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***Iqalirtuuq: A Conservation Proposal For
Bowhead Whales At Isabeela Bay, Baffin
Island, Nwt***

***Type of Study: Plans/strategies Fisheries,
Baffin General***

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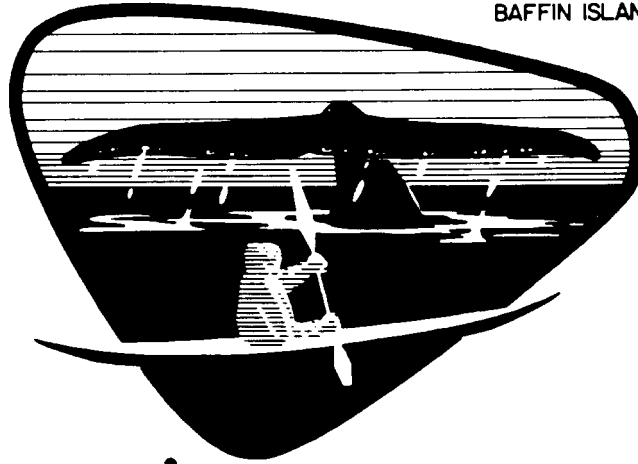
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**IQALIRTUUQ: A CONSERVATION PROPOSAL
FOR BOWHEAD WHALES AT ISABELLA BAY,
BAFFIN ISLAND, NWT**
Sector: Fisheries

3-3-10
Plans/Strategies

ISABELLA BAY

BAFFIN ISLAND



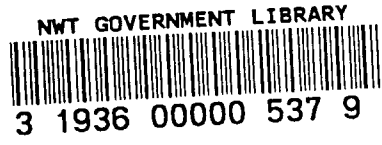
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Igalirtuuq: A Conservation Proposal for Bowhead Whales at Isabella Bay, Baffin Island, NWT

Prepared by the Community of Clyde River, NWT

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EXECUTIVE SUMMARY

This proposal has been developed by the community of Clyde River, Baffin Island in co-operation with World Wildlife Fund Canada (WWF). We are recommending a conservation plan to protect the Bowhead whale (*Balaena*

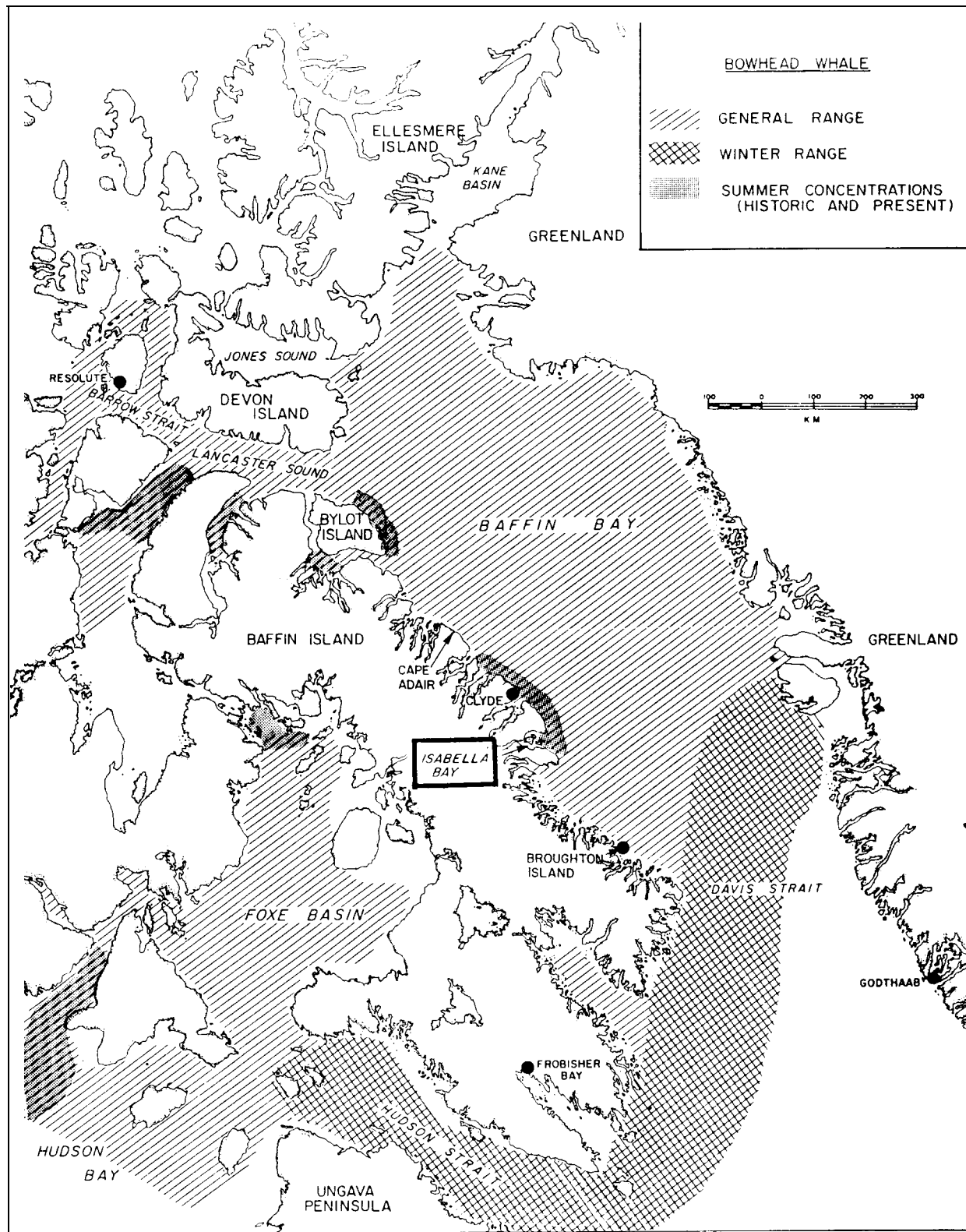
mysticetus) and its critical habitat at Isabella Bay (see map following). Our goal is to establish a Whale Sanctuary, under federal legislation, encompassing the Bowhead's critical habitat at Isabella Bay. Surrounding this site, we further recommend that a Biosphere Reserve be established under the UNESCO Man and Biosphere program, to give international recognition to this area in a way that can foster local measures for conservation in cooperation with scientists and government authorities. Finally, territorial legislation should be used to document and protect important archaeological sites in and around this area.

The objectives of this proposal are:

- i) To secure government leadership to protect critical habitat of the endangered eastern arctic Bowhead whale on the east coast of Baffin Island; and,
- ii) To draw public attention to the urgent conservation needs of the Bowhead whale by sharing the knowledge and concerns of Clyde River as well as the results of recent scientific research.

As a result of commercial whaling, the eastern arctic Bowhead population dropped from at least 11,000 to near extinction. It has now been almost 100 years since the last commercial harvest, yet there are no signs to indicate

DISTRIBUTION AND IMPORTANT SUMMERING AREAS OF THE BOWHEAD WHALE IN THE EASTERN CANADIAN ARCTIC.



Bowhead whales are recovering. The population is thought to number in the low hundreds, is no longer hunted, and remains officially endangered as classified by the Committee on the Status of Endangered Wildlife in Canada.

Through Clyde River's involvement in WWF's work at Isabella Bay, we have a better understanding of the whales and their predicament. We believe that action to secure long-term protection for their critical habitat, as well as work to develop an overall recovery plan for the Bowhead, is urgently needed. This conservation plan for Isabella Bay is an essential first step, vital to the survival of the whales.

Several physical features at Isabella Bay combine to make this area critical to the Bowhead during the summer. Shallow banks off the coast at Isabella Bay, deep troughs further offshore, ocean and wind currents, all combine to provide the right setting for the Bowhead's main source of food and to provide protection from its predation by Killer whales (*Orca orcinus*).

However, within this setting, there are various activities and disturbances, both existing and potential, which together may seriously jeopardise the survival of the whale. These include: local boat traffic, pollution, tourism, defense activities and natural factors such as the Bowhead's slow rate of reproduction.

In order to help the Bowhead population recover, every effort must be made to protect these whales and their habitat. As the Department of Fisheries and Oceans (DFO) has the primary mandate for marine mammals in Canada, and in an attempt to meet the objectives of the Arctic Marine Conservation Strategy, we are recommending that DFO take the lead and establish a Whale Sanctuary at Isabella Bay. This effort would result in the first arctic marine sanctuary in Canada.

At present, the Fisheries Act does not specifically provide for the establishment of a Whale Sanctuary, however, it is within the general mandate of the Act to do so and we are confident that specific regulations can be developed or amended for such a purpose. In our view, a regulated Whale Sanctuary is the best way to establish a long-term conservation commitment and a related management process in which Clyde River plays a clearly defined role.

A Biosphere Reserve, though it has no legal authority, will aid protection achieved by the sanctuary in several ways. As a UNESCO designation, it will promote international awareness of the urgency of Bowhead protection and the critical habitat at Isabella Bay. It will encourage sensitive use around the sanctuary through the identification of a buffer zone and establishment of a management committee of local users and other agencies with interests

in the reserve. It will also attract continuing scientific research projects on marine conservation in the area.

We have spent a great deal of time weighing the pros and cons of various conservation options. We have chosen this conservation plan because we feel that it best fits the needs of both the Bowhead and the community: provide the basis for cooperative conservation by Clyde River, the Department of Fisheries and Oceans, Renewable Resources and other concerned agencies; will attract international attention and encourage further research to aid the Bowhead in other parts of its international range; and because it does not involve great expense or legislative process.

Since the Lancaster Sound Land Use Regional Plan already endorses our development of this proposal, action to implement it can and should begin immediately under the leadership of Fisheries and Oceans, with the goal of establishing the sanctuary in two years or less. A senior DFO official should be assigned to coordinate the project and organise a steering committee drawn from the community and other public sector agencies who can contribute.

The main tasks of this group would be to:

- develop draft regulations for the Whale Sanctuary;
- design an ongoing administrative structure for the Whale Sanctuary and Biosphere Reserve;
- organise the training and work program of local wardens for the sanctuary;
- organise a study of tourism options for Isabella Bay; and,
- design future Bowhead research projects and recruit funding.

Supported by this cooperative effort, the community of Clyde River looks forward to leading the way in achieving a milestone in arctic marine conservation.

1.0 HOW THE PROPOSAL CAME ABOUT

For centuries, the Inuit of Bar'fin Island and the eastern arctic Bowhead whale have co-existed as inhabitants of Canada's far north. Three hundred years ago, the Europeans began commercially hunting these whales with the help of local Inuit. Our knowledge of the whales and our ability to survive in this harsh land were a valuable service to the whalers.

As a result of commercial whaling, the Bowhead whale population dropped from at least 11,000 to near extinction in Baffin Bay - Davis Strait. It has now been nearly 100 years since the last commercial harvest and yet there are no signs that Bowhead numbers are recovering. Today, this endangered stock is thought to number roughly 200-300 at most.

The survival of the Bowhead whale is important to Canada and the world since whales are a critical component of the rich marine environment in which we share and on which we all depend, especially the people of Clyde River. There is also much more to learn from studying the Bowhead in its marine habitat that will be useful knowledge for future economic development in the region, such as tourism. Of special concern to Clyde River is the fact that the cultural heritage of the Inuit of Baffin Island is directly linked to the Bowhead, as the remaining archaeological artifacts indicate. Moreover, many of the elders from Clyde River have first-hand recollections of the Bowhead during their summers at Isabella Bay. We want to keep these memories alive for our children by keeping the Bowhead alive.

Since 1983, the community of Clyde River, Baffin Island, has been involved with World Wildlife Fund Canada (WWF), DFO, Renewable Resources and the Department of Indian and Northern Affairs in biological research on these whales at Isabella Bay. Every summer, the Bowhead migrate through the waters of Baffin Bay—Davis Strait to their feeding and breeding grounds at Isabella Bay, 120 km south of Clyde River. Our knowledge of this migration first attracted scientists to the area and our work with WWF and the other agencies has led to a better understanding of the whales and their predicament. From this work we have concluded that, even though the Bowhead are no longer hunted, their numbers are not increasing. Therefore, further conservation action is required if the Bowhead whale population is to recover in the future.

During the summer of 1988, a committee was formed by the Hamlet Council and Hunters and Trappers Association of Clyde River to develop a conservation plan for Isabella Bay. Based on knowledge of the Bowhead and the concerns of Clyde River residents, the plan was endorsed by the community at a public meeting on October 13, 1988. This proposal was subsequently developed to recommend action needed to implement the conservation plan and to identify the likely participants.

2.0 OUR GOALS AND OBJECTIVES

The overall goals of our conservation plan areas follows:

- i) To protect the Bowhead whale and their critical habitat at Isabella Bay, Baffin Island from human disturbance and pollution;
- ii) To aid recovery of the Bowhead whale population by encouraging scientific research and conservation action at Isabella Bay and the surrounding region;
- iii) To protect an important cultural heritage of the

Inuit of Baffin Island; and.

iv) To provide for the direct involvement of Clyde River in decisions and work related to carrying out the conservation plan.

The specific objectives of this proposal are:

- i) To secure government leadership to protect critical Bowhead whale habitat through the establishment of a Whale Sanctuary, archaeological sites and a Biosphere Reserve at Isabella Bay; and,
- ii) To draw public attention to the urgent conservation needs of the Bowhead whale by sharing the knowledge and concerns of Clyde River.

3.0 THE REGIONAL SETTING

3.1 Environment and Wildlife

The coastal environment of northeastern Baffin Island from Home Bay to Cape Hunter has several key features. Physically, coastal lowlands alternate with deep fjords and underwater glacial troughs. Offshore, the cold (<0°C), southward-flowing Baffin current dominates the surface circulation of western Baffin Bay-Davis Strait, flowing across the mouths of the fjords and transporting the copepods on which the Bowhead feed. Interaction of this current with bathymetric features and the tidal currents of the fjords establishes many localized current patterns which influence the activities of marine wildlife.

Overall, the severe arctic climate exerts the most important and highly variable influence on the physical and biological character of the region. Northeast Baffin is well-known for changing weather conditions as a result of its position underneath a major upper-atmospheric trough whose movements expose the region to two very different air masses. This variability shows up in changing sea ice conditions from year to year and is a very important factor in Inuit use of the area and the migration of marine mammals such as the Bowhead. A land fast ice platform lasts approximately nine months of the year and reaches out as far as 70 km from the coast, the toe edge roughly paralleling the 180 m depth contour in Baffin Bay-Davis Strait. Open water only reaches the shore for a matter of weeks, starting between early July and late August depending on local wind conditions which may keep broken ice jammed against the shore.

The region's physical setting has combined with the elements to create areas along the coast where many species, in addition to Bowhead, find favorable habitats. For example, the terrestrial area directly north-east of Clyde River has been given international recognition and is designated an International Biological Programme

(IBP) site known as Clyde Foreland. This site is biologically rich, containing a wide variety of unique plant species (see following map).

Another area of international importance is Scott Inlet, located at the northern end of the region of interest. This site contains a large colony of northern fulmars, a glaucous gull nesting area and has a representative selection of passerine species.

At the federal level, the Department of Fisheries and Oceans has identified the area from Home Bay to Isabella Bay as a Priority I marine area due to its importance to the Bowhead. This classification means that habitat in the area is very critical to the Bowhead and that only very restricted seasonal development be permitted in the area. The northern end of this site coincides with the area being proposed as a Whale Sanctuary. The Canadian Wildlife Service has identified the area around Scott Inlet as a 'Key Migratory Bird Migration Habitat' for northern fulmars.

At the territorial level, the Government of the Northwest Territories (GNWT) has identified the terrestrial area from Cape Hunter to Home Bay as a 'Wildlife Area of Special Interest'. This designation results from the fact [that it is a polar bear summer retreat and also has a concentration of winter denning sites.

At the local level, the marine and terrestrial area extending from Home Bay to Scott Inlet is particularly important to the people of Clyde River. The inlets and fjords are used for hunting caribou, polar bear and seal. The marine areas are also used for char fishing.

3.2 Isabella Bay

Isabella Bay (69° 35'N, 67° 15'W) is the outer extension of McBeth Fjord, a typical deeply-incised Bat'fin Island fjord. Depths reach 560 m near the head of the fjord and gradually decline toward the 30km wide mouth of the Bay where they do not exceed 250 m.

From research in the area, we know that Isabella Bay has two important features which make it particularly important to the Bowhead. The first is an extensive shallow shelf at the entrance of Isabella Bay. The second is a deep (>200 m) trough that cuts across the continental shelf. The Bowhead use the shallow shelf for breeding grounds and to seek shelter from Killer whales. They also find their main food supply, copepods, in the deep troughs.

The floe edge at Isabella Bay and further-south at Cape Henry Kater is used by the people of Clyde River for hunting ringed seal in both the winter and spring. Cape Raper also has served as the base camp for field studies on the Bowhead during the ice-free season. However, travel by small boat to this site is difficult and the only facility there is a tiny hut.

3.3 Clyde River

The Hamlet of Clyde River (70° 27'N, 68° 33'W) is situated on the west side of Patricia Bay off Clyde Inlet. The name "Clyde" was assigned by Captain (later Sir) John Ross in 1818 while on an expedition in search of the Northwest Passage. The traditional name is "Kangiqtuqaapi k." meaning small fjord.

The original site two miles east of the present location came into existence in the summer of 1922 when the Hudson's Bay Company set up a post to trade with local Inuit. The settlement was moved in the late 1960's to the present location where the ground is more suitable for future community expansion and the water supply is adequate.

The present population of Clyde River, predominantly Inuit, is about 500. Community facilities and services include a new public school with instruction to grade ten, a nursing station, a new privately-owned hotel, a weather station and airport with scheduled commercial passenger service, as well as a community radio station.

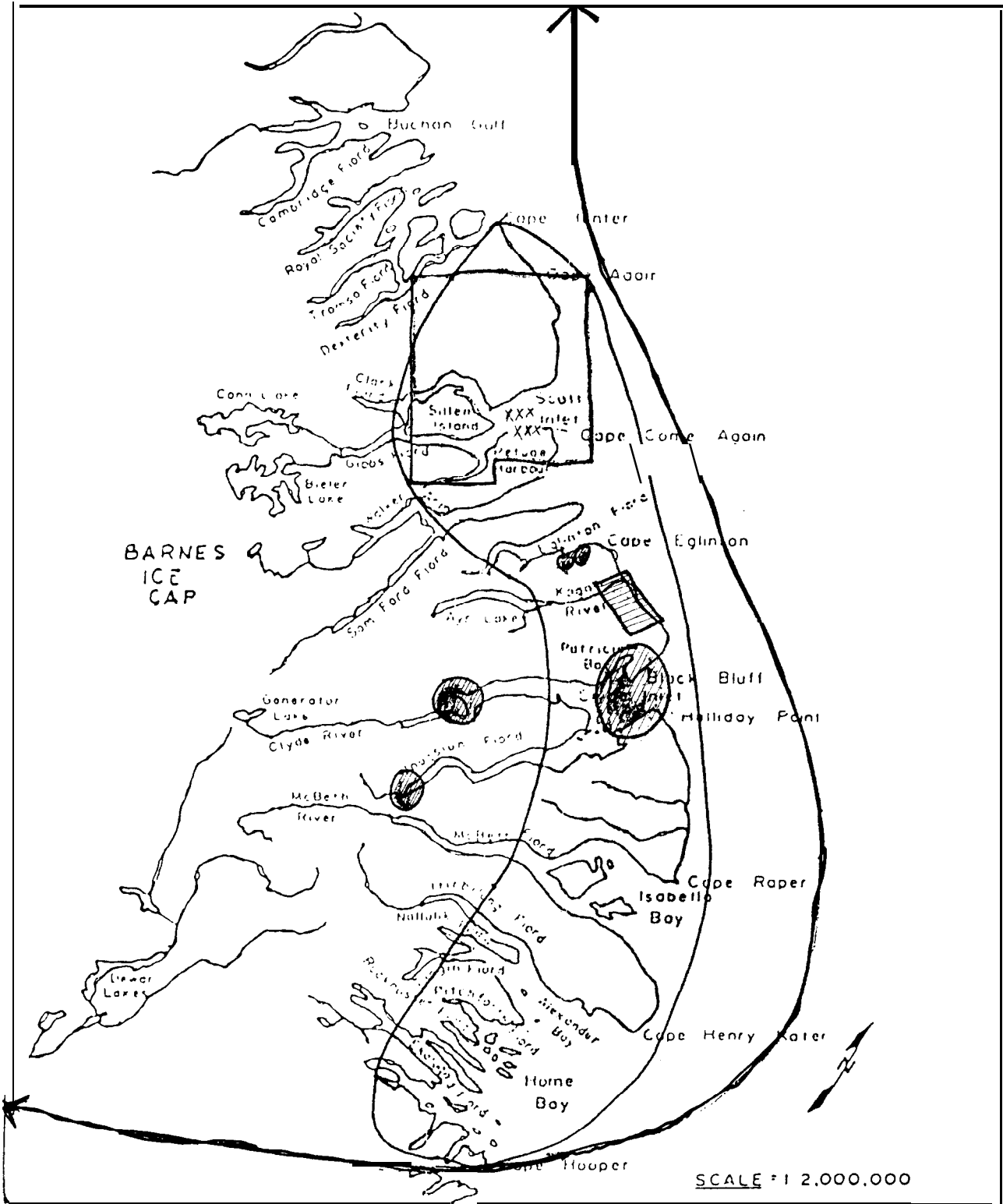
Though only two families from our community live on the land year-round, Clyde River residents still depend heavily on traditional subsistence use of the region's wildlife. Summer and winter camps for hunting, fishing and trapping are set up throughout the region every year. Our livelihood and our community were dealt a serious blow by the European boycott of seal pelts. Our polar bear quota has also been substantially reduced for conservation reasons. The possibility of developing commercial fishing and other renewable resource activity in the region may someday help to offset these losses. However, this will take a great deal of time and work by the Hunters and Trappers Association (HTA).








The Clyde River HTA was incorporated in 1973. At present there are over 100 members of the Association, with seven Directors, a President and a Secretary. The objectives of the association are:

- i) To assist members in obtaining hunting, fishing, trapping and camping supplies and equipment in the most economical way;
- ii) To represent the general interests of its members in matters dealing with wildlife, environment and association business in general; and,
- iii) To assist the government of the Northwest Territories (Department of Renewable Resources) in the management of wildlife, the enhancement of various wildlife acts or regulations and the departmental policies regarding resource development.

The HTA has been concerned for some time with the future of the Bowhead whales and Isabella Bay. HTA

WILDLIFE AND HABITAT AREAS OF SPECIAL INTEREST



-  DFO Priority One Marine Area
-  Scott Inlet IBP Site
-  Known Archaeology Sites
-  Clyde Foreland IBP Site
-  Area of Special Interest to GNWT
-  Key Migratory Bird Terrestrial Habitat Site. CWS
-  Essential Area #6. Lancaster Sound Regional Land Use Planning Commission

Aulativigjuq Island and several nearby rocky islets in Isabella Bay were used by whalers as lookout stations while their ships were harboured nearby. Two rock shelters, a gravesite and an underwater "whale-bone graveyard" have been identified, along with former Inuit camps. In light of the depressed economic situation in the region, money obtained from the sale of whale bone

4.3 Archaeological Sites

The Bowhead whale plays a central role in the arctic marine environment as the largest mammal in the food chain. Despite the fact that we still have a great deal to learn about this remarkable animal, we do know that no price can be attached to the loss of a species. For this reason, we must make every attempt to ensure that the Bowhead does not disappear. Protecting the critical habitat at Isabella Bay is a major first step.

Recent interviews with elders from Clyde River, as well as local sightings recorded for WWF, confirm that the coastal zone from Scott Inlet to Home Bay is a heavily used migration route and summering zone for the Bowhead. Small gatherings have been observed in Eglington Fjord and further research may show this site to deserve protection as well as Isabella Bay.

Whaling records suggest that there are a number of areas, such as Prince Regent Inlet, where Bowhead once gathered in large numbers. It is difficult to confirm all of the Bowhead's habitats because there are so few whales and their migration routes cover such a vast expanse of eastern arctic waters. What we do know is that as much as one-third (68) of the known Baffin Bay-Davis Strait population have been present at Isabella Bay at the same time during the August-October ice-free season. This represents the largest known concentration of the species in its entire former eastern arctic range. Consisting mainly of pairs, this group apparently uses the shallow banks directly offshore as breeding grounds and for social activities. We also know that many of the same individual Bowheads return to Isabella Bay year after year, for breeding, feeding and shelter from Killer whales.

4.2 Critical Habitat

Little more is known about the biology of the Bowhead and there is little we can do to aid reproduction or ensure the protection of individuals, especially since they travel over such distances. What we can do, and must, is protect known critical habitat along the migration route of the whales.

In 1986, the Bowhead was designated as "endangered" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The potential for recovery of the Bowhead is limited, among other factors, by its slow rate of reproduction. It is believed that the females, once they have reached maturity, at approximately 13.5 m in length, only give birth once every three or four years. Unfortunately, the Killer whale is known to prey on calves. As a result, estimates of recruitment into the Bowhead

Despite their reduced numbers, Bowhead appear to occupy much of their former range in the eastern arctic and to follow the same migration routes as their ancestors. Local knowledge, whaler's accounts and recent scientific surveys suggest that the whales spend the winter months in a year-round open water region of Davis Strait between Disco Island, Greenland and Isabella Bay. In late spring to early summer, females with young and pregnant females migrate north along Greenland through Lancaster Sound to the Prince Regent Inlet, using the pack ice as protection from Killer whales. At approximately the same time, mature males and calfless females head to Isabella Bay to feed, breed and generally to socialize.

Bowhead whales once had a disjunct circumpolar distribution throughout the arctic waters. Today, there are only four or five geographically separate populations. Only two of these, including the Baffin Bay-Davis Strait population, which gathers at Isabella Bay, are thought to be reproductively viable.

Bowhead are the only baleen whales that live in arctic seas all year round. Using their heads and backs they can break through ice over half a metre thick. Growing to a length of more than 20 m, an adult Bowhead can weigh up to 70 tonnes and its giant mouth can accommodate twenty people. These slow-moving whales (3 to 4 km/hour) can stay underwater for more than one-half hour when feeding and longer when threatened. Their blubber is over 30 cm thick, enabling the animal to float even after it is dead. From this, the whalers nicknamed it the "right whale" (to hunt).

4.1 The Bowhead Whale

4.0 WHAT IS TO BE PROTECTED?

members have worked closely with World Wildlife Fund in studying the Bowhead. On April 27, 1987, the HTA took the initiative of writing to the Baffin Regional Hunters and Trappers Committee and many other agencies to encourage support for protecting the Bowhead (see Appendix 1). Since then, HTA members have worked many hours to develop this proposal.

carvings is increasingly important. While whale bone has become a scarce commodity, the prices paid for carvings has increased dramatically in the last few years. There are many historically significant sites in and around the eastern shoreline and islands off Baffin Island. Many of these sites have had most of their artifacts removed by carvers and collectors as they attempt to meet the growing demand for carvings and whale bone. Therefore, there is an urgent need to protect the Isabella Bay sites and their artifacts, before they disappear, and ensure that they remain part of the community's heritage.

4.4 Future Hunting opportunity

Bowhead whales were traditionally hunted by Inuit from kayaks using harpoons and the ends of their paddles. Having not been able to live by the Inuit tradition for over a century, we would like the future generations to have the opportunity to hunt Bowhead whales once again. The cultural value of hunting Bowhead whales again, once the

population is large enough to support this, is a future possibility we want to ensure. To do this, we must make every effort to increase the Bowhead's population to the extent that it is removed from the endangered species list.

5.0 THE NEED AND OPPORTUNITY FOR A CONSERVATION PLAN

To date, the only action taken to conserve the eastern arctic Bowhead has been the total ban on hunting issued under the federal Fisheries Act in compliance with decisions by the International Whaling Commission. Generally speaking, the Bowhead population is seen to be too sparsely distributed and economically unimportant to warrant spending the necessary research money to identify further action to aid its recovery.

Based on what is now known about the Bowhead we believe the ban on hunting alone is not sufficient to deal with all the challenges, old and new, to the survival and recovery of this endangered species. If these challenges are not dealt with, the hunting ban may not only fail to achieve its conservation goal, but also be seen as discriminatory. *All* parties whose actions may stress the species should accept restrictions for the purpose of aiding long-term conservation.

Furthermore, there are many positive developments on the conservation scene which provide opportunities for new measures to protect the Bowhead. All that is missing is leadership and a starting point for action. Our proposed conservation plan for Isabella Bay is designed to fill this need.

5.1 Possible Stresses on the Bowhead •

5.1.1 LOCAL TRAFFIC

Recent observations in the area of Isabella Bay indicate that the Bowhead is extremely sensitive to disturbance by local motor boats, gun shots into water and perhaps by the more distant passage of ships. WWF research shows that Bowhead whales react strongly to certain noise sources at ranges of several kilometres and the potential range of influence could extend much further. For example, it was recently found that two other arctic whales, the narwhal and beluga, are capable of detecting low ship sounds at distances up to 80 km and that they display strong avoidance to ships approaching at distances of 40-45 kms.

Isabella Bay is an important traditional seal hunting area and was continually inhabited by the Inuit until the mid 1960's. Today, the area is still used by hunters during the open-water season. Unfortunately, this coincides with

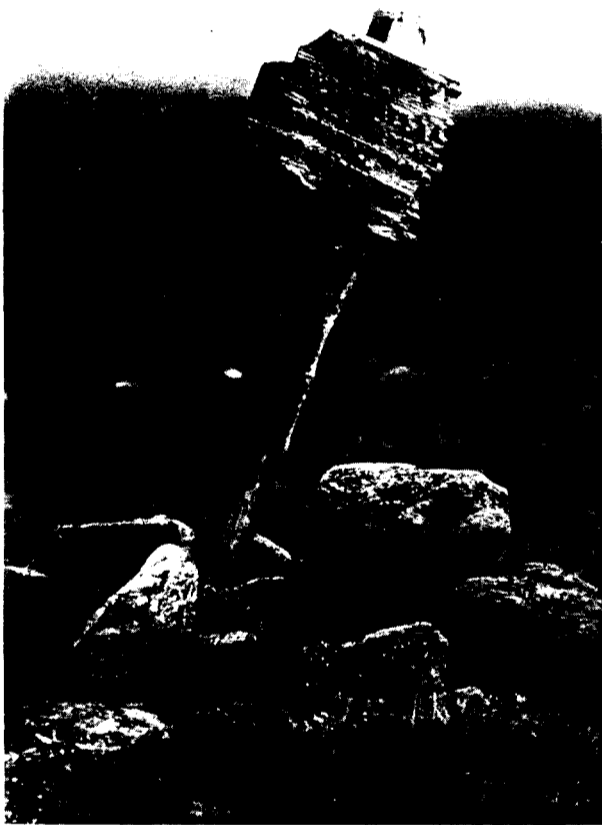


Photo by Heather Myers

the timing of the arrival and use of the area by the Bowhead. As boats become more sophisticated and as there are more people returning to traditional hunting grounds in and around Isabella Bay, the threat to the Bowhead will increase.

5.1.2 TOURISM

News of the whales at Isabella Bay is spreading quickly across North America and Europe. At the same time, tourism in the Baffin region is growing. Sea kayaking, charter boat tours along the coast and whale watching expeditions will likely bring a steady flow of tourists to the area in coming years during the short open water season. Recently, an American company has proposed to build an airstrip at Isabella Bay to service future charter flights. The territorial government has included Isabella Bay in its long-range tourism plans with the possibility of developing viewing facilities on site.

If properly planned with the involvement of Clyde River, tourism can help to raise public awareness and support for protecting the Bowhead. It can also be a source of modest economic benefit to Clyde River. However, it is important that a conservation plan for Isabella Bay be implemented before tourism develops to ensure that the whales and their habitat are not disturbed.

5.1.3 POLLUTION

In recent years, the presence of garbage in the arctic waters has become a much more obvious problem. Along the shorelines, washed up motor oil containers and styrofoam cups from passing ships are in greater abundance. The ingestion of these and other garbage is detrimental, if not fatal, to the Bowhead as their baleen and small stomachs are not equipped to handle large objects. Other pollutants such as sewage, fuel, toxins and other waste materials have not yet been discovered in the Bowhead. The Bowhead has yet to be examined for toxins although other marine species such as polar bears are already showing traces of toxins in their body systems.

Another pollution concern is the warming of the global climate due to increased levels of carbon dioxide in the atmosphere. Although the full impact of this is not yet understood, it appears as though this poses a further threat to the Bowhead. Changes in the temperature and salinity of the arctic waters could affect the balance of marine life, including the species on which the Bowhead feed. Changing weather patterns could affect the current and ice patterns which are so important to the Bowhead whale migration.

5.1.4 RESOURCE DEVELOPMENT

Given what we understand and have witnessed of the Bowhead's sensitivity to human disturbance, such as the noise of boat engines, it appears as though any resource development or increased level of human activity in and around the area of Isabella Bay may deter the whales from returning to this area, thus exposing them to greater risk of Killer whale predation and a less abundant food source. Changes in reproductive rates may also result.

At present there are no immediate plans for resource development in the area. However, research activities for development projects do occur in the area, such as the Arctic Delta Failure Experiment in Itirbilung Fjord, and these may be potentially harmful. Fortunately, this project was stopped as a result of the efforts of concerned people and organisations. We are also concerned about the possibility that pollution associated with resource development to the north might reach Isabella Bay, transported by the south-flowing Baffin current.

5.1.5 DEFENCE ACTIVITIES

At this time, it is difficult to know what defense activities are planned for the north and what their impacts would be on the Bowhead. The two activities that seem inevitable are low-flying surveillance aircraft and the passage of submarines.

On only one occasion during the five years of Bowhead research was a low-flying aircraft seen in the vicinity of the whales and there was an **obvious** negative reaction by the whales to this activity. The extent to which submarine activity in the north will disturb the whales is unknown. However, as the survival of these whales depends a great deal on the security of their breeding and **feeding grounds** at Isabella Bay, defence activities should not be conducted in this area.

5.1.6 NATURAL FACTORS

Killer whale predation on the Bowhead has been observed in recent years. To what extent the Killer whale has been successful in preventing the Bowhead population from successfully recovering is unknown. The Bowhead is also limited by its slow rate of reproduction. In combination with their vulnerability to Killer whale predation, this fact lowers the prospects for recovery of the population.

Other natural factors that affect the Bowhead are the dynamics of copepod populations at Isabella Bay. Researchers have suggested that some aspects of copepod feeding ecology are of great importance to the recovery of

the Bowhead population as the availability of food may be a limiting factor for the Bowhead in years of low productivity. It is also not known how closely the productivity of the Bowhead is linked to the population dynamics of a single species. However, should there be a link, there may be significant consequences. It may be that the Bowhead is competing with other species for their food supply. Although not yet proven, a possible competition may exist between the Bowhead and the Arctic Cod (*Boreogadus saida*), both of whom are major consumers of copepods.

5.1.7 SUMMARY

We still have a great deal to learn about the Bowhead—its natural history, habitat and sensitivity to various disturbances. In examining the possible impacts of limiting factors on the present stock, our intent is not to single out an individual issue, but to emphasise the fact that *any* additional stress or combination of stresses on the Bowhead may seriously jeopardise the future survival of these whales. As it is, current recruitment levels indicate that the whales have yet to recover from the stress of the whaling industry *which stopped 80 years ago*.

What this picture tells us is that precautions must be taken to ensure that these whales are given every opportunity to continue to exist undisturbed by human activities, so that they will have a better chance of survival. By implementing this conservation plan, we are confident that some of the limiting factors [that directly disturb the whales, such as boating in the critical areas, can be controlled at the local level. Other factors, such as defense activities and pollution, will have to be dealt with through the Whale Sanctuary regulations and through recommendations by the area's management committee.

5.2 Opportunities for Action

5.2.1 COMMUNITY SUPPORT AND INVOLVEMENT

Through our involvement with WWF research, the work of the HTA and our Special Committee on Igalirtuuq (Isabella Bay), the entire community of Clyde River has become concerned about the need to protect the Bowhead and Isabella Bay. Out-public meeting on October 13, 1988 was attended by 150 people from the community and the conservation plan presented by [the Special Committee

received overwhelming support.

In the history of conservation in Canada, we know of no other situation where the call for conservation has been stronger or more unanimous from an Inuit community. We want to protect the Bowhead and we want to be a part of that effort, our involvement with the Bowhead research, our historical and cultural attachment to the Bowhead and our proximity to the critical habitat makes us logical partners with the government [o protect the whales. By playing a major role in carrying out the conservation plan, Clyde River will gain more expertise and resources for resource management. This in turn will benefit other agencies who need to rely on local assistance to protect the environment.

5.2.2 FULFILLING GOVERNMENT INITIATIVES

Many territorial and federal government agencies are making plans to improve arctic conservation and give local communities a bigger role in making decisions about the use of the land and wildlife. The Task Force on Northern Conservation, the Arctic Marine Conservation Strategy, the Lancaster Sound Regional Land Use Plan, the Inuit Regional Conservation Strategy and the Fish Habitat Management Policy are examples of this effort. In addition there are many projects to identify sites of special importance for conservation. Many of these plans and studies have yet to achieve results on the ground. This conservation proposal for Isabella Bay provides an ideal way to translate broad principles into specific conservation action. This fact has already been recognized in the Land Use Plan for Lancaster Sound.

The organisation among different agencies is necessary to carry out our proposal for Isabella Bay. It is also useful for dealing with other conservation issues in the region, such as the polar bear management and the protection of other special habitats.

Protecting Isabella Bay can also have other benefits. At a time when national concern for the protection of the environment is at an all-time high, the immediate implementation of this plan would encourage concerned Canadians in other communities to take action on issues that affect them. The Bowhead is nationally designated by COSEWIC as an endangered species so it is only right that the whole of Canada share our concern and the pride of establishing the first marine sanctuary in the arctic.

5.2.3 INTERNATIONAL SIGNIFICANCE

Isabella Bay likely represents the only site in the world where individual Bowhead whales can be observed for

several consecutive days. As such it represents a chance for Canada to make an exciting international contribution to the conservation biology of a species which has endangered right whale relatives in both hemispheres.

Since the eastern arctic Bowhead **range includes** both **Canada and Greenland**, its recovery is really an international conservation challenge. Though action to protect its habitat may start at Isabella Bay, it is important that our efforts encourage contributions from scientists, as well as from other members of the international conservation community.

One way to do this which fits with our objectives, emerging international law and Canada's responsibility to protect marine species, is to establish a Biosphere Reserve surrounding Isabella Bay. In addition, the Inuit Circumpolar Conference (ICC) is developing the Inuit Regional Conservation Strategy as a guide for conservation in the circumpolar north. ICC is also developing specific projects for the eastern arctic. For this reason, it may serve as an important forum through which additional conservation initiatives for the Bowhead and other marine mammals can be pursued internationally.

In short, we hope that our conservation plan, focussed on the Bowhead, will stimulate action by others to maintain the renewable resources and marine environment of our region. The Biosphere Reserve we are proposing would provide a focus for different agencies [o cooperate in this larger work.

6.0 THE CONSERVATION PLAN

6.1 Key Recommendations and Rationale

Discussions about how best to protect the Bowhead and Isabella Bay have taken place over several years in Clyde River. WWF provided technical assistance by developing planning options for us to review and consulted with a wide range of government and non-government experts. As a result of this work and our appreciation of the challenges and opportunities outlined above we developed the plan illustrated on the centerpiece map. The key recommendations and rationale, as endorsed by the community on October 13, 1988 are as follows:

1. *“Establishment of a Whale Sanctuary using the Fisheries Act, to protect the marine area of Igalirtuuq (Isabella Bay), especially the deep marine troughs used by the whales for feeding, and the shallow bank at Nuuktipik (offshore at Cape Raper) which the whales use for mating, resting, and retreat from the Killer whales.*

2. *Establish a Biosphere Reserve around the Whale Sanctuary as the core area, and extending from Arbatuq (Home Bay) to Nattirsujuuq (Scott Inlet). This would include a coastal strip, in order to encourage protection of the whales from water quality impacts that might be caused by development activities along the coast.*
3. *Use existing federal and territorial legislation to protect the archaeological and historical sites in the area.*

The Committee's reasons for selecting this option are as follows:

1. *"Bowhead whales are endangered. Iqalirtuuq (Isabella Bay) is an extremely important area for these whales, for mating, feeding, socializing and retreat from Killer whales.*
2. *Whales are frequently seen in the area from Scott Inlet [a Home Bay, although they concentrate most heavily in Iqalirtuuq.*
3. *The Bowhead are sensitive to disturbance by motor noise and water pollution. The Bowhead are very sensitive to what is going on in their surroundings because their perception is so good. We know that once a Bowhead notices the sound of an engine or a Killer whale, it will alert others. It does not take much noise, particularly from human activity, to disturb the whales and frighten them away.*
4. *There are many sites in the area which can tell us about the Inuit and the European whalers who lived there. These should be researched so we can have a better understanding of the history of humans and whales at Iqalirtuuq, and they should be protected from disturbance or destruction.*
5. *A Whale Sanctuary should be a strong way to protect the whales and their habitat from disturbance or development impacts.*
6. *A Biosphere Reserve adds international recognition to the importance of this area, although it has no legal strength. It stresses several things which the Committee thinks are important:*

- *local participation in management of the area;*
- *biological research with local participation; and*

- *learning by comparing the protected area with areas of human activities, to see how the whales respond.*

7. *Existing legislation under the Archaeological Sites Regulation (GNWT) would provide the tools to protect archaeological and historical sites once they have been researched and documented."*

6.2 Discussion

6.2.1 WHALE SANCTUARY

DFO has the **primary** mandate for **marine mammals** in Canada and jurisdiction over their marine habitat. Therefore, this proposal plans to work within the Fisheries Act to protect the Bowhead through the creation of a Whale Sanctuary. At present the Fisheries Act and regulations do not specifically provide for the establishment of a "Whale Sanctuary." **Generally, they authorize the regulation of harvests and problems associated with development activities.** However, we understand that the Act curries sufficient authority for the establishment of a sanctuary and we are confident that specific regulations can be developed or amended for such a purpose. Ideally, this should be done during the consolidation of the marine mammal regulations, a process which is currently underway.

The Department of Fisheries and Oceans (DFO) has a mandate for co-ordinating the policies and programs of Canada with regard to oceans. This mandate has never been fully exercised and the department is currently drafting a new "Oceans Act" for Canada. This new legislation might also provide a mandate for the establishment of marine protected areas such as we are proposing.

Though the proposed Isabella Bay sanctuary is the first to be submitted, more are likely to come in the future. The basis for responding to such proposals must be established if Canada is to meet its responsibility for marine conservation.

6.2.2 BIOSPHERE RESERVE

Biosphere Reserves give international recognition to representative examples of the world's important ecosystems and to human uses within these areas. They are intended to be **used** as a tool for promoting a balanced relationship between **people** and their local environment. Canada presently has five Reserves, all south of 60 degrees. A great deal of interest is developing internationally in setting up both northern and marine Biosphere Reserves in Canada. Isabella Bay should be the first.

According to Canada's National Action Plan for Biosphere Reserves, each Reserve should: conserve ecosystems representing natural regions of [the world; recognise the role of people and their activities within the environment; encourage monitoring, research, education and training; and include local people in a management committee.

The Biosphere Reserve core area (Whale Sanctuary) we propose is intended to provide strict protection for Bowhead whales and encourage local monitoring and research activities. The boundaries for the core area will include only the critical Bowhead sites at Isabella Bay and Cape Henry Kater (see map following). Local resource use in the buffer area surrounding the proposed sanctuary will be consistent with this primary objective. Buffer zone boundaries extend from Eglinton Fjord to the middle of Home Bay. Although the whales concentrate most heavily in two areas in Isabella Bay, they are also frequently seen in the Biosphere buffer zone. As we learn more about the Bowhead, the boundaries of this area may be changed. Though the Biosphere Reserve is primarily intended to support Bowhead protection, it can also serve as a focus for other marine conservation studies and cooperative management of renewable resources in the region.

Biosphere Reserves have no legal authority and therefore cannot be used to enforce restrictions on activities within their borders. Their conservation value depends on the commitment of local people, scientists and other resource users to cooperate in managing the area for conservation and research. Also their international recognition can help to attract the money and expertise necessary for research. Clyde River is interested in this approach and we hope others will join us.

6.2.3 AREA BOUNDARIES

The habitat that is most critical to the Bowhead lies approximately 120 km south of Clyde River at Isabella Bay. Many important features in this area combine to form this critical habitat. However, as the Bowhead is a migrating species, there is a much larger marine area which surrounds Isabella Bay that is also inhabited by many Bowhead during their summer-fall migration. It is this larger area that we would like to see designated as a Biosphere Reserve,

i) **North-South**—This boundary has been determined according to Bowhead sightings by Clyde River residents. These include both historical and recent observations. This boundary also includes the northern and southern limit of the region used extensively by the residents of Clyde River for bunting and boat travel.

The extent to which the residents of Clyde River can effectively manage the area once it has been designated, has also been taken into consideration when determining the north-south boundary.

Other factors include the Bowhead's migration route within Clyde River's use area as well as historical accounts of whaling activities.

ii) **East-West—The western boundary** of the Biosphere Reserve will include a narrow strip of land along the shore in order to monitor the water quality of the area in light of possible future development inland. This terrestrial strip also includes sections of other conservation sites such as the Clyde Foreland, Polar Bear critical areas and important northern seabird nesting colonies.

The boundary is based on our primary concern with the Bowhead and its environment. However, we are open to moving it further inland, to accommodate a wider range of conservation interests in the region, if there is support for this among the agencies involved in implementing the overall plan. Using watershed boundaries might be a good way to proceed.

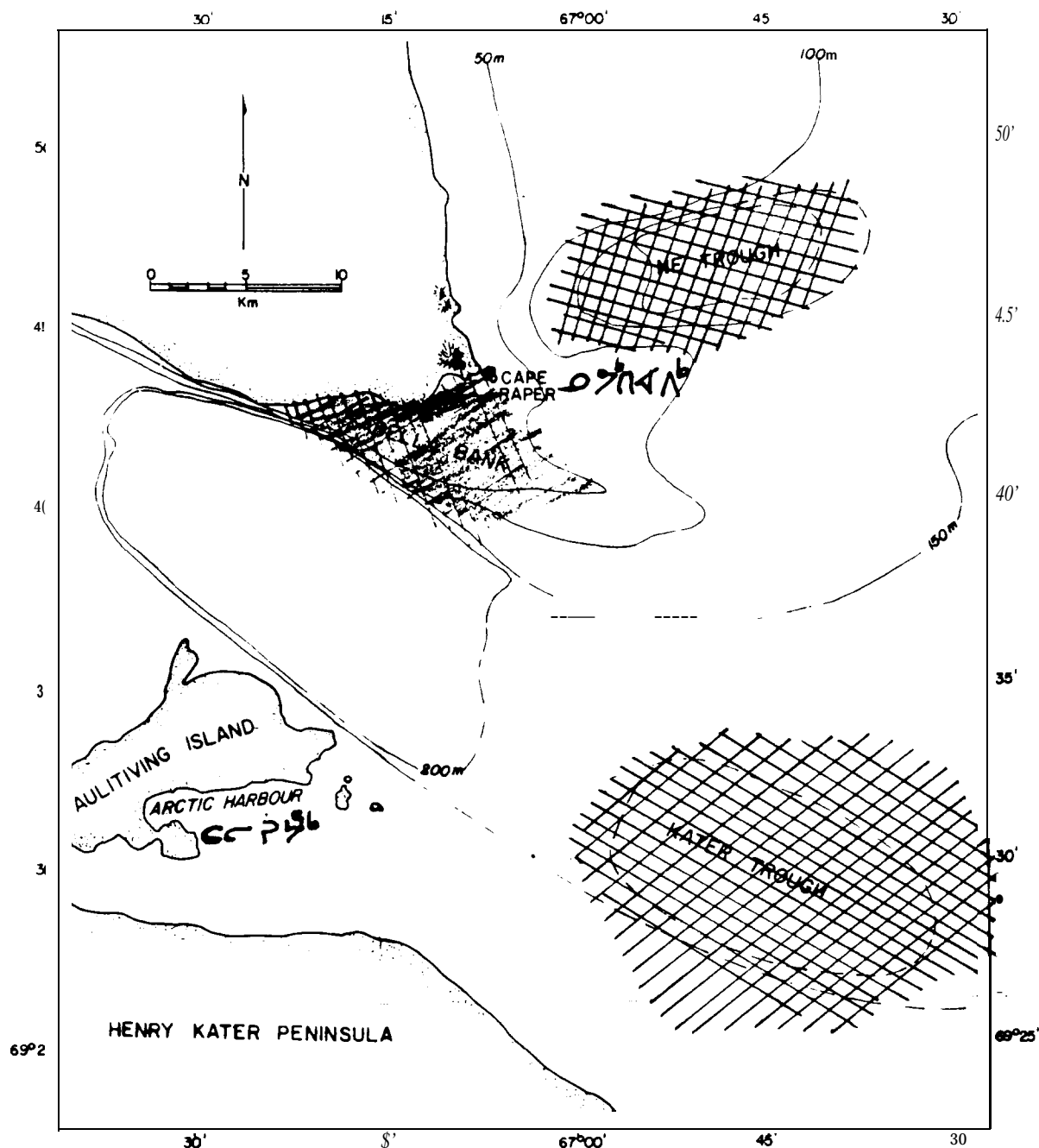
There are three eastern boundaries which extend 30 km, 60 km and 100 km offshore. The 30 km boundary is the outer edge of the Whale Sanctuary. The 60 km boundary is the outer limit to the Biosphere Reserve's buffer zone and the third boundary, 100 km, is based on traditional knowledge of the area and the fact that whales use migration corridors as they travel each year. It is believed that the 100 km limit would incorporate an area large enough to ensure safe passage for the Bowhead along the coast of Baffin Island and also takes into account the edge of the ice floe.



6.2.4 ARCHAEOLOGICAL SITES

Much of what we know of the history of the Bowhead in this area comes from whalers' journals written at the time of commercial whaling activities, and the information we have learned from the elders of Clyde River. Unfortunately, their vast knowledge and tales of first-hand experiences with the Bowhead is something that many residents of Clyde River know little about. We must now try to preserve what we can of our past involvement with the whalers and the Bowheads as, for many years, hunting the whales was a way of life for our people. Community pride about protecting this history should be encouraged.

Existing territorial legislation will be used to document and record important archaeological sites in and around the area extending approximately from Scott Inlet

AREA USED BY THE BOWHEAD AT ISABELLA BAY



- Important feeding areas 
- Important breeding areas 

to Home Bay. Some of these sites will fall outside of the Whale Sanctuary and the Biosphere Reserve; however, we feel that their neighboring presence indicates that they too are critical to the understanding of important historical and cultural whaling activities in the area. The sooner these sites are protected, the more information can be gathered for dissemination throughout the community and to other interested parties.

Photo by Heather Myers



7.0 HOW TO MANAGE THE AREA?

The following management policies were approved at the community meeting on October 13, 1988. Except as noted they apply to the Whale Sanctuary only.

7.1 Use of the Igalirtuuq Area

Any uses of the area must preserve the currently peaceful

nature of Igalirtuuq. During the time that the whales use the area (mid-August to mid-October), human activities should not disturb or harm the whales. (If there are people or boats there, it should only be for meaningful reasons). The rest of the year (mid-October to mid-August), the only constraint on human utilities is that they should not damage the habitat that is important to the whales (the water quality; the deep feeding areas; the shallow bank used for mating and rock-nosing).

i) Boats—When the bowhead hunters hunted in Igalirtuuq, they would cut their engines a few miles from Igalirtuuq, and use sails so that they did not scare the whales. When they saw a whale, they would use rowboats, so the whales did not hear them. The Committee recognizes that both large and small boats can still disturb the whales, so the following guidelines should apply to all boats:

- Kayaks and non-motorized boats are preferred, but even they should avoid harassing the whales.

- Motorized boats must completely avoid the shallow area beside Nuvuktiapik (off Cape Raper).

In the deep troughs where the whales feed, boats should:

- avoid the area

- avoid staying in the area with motors running

- cut their motors and drift through with the current.

ii) Aircraft—Airplanes and helicopters should not fly low over Igalirtuuq.

iii) Hunting—There is no real need to hunt seals and walrus at Igalirtuuq during the time that the Bowhead whales are there; seals and walrus are both hunted in other places. Hunting at other times of the year is not a problem for the whales. Protection of Igalirtuuq will not obstruct necessary hunting by Clyde River and Broughton Island people, although boats must honour the guidelines for all boats in the whale areas:

- From mid-August to mid-October, seal, narwhal and walrus hunting at Igalirtuuq should be avoided, especially in the areas where the whales concentrate (the shallow bank and the deep feeding areas).

iv) Research—Continuing research on the whales is important:

- Residents from Clyde River should be informed of and involved in the research.

- The whales should not be harassed during research activities.

- Research should be expanded to other areas used by, or important to the whales, for instance, calving areas.

- Research boats should obey the boat guidelines.

v) **Tourism**—Tourism should **be** developed in phases and be watched to see if it has any negative impacts on the whales:

- Start with just a few visitors.
- There should be no disturbance of the whales.
- Land-based tourism is preferred, perhaps based at the Kuuttannak River, with overland transport to Nuvuktiapik to watch the whales from the high observation post there.
- Any bouts must obey the boat guidelines, above.
- More research needs to be done on the whales before tourism starts.
- Only outfitters from Clyde River, who are familiar with the need to protect the whales, should take visitors to Igalirtuuq.
- The management authority that is eventually set up for the Igalirtuuq protected area should be responsible for reviewing the effects of tourism there, and deciding how many tourists to permit in the area each year.

vi) **Non-renewable resource development**—Development is of serious concern because of the sensitivity of the whales to disturbance and the possibility that they could be harmed by oil, chemicals or garbage in the water:

- There should be no development activities in the core or buffer areas at any time of the year. Research for oil or mineral development is also not desirable, especially if it changes [the quality of] river water, the land surrounding Igalirtuuq, or the whale habitat in general.
- Large ships should stay at least 30 km offshore, in the outer biosphere reserve zone.
- Seismic and other exploration should not occur in the core and only in the buffer zone and transition area when the whales are not in the core area.
- Igalirtuuq must be a priority area for oil spill protection and clean-up.

vii) **Defence exercises**—**Tile, etc** are not desirable at any time of the year, in Igalirtuuq.

viii) **Garbage**—**The** whales are especially vulnerable because their baleen and very small stomachs may become fouled or clogged:

- **There** must be no dumping of garbage by anyone, especially plastic, styrofoam or paper.
- **There** must be no release of oil or chemicals upstream, which could affect the whales or the waters of Igalirtuuq.
- **There** should be no ocean-dumping of scrap metals within the core or buffer areas.

7.2 Research needs

- Develop techniques to identify whales.
- Develop a catalogue of the whales that use Igalirtuuq.
- Find other areas used by other parts of the whale population (such as the pregnant cows and calves).
- Find out what the whales are sensitive to and how to protect them.
- Find out more about how many whales there are and where they go.
- Find out more about how fast the whales grow and reproduce.
- Review and research the archaeological and historical sites in the area.
- Develop information packages for schools and the public.

7.3 Administration

The Committee has left details of the management structure for the Igalirtuuq protected area until later discussions with the government. Ideally, of course, there should be one or two persons from Clyde River involved on a management committee. As well, two to four persons from Clyde River should be “wardens” for Igalirtuuq. They would be at Igalirtuuq during the season that the whales are there, and would do whale observations and research; enforcement of guidelines; explanations for visitors; public and school information programs.

8.0 HOW SHOULD THE CONSERVATION PLAN BE IMPLEMENTED?

8.1 How to Make It Happen

A series of actions **must be** taken by several agencies to **implement** this plan. To begin, we are looking to the Department of Fisheries and Oceans (DFO) to provide the necessary leadership to ensure that these steps are taken. A senior official in the department should be given this responsibility and hold it until the sanctuary is established hopefully in 1-2 years.

The next step is for DFO to cultivate a partnership between the various public and private agencies involved, especially the Department of Renewable Resources, NWT, so that everyone may work efficiently together to ensure the implementation of the plan. This partnership should be guided by a common work plan and timetable.

Finally, we believe that the success of this conservation plan depends on the involvement of Clyde River. Therefore, the community must be equipped to take [be] primary steps of implementing the conservation plan. This will require some financial and technical assistance. We would like this involvement to have the following elements:

- The residents of Clyde River would like to be informed of and involved in any further whale research in the area.
- The degree and type of tourism in the area must be agreed upon by a management committee. This committee will also be responsible for reviewing the effects of tourism in the area.
- Clyde River will provide guides and outfitters.

Other possible benefits to the community include:

- Providing basic shelter at Isabella Bay to meet the needs of researchers, wardens and possibly small numbers of tourists.
- The training and participation of local people as area wardens and as assistants to further research and monitoring.
- Participation in the land use permit review process

for proposals which include the area of concern for the Bowhead.

8.2 Immediate Action

Clyde River is willing to commit both people and skills to help with the implementation of this conservation plan. This is particularly true of the Special Committee on Igalirtuuq, the Mayor, the Hunters and Trappers Association and the local Wildlife Officer. Many people in Clyde River look forward to the opportunity to help the protection of this area become a reality.

We realize it will take some time to fully implement the conservation plan for Isabella Bay. To help everyone to start working as quickly as possible we recommend the following actions for 1989-90:

- i) DFO should accept the proposal for the Whale Sanctuary, as a pilot project to implement the Arctic Marine Conservation Strategy, and appoint a project coordinator.
- ii) The project coordinator should organise a steering committee, with representatives from public and private agencies, to guide the work that needs to be done

to implement the conservation plan. This group should include some or all of the following agencies:

Fisheries and Oceans
Indian and Northern Affairs
Transport Canada
Renewable Resources, NWT
Economic Development and Tourism, NWT
Culture and Communications, NWT
Clyde River
Inuit Circumpolar Conference
World Wildlife Fund Canada
Bat'tin Regional Council
Canada Man and Biosphere Committee
Arctic College
Prince of Wales Heritage Centre

The main tasks of this group would be to:

- develop draft regulations for the Whale Sanctuary;
 - design an ongoing administrative structure for the Whale Sanctuary and Biosphere Reserve;
 - organize the training and work program of local wardens for the sanctuary;
 - organise a study of tourism options for Isabella Bay;
 - design future Bowhead research projects and recruit funding;
- iii) Prepare and submit the Biosphere Reserve proposal to UNESCO. This should be done by Clyde River, World Wildlife Fund and the Canada Man and Biosphere Committee;
- iv) Construct a suitable shelter at Cape Raper for use by local wardens and researchers working at Isabella Bay. This might be funded by private money and built by people from Clyde River; and.
- v) Organise an informal Bowhead monitoring network along the whale's migration route. This would involve local hunters and trappers on Bat'tin Island and Greenland in recording the movements of the Bowhead and developing a catalogue of individuals. Perhaps the Inuit Circumpolar Conference could take the lead on this project.

9.0 COSTS AND BENEFITS

9.1 What Will the Plan Cost?

There are two types of costs to consider: a) the direct expenditures needed to implement our proposals; and b) the "opportunity cost" or the value of economic development which might be lost by managing Igalirtuuq as we have proposed.

We are not in a position to precisely estimate the direct

costs of implementing the conservation plan. This is something which the proposed inter-agency steering committee will need to do. However, we would like to note the following:

- We have chosen a low-cost conservation option, recognizing that governments are very concerned with this issue. Start-up and on-going costs are modest, relating primarily to inter-agency meetings, and assistance to Clyde River to play its role in implementing the plan.
- Protecting Isabella Bay should not be expensive since we are proposing to "leave it alone."
- The co-operative approach to management we are proposing means the agencies involved can share financial responsibility.
- The tourism potential at Isabella Bay should attract private investment, and there may be some way for a share of this investment, or the resulting revenues, to cover on-going costs of the conservation activities.

We believe the opportunity cost to be negligible. As indicated through the land use planning process for Lancaster Sound, the prospects for resource development are limited at Isabella Bay. Further, the conservation plan will have little, if any, impacts on local harvesting of renewable resources. In fact, the potential tourism and research activity associated with our proposals is likely the best way for Clyde River to benefit from the resources of the area, so long as we are equipped to guide these activities.

9.2 What Are The Benefits of the Plan?

We believe the Igalirtuuq proposal will provide a wide range of benefits to Clyde River, federal and territorial governments, the people of Canada and the international conservation community. The proposed plan represents a rare opportunity for all parties to benefit from local conservation action. Specifically, in addition to its protecting the Bowhead whale population at Isabella Bay our proposal will:

- Strengthen Clyde River's involvement and expertise in resource management.
- Lay the foundation for locally-controlled tourism and business opportunities.
- Serve as a demonstration project for regional plans and conservation strategies such as the Arctic Marine Conservation Strategy, the Inuit Regional Conservation Strategy, the Lancaster Sound Regional Land Use Plan, etc.
- Provide a model for strengthening DFO's relations with local communities.

-
- Demonstrate **the potential** for inter-agency cooperation in dealing with local conservation projects.
 - Help implement the federal Throne Speech commitment to protect the arctic environment.
 - Gain international recognition and support for Canada's first arctic marine sanctuary.
 - Demonstrate to other communities that local efforts can contribute to action needed to protect the Arctic environment.
 - Set the stage for developing a recovery plan for the Bowhead population and stimulate further study of marine mammals in the region.

10.0 CONCLUSION

The proposed conservation plan for Igalituuq is an ambitious project to address an even more challenging conservation issue—survival and recovery of the Bowhead whale. The actions we recommend are on the frontier of conservation in more ways than one and will require cooperation by many people to seize the urgent opportunity at Isabella Bay. The situation is well described by a poet who wrote “Traveller, there is no path. Paths are made by walking.” Clyde River has taken the first step. We hope many others will join us in taking the next.

Clyde River, N.W.T.
27 April 1987


Baffin Regional Hunters
and Trappers Committee,
Iqaluit, n.w.t.

Bowhead Whale Habitat Concerns

As per the attached letter, we would be most happy **if you would** support us in our interest to protect the bowhead **whale habitats, namely Isabella Bay and Lancaster Sound**. As mentioned in the letter, the protection **scheme is yet to** be decided upon.

If you have any questions regarding the letter, please drop us a line.

Sincerely yours,


For Apak Qaqqasiq
President
Clyde River Hunters and
Trappers Association

cc. Hon. Tom Siddon,
Minister of Dept. of F & O.,
Ottawa, Ont.

Hon. Wm. McKnight,
Minister of Indian Affairs
and Northern Development,
Ottawa, Ont.

Wayne Merry,
Regional Renewable Resources,
Government of the N.W.T.,
Iqaluit, n.w.t.

Joe Tigullaraq,
R.R. Officer,
Clyde River, N.W.T.

DFO, Iqaluit, N.W.T.

Kerry Finley,
LGL Limited,
Sidney, B.C.

Baffin Region Inuit Association,
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Iqaluit, N.W.T.

Titus Alooioo,
Lancaster Sound Planning Commission,
Yellowknife, N.W.T.

Heather Myers,
Land Use Planning Analyst,
Renewable Resources,
Pond Inlet, N.W.T.

Boughton Island Hunters and
Trappers Association,
Broughton Island, N.W.T.

Pond Inlet Hunters & Trappers Assoc.,
Pond Inlet, N.W.T.

Monte Hummel,
World Wildlife Fund,
60 St. Claire Ave. East,
Toronto, Ont.

Jim Bourque,
Deputy Minister,
Dept. of Renewable Resources,
Yellowknife, N.W.T.

Dr. Ian McTaggart Cowan,
Committee of Whales and Whaling,
Victoria, B.C.

Pauloosie Paniloo,
MLA, Central Baffin,
Clyde River, N.W.T.

Inuit Circumpolar Conference,
176 Gloucester St.,
3rd Floor,
Ottawa, Ont.

Dr. RR Campbell,
Committee on Species of
Endangered Wildlife,
Ottawa, Ont.

Doug Brouchet,
Arctic Petroleum Operators Association,
Calgary, Alta.

Dr. Herb Lawler,
Eastern Arctic Committee on
Marine Transportation,
Winnipeg, Man.

P.S. Kerry Finley's report on the results of the bowhead whale studies
to-date will follow shortly.

Whales Beyond Our Knowledge

Purpose: To find means and ways to protect bowhead whale habitats while our knowledge of the endangered species is vague;

Community Description

The Hamlet of Clyde River is situated at the West side of Patricia Bay, Latitude 7028 and Longitude 6836. The name "Clyde" was assigned by Captain (later Sir) John Ross in the year 1818 while on an expedition in search of the Northwest Passage. The exact origin of the name is unknown but it may possibly be named for River Clyde in Scotland. The traditional name is "KANGIRTUGAPIK", meaning small fiord.

The original site two miles East of the present location came into existence in the summer of 1922 when the Hudson's Bay Company set up a Post to trade with natives in the area. The settlement was moved in the late 1960's to the present location, where the ground is more suitable for future community expansion and the water supply is adequate.

The present population is about 500, including both natives and non-natives.

Clyde River Hunters & Trappers Association (HTA)

The HTA was incorporated on April 19, 1973. At present, there are over 100 members (there are over 200 eligible members - both males and females) to the Association with seven Directors, a President and a Secretary. The goals and objectives of the Association are to assist its members in getting hunting, fishing, trapping, and camping supplies and equipment in a most economical way. Also, to represent the general interests of its members in matters dealing with wildlife, environment, and Association business in general. Also, to assist the Government of the Northwest Territories (the Department of Renewable Resources) in the Management of Wildlife and environment and the enhancement of appropriate Wildlife Acts or Regulations and the Departmental policies regarding Resource Development.

Bowhead Whale Description

The bowhead whale grows to a length of 65 feet and it can weigh up to 70 tonnes. The color of the skin is dark gray to brownish gray with white spots on the bottom of lower jaw. The mature whale has a white spot immediately in front of the tail fluke. It has a fading fin on the back, situated over two thirds way back from the tip of the jaws. It swims at a speed of 3 to 4 km per hour undisturbed and it will speed up to 8 to 10 km. per hour when retreating from potential disturbances. It can stay under water for over half hour when feeding and will stay down longer when threatened. The head takes up about two thirds of the total length. The mouth is large enough to hold twenty men and it has baleen hanging from the upper jaw, that consists of over 300 plates. The horny substance of the plates enables the whale to collect and retain food. The skin is said to have a thicker outer layer (soft part) than a narwhal but the inner part (fatty part) is said to be thinner than that of a narwhal. The blubber is over one foot thick, which enables the animal to float when dead, thus it was given the name of "the right whale" (to hunt) by whalers.

Traditional Domestic Whaling

The bowhead whales were hunted traditionally by **Inuit** from **qayaqs** using harpoons and the ends of their paddles.

A dozen men in qayaqs would approach a bowhead whale and throw their harpoons into the animal. The type of harpoon heads they use on bowhead whales were designed to sink in deeper with every twitch of the muscles in the animal. One of the harpoon heads would eventually hit a vital organ in an animal and kills it. Another way to kill a bowhead whale was to cut open the skin into the blubber with the sharpened ends of **qayaq** paddles after the harpoons were in the animal. Being stung by the cut through the skin, the bowhead would submerge. The next **time** the bowhead surfaces, the sharpened end of a paddle **would be driven in to the wound** previously cut opened. Each time the paddle is thrust in farther, the bowhead would submerge with the **paddle stuck on its side. And every time** the bowhead surfaces, the paddle would be driven in farther until the animal dies.

Once the animal was dead, a bunch of **qayaqs** would tow it ashore inch by inch. The process was so time consuming, the men would sometime fall asleep. The next to him would hit his paddle with his his and that woke him up quick.

The maktaq (skin, it's pronounced a little different from a narwhal - narwhal skin is pronounced maktaaq) was used as food by the **Inuit**, internal organs by dogs and meat was used by both **Inuit** and dogs. **The** blubber would be used for fuel for the lamps, which provided heat and light for many months.

The reason is not known why the domestic whaling seized, although there are some theories. When the firearms were introduced by Europeans, **it** became easier to hunt seals and polar bears during an open water season. Also, the qayaq's range being no match to the **sail** boat was probably **making** it harder for the **Inuit** to find bowheads near the shore.

Commercial Whaling

Commercial whaling along the East Coast of **Baffin** Island and in the Lancaster Sound area started after the year **1818**. **The** whalers (mostly British) found much wealth in selling baleen and blubber of the right whales, and many bowhead whales and similar type baleen whales were hunted every summer. The bowhead whale population was **believed to** be around **11,000** at the early stage of the **commercial whaling period**, but the population was nearly wiped out by the turn of the **twentieth** century. The last of the whaling fleets were seen around **1911** in the Eastern Arctic. Many factors were involved in the cessation of commercial whaling, including:

- (a) Bowhead whales were hard to find as the population was down to only hundreds from 11,000, thus making the hunts financially **unviable**;

- (b) World War One interrupted the whaling industry as most sailors enlisted in the Navy;
- (c) Baleen has since been replaced by plastic material. Items that were originally made from baleen were now being manufactured in an economical way using plastic material;
- (d) Natural oil products were now available at a cheaper cost than the whale blubber;

Our Understanding of The Bowhead Whale

It was in 1930's that the protection of bowhead whales was enacted as result of world wide concern for whales. Since then, not one bowhead whale has been killed by anyone other than predators in the East Coast of Baffin Island, but the population is still in poor health. Precise information regarding the state of the bowhead whale population has been difficult to obtain.

The biology of a bowhead whale is not well known but we know a bit from talking to older hunters who gained their knowledge from the generation before them and through personal experiences with seals and polar bears which can be related to bowheads. We have also learned from biologists who have done some scientific studies on the species.

The population we are concerned about spend the Winter months in a year-round open area in Davis Strait, between Disco Island in Greenland and Isabella Bay of Baffin Island. In late Spring to early Summer, females with young and pregnant females migrate North to the Prince Regent Inlet area through Lancaster Sound, using the pack ice as protection from Killer Whales. Probably about the same time, mature males and calfless females head to Isabella Bay to feed, breed, and generally to socialize. This is the way it seems to be according to whalers' log books, and through the personal knowledge of our elders and with the confirmation of biologists.

There are other areas between Isabella Bay and Lancaster Sound where bowhead whales spend their summers but majority of them are believed to go to Isabella Bay. The bowhead whale studies by the World Wildlife Fund organization through Kerry Finley of LGL Limited (an organization of biologists who conduct scientific studies on various species of endangered wildlife) between 1983 and 1986 have seen some of the same individual animals in different years. This suggests, that the same group of animals uses Isabella Bay year after year.

A number of things seem to attract bowhead whales to Isabella Bay. One of them is that the Isabella Bay area has some good areas of shallow waters, which provide good protection from killer whales. Killer whales do not normally occupy shallow waters. The bowhead whale studies have twice seen killer whales chasing after mature bowheads, but none were successful. Another reason why the bowheads are attracted to Isabella Bay is that Isabella Bay is rich with plankton which the bowheads feed on. The plankton are moved by ocean currents and collect in hollows on the sea bed.

There are two main feeding areas at Isabella Bay where there are deep trenches that collect plankton, thus making it easier for bowheads to feed on.

The animal is very sensitive to noises created by outboard motors, ships, gun shots into water, and other loud noises. Bowheads when feeding, breeding, socializing, or simply cruising along have been seen and documented retreating from the disturbing noises. It is most important to keep the disturbing noises to a minimum, to prevent interference to feeding, breeding, and socializing patterns. If this very important habitat is continually disturbed the bowhead whales no doubt would move elsewhere.

The ocean currents come down from the North carrying plankton, which the bowheads feed on. The plankton is pushed down and back up by the circular movement of currents as result of deep trenches in the bottom of the sea. On the surface of the water, a slick line is formed right along the deep trench at the bottom. The oil slick is from crushed fatty plankton resulting from plankton hitting another plankton when moved about by ocean currents. On the slick line, we have seen garbage from ships collecting into one area. Excess garbage can have bad effects on feeding of bowhead whales as they swallow anything that goes in the mouth with the plankton. Also, if there is an oil spill up North, it will eventually reach the slick lines at Isabella Bay where bowhead whales feed. And if that happens, oil would destroy the baleen plates on a whale. Oily baleen plates would fail to function as strainers, therefore, this would affect the way the whale feeds. The whale would die eventually from malnutrition as it would be taking in more water and less food than usual. The whale could also die from the negative effects of oil to the health of the whale.

If feeding, breeding, and socializing patterns of a bowhead whale are threatened, it would likely move elsewhere. Being in an unfamiliar territory, a bowhead whale could become an easy prey to killer whales and it would have bad effects on feeding, breeding, and socializing habits. Already an endangered species, the population would go down steadily, being easy prey to killer whales. The reproductive rate would go down as well, due to change in breeding patterns as result of poor health or by simply being in an unfamiliar territory.

As mentioned earlier in this letter, part of the same population as the Isabella Bay bowheads, spend the entire summer in the Prince Regent Inlet area. As these animals go through Lancaster Sound, the area is also a concern to us. Protecting one area but not the other is senseless. Any bad effects on either of the two groups will affect the population as a whole; therefore, both habitats (Isabella Bay and Prince Regent Inlet) should be protected.

We know so much about bowhead whales but we need to learn a **lot** more to help the population grow. **Therefore**, the scientific studies that have been conducted by LGL Limited must continue so that we learn enough to know why the population has not grown in 75 years.

We want to be able to Hunt Bowheads again

We are interested in **protecting the bowhead** whale habitats for the sake of tradition. Having not been able to live by the Inuit Tradition for nearly a century, we would like the future generations to fill in the gap for us by being able to hunt bowhead whales once again. To do **this**, we must ensure that the population can begin to return to its previous state.

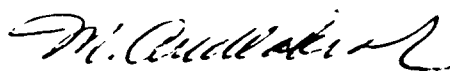
Tourism

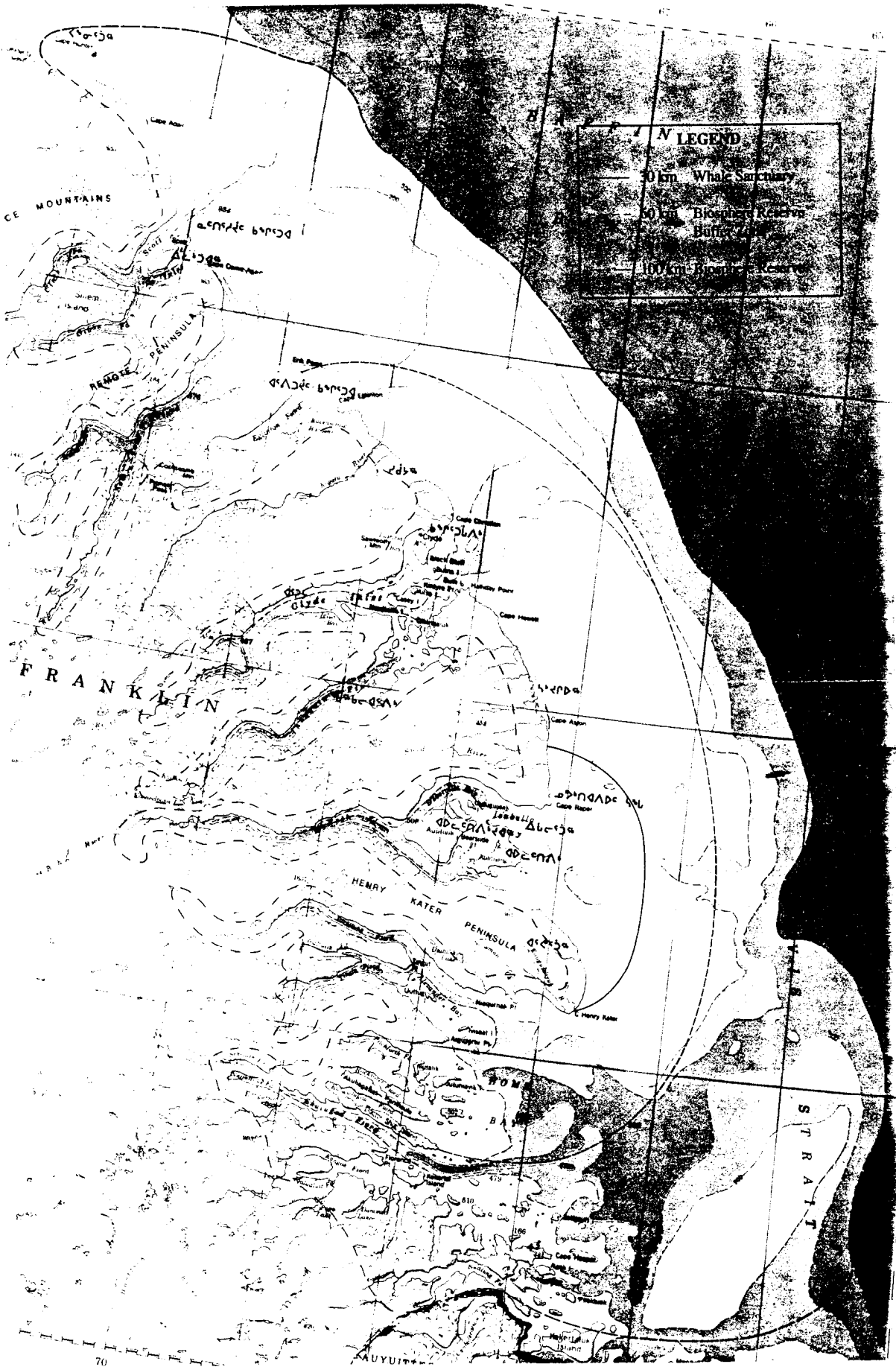
Watching bowhead whales can both be pleasurable and educational experience but it cannot interfere with the breeding, feeding, and socializing patterns of the bowhead whales at Isabella Bay. We would prefer to start the tourism after we decide under what scheme, the **important** habitats will be protected.

Protection of Bowhead Whale Habitats

The residents of Clyde River have not yet decided what scheme under which we would like to **protect** the bowhead whale habitats, namely Isabella Bay and Lancaster Sound. National Marine Parks and Wildlife Conservation Area have been looked at but nothing definite has been **decided** upon just yet. We are presently working on a course of action which will be acceptable to the residents of Clyde River and which will properly protect these **very** important bowhead whale habitats.

Any inquiries regarding this letter, please write to Clyde River Hunters and Trappers Association.


FOR Apak Qaqqasiq
President
Clyde River HTA
April 6, 1987



Proposed Conservation Boundaries for Protecting the Eastern Arctic Bowhead Whale