon.

Standing Senate Committee on Aboriginal Peoples. 2001. *Northern Parks—A New Way. A Report of the Subcommittee on Aboriginal Economic Development in Relation to Northern National Parks*. Ottawa.

Wildlife Management Advisory Council (North Slope). 1999. *Yukon North Slope Long-term Research and Monitoring Plan*. Whitehorse.

———. 2000. *Yukon North Slope Research Guide*. Draft. Whitehorse.

———. 2002. *Draft Canadian North Slope Muskox Co-management Plan*. Whitehorse.

———. 2003. *Yukon North Slope Wildlife Conservation and Management Plan*. Whitehorse.