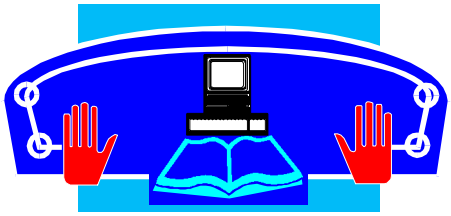


An International Conservation Strategy For The Endangered Bowhead Whale Of Baffin Bay

Type of Study: Plans/strategies

Author: K.j. Finley Ecological Research

Catalogue Number: 11-32-25

AN INTERNATIONAL CONSERVATION STRATEGY FOR THE ENDANGERED BOWHEAD WHALE OF BAFFIN BAY

by

K. J. Finley Ecological Research
10232 Summerset Place
Sidney, B. C., V8L 4X2

30 November, 1991

Northwest Territories Renewable Resources

10 December 1991

DWIGHT NOSEWORTHY
DEPUTY MINISTER
ECONOMIC DEVELOPMENT AND TOURISM

Presentation - Isabella Bay

Mr Kerr Finley, of K.J. Finley Ecological Research, has asked my assistance in gathering a number of individuals from the G. N.W.T. so that he could make a presentation to us regarding **"An International Conservation Strategy** for the Endangered Bowhead Whale of **Baffin** Bay". Because of the implications of this strategy to **N.W.T.** Tourism and Parks, we felt that your attendance, along with those of your staff whom you feel might have an interest, would be most appropriate and desirable.

Mr. Finley has advised me that his presentation will take between 45 minutes and an hour and will feature slides of the area, including some excellent photos of whales taken underwater. The presentation is scheduled for 1 :30 p.m. December 16th, 6th floor, Scotia Centre boardroom.

A background paper is attached for your information.

We look forward to seeing you there.

Bob Wooley
Assistant Deputy Minister

Attachment

BALAENA MYSTICETUS

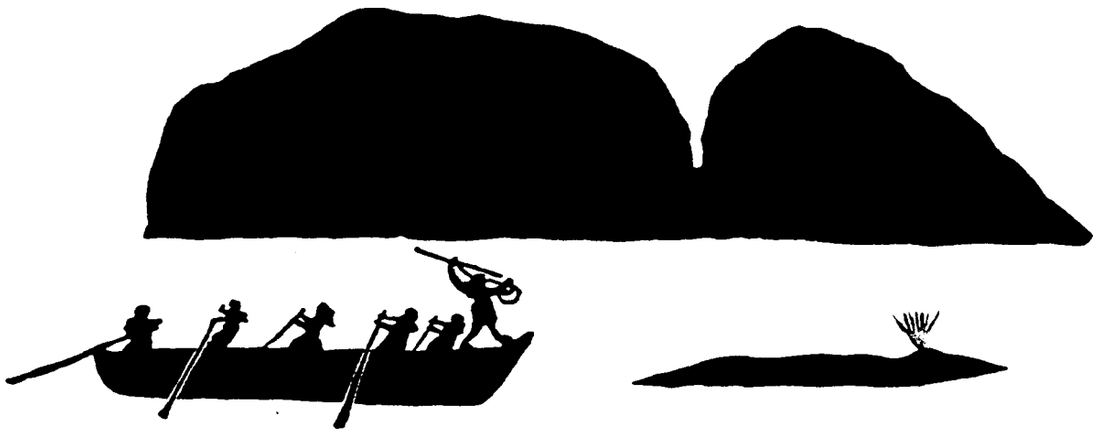
The bowhead whale, or Greenland right whale, is the only baleen whale adapted to life in arctic seas. It is a robust, slow-moving whale, up to 18 metres in length and weighing nearly a hundred tonnes. Thick blubber insulates the whale from its icy environment. The bowhead'smostextraordinary feature is its large mouth, hung with long baleen plates, designed to sieve rice-sized organisms called copepods from barren arctic seas.

This valuable and interesting animal, generally called The Whale byway of eminence, is the object of our most important commerce to the Polar Seas — is productive of *more oil than any other of the Cetacea, and, being less active, slower in its motion, and more timid than any other of the kind, of similar or nearly similar magnitude, is more easily captured. William Scoresby, whaling captain,* 1820.

The bowhead has suffered for its unique attributes: its oil and baleen fueled the British and American whaling industry for over two centuries. By the turn of this century, the whalers had brought bowhead populations in the North Atlantic to near extinction. Today, bowheads in the eastern Canadian arctic are an endangered species with fewer than 500 remaining. Despite the fact that they have not been hunted for over 80 years, they have shown no appreciable signs of recovery. It is thought that their slow recovery is due to habitat changes (such as oceanographic fluctuations and food competition) along with predation by killer whales and a low birth rate.

Human activities threaten the bowhead and its habitats in various ways. Rapid population growth and socio-political changes are at the crux of the conservation issues. Although Inuit are not allowed to hunt bowheads in the eastern Canadian arctic, they have a strong desire to resume hunting and there is a growing defiance of government regulations. Radical changes in hunting technology and the long-term prospect of Inuit resettlement of traditional hunting areas will impinge on the bowhead. Increases in shipping activities, offshore oil development , eco-tourism and marine fisheries are imminent. Net entanglement has claimed at least one bowhead in Baffin Bay but there may be more insidious side affects of fisheries such as alteration of the structure and carrying capacity of arctic marine ecosytems.

Obviously, any conservation strategy for the bowhead must be broad in perspective, practical in its specifics, and cost effective. The following is a vision of such a strategy.



Before the arrival of the European whalers, Akvik, the bowhead whale, was the focal point of the Toonit people, an ancient Inuit culture in the Canadian arctic islands. Distinctive cultural artifacts associated with ancient village ruins of whalebone houses (qammaqs) mark the zenith of this whale-hunting culture in several locations in the arctic islands. It is no accident that the largest village sites are found in strategic locations where bowheads had predictably gathered. The "Little Ice Age" (ea. 1650- 1750) marked the end of this culture : when the arctic islands emerged from this climatic period, the Toonit culture had vanished and a new Inuit culture had emerged.

When European whalers encountered these Inuit, they found a diverse culture that had adopted a variety of marine and terrestrial hunting strategies. Abundant archaeological sites, Inuit oral history and historical reports tell the story of the first contact with the European whalers in Baffin Bay. The natural history of the bowhead whale is intimately intertwined with this legacy. Nowhere is this legacy more evident than at Isabella Bay, Baffin Island.

Isabella Bay must have always been important to the bowheads. It must have been an important whaling ground judging from the abundance of bones there. Apak Qaqqasiq, elder, Clyde River. 1983.

Change came with the whalers. They were the first to start change. Peter Pitseolak, elder, Cape Dorset. 1973.

ISABELLA BAY, 1983-1988

Until recently, our knowledge of the bowhead in the eastern Canadian arctic was based largely on the accounts of surgeon-naturalists who served in the whaling industry in the 19th century. The bowhead has been considered too rare and sparsely distributed to warrant dedicated field studies. Then, in 1983, acting upon the knowledge of Inuit elders, Isabella Bay was "discovered" by biologists. Studies, initiated by World Wildlife Fund and supported by several government agencies, have shown that Isabella Bay is an important historical and present-day concentration area for the remnant population of bowheads. The Isabella Bay studies have produced exciting results of international significance.

ARCTIC
VOL. 43, NO. 2 (JUNE 1990) P. 137-152

Isabella Bay, Baffin Island: An Important Historical and present-day Concentration Area for the Endangered Bowhead Whale (*Balaena mysticetus*) of the Eastern Canadian Arctic

K.J. FINLEY[1]

(Received 21 July 1989; accepted in revised form 2 November 1989)

ABSTRACT. A late summer concentration of bowheads (*Balaena mysticetus*) at Isabella Bay, Baffin Island, was studied during 1983-W. The general results of the field study are presented and integrated with historical research and artifactual evidence of British whaling.

Bowheads were observed from shore on virtually every day of adequate visibility in late summer, early fall of **1984-88,** but in 1983 only two whales appeared. peak numbers occurred in September, when as many as 68 whales were counted on one day. The whales congregated in specific areas corresponding to significant underwater topographic features. Most feeding took place in one of two deep (> 200 m) troughs and most social activity occurred on a shallow bank (< 30 m). Earliest arrivals were large subadults that engaged in social-sexual activities on the bank; adults arrived later and fed in deep troughs. Migrants from the north arrived in October.

The mean length of 83 whales, measured photogrammetrically, was 14.4 m; 89% were > 13 m long, which is about the minimum size of sexual maturity. The smallest whales, presumed to be large subadults, had less whiteon the tail stock. Females with calves were rarely seen. One distinctively marked individual was observed in 4 of 6 years. Another was observed in 1984 as a late summer "resident" and in 1986 as an autumn "migrant." Seven of 47 whales identified individually from aerial photographs in 1987 were identified among 107 photo-identified individuals in 1986.

Interactions of killer whales with bowheads were observec-twice. About one-third of the bowheads bear killer whale scars.

Whaling literature indicates that bowheads on the east coast of Baffin Island, called rocknosers, were segregated in late summer from those in the High Arctic archipelago. This population was exploited mostly after 1859 with the advent of steam power, in an operation called rocknosing. Isabella Bay was a significant port of operation during this last phase of the industry; the whalers were strategically positioned to hunt large whales in offshore troughs late in the season. Other locations with similar characteristics on the east coast of Baffin are identified from Inuit lore and historical literature.

Key words: bowhead whale, *Balaena mysticetus,* Isabella Bay, Baffin Island, numbers, distribution, habitat, segregation, site fidelity, whaling history, predation

FOUNDATIONS OF A CONSERVATION STRATEGY

The World Conservation Strategy, published in 1980, hasestablishedaframeworkforplanningthe ‘ sustainable use of living resources. Canada’s Arctic Marine Conservation Strategy (AMCS) arose from this global plan. It’s purpose is :

> **To ensure the future** health and well-being of Arctic marine ecosytems thereby enabling Canada to fulfill its national and international responsibilities in the Arctic and to provide **for the sustained utilization of Arctic marine resources, in particular, by Arctic peoples.**

The AMCS is built upon the following foundations:

1. **Research / Knowledge :** Development of a knowledge base through research is required to support the needs of management as they relate to Arctic marine conservation and renewable resource development.

2. **Habitat Protection: Identification and delineation of essential habitats is fundamental to any conservation** strategy. Designation of important marine habitats should be based on an ecosystems **approach and should integrate management of renewable and non-renewable resource activities.**

3. **Communication:** Development and implementation of a communications strategy is necessary to promote understanding of and support for the biophysical, social and cultural features of the Arctic marine ecosystem. The AMCS should be built through a process of consensus and with a special sensitivity to traditional values and local customs.

4. **International Cooperation :** Most **marine mammal populations in the Canadian arctic are migratory and cross international boundaries. Therefore we share responsibility for their protection with other counties** such as Greenland and Alaska. There is a need to broaden the geographical scope of research and long-term management plans should be formulated in the context of broader regional and species management plans.

The Isabella Bay studies are a *model action plan* for implementation of the AMCS. The present initiative is a logical extension “of the groundwork that has already been laid.

We have *heard that the government has a plan for protecting important marine areas in the north but we* have not seen it practiced. *Perhaps* it is *written in a book in Ottawa. Levi Illingayuk, Clyde River. 1990.*

DEFINITION OF CRITICAL HABITAT

Isabella Bay offers a unique combination of habitats that serve the bowhead in various ways, including socializing, shelter from predation and energetic advantages. However, special feeding opportunities are the main reason for the attraction of the bowheads to Isabella Bay. Identification and protection of essential feeding habitat, even if it is presently under-utilized, is important to the well-being of the present population and will become more important as the population expands and occupies abandoned range. Knowledge of the mechanisms responsible for productive bowhead feeding habitat is important in evaluating the potential impact of various industrial activities in the eastern arctic, including tourism. Knowledge of the trophic dynamics of the arctic marine ecosytem is relevant to the question of increased competition, through trophic interactions, with rapidly increasing harp seal populations. This, in turn, is directly relevant to the future marine resource harvesting strategies of the Inuit who wish to resume hunting the bowhead as their ancestors did.

The Copepod Link

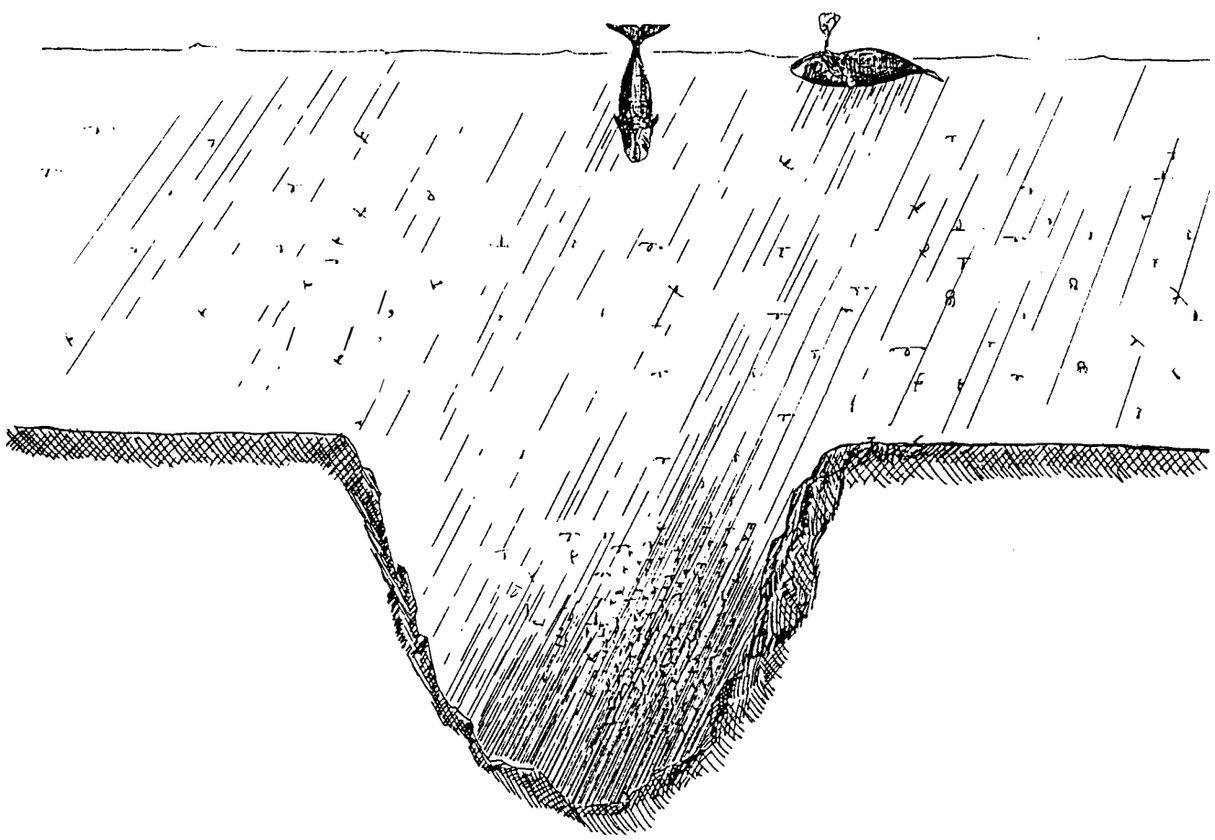
The attraction of bowheads to Isabella Bay relates totheabundanceof copepods, the principal food of bowheads and a critical link in the arctic marine food web. The available evidence indicates that productive feeding habitat is created by a remarkable phenomenon that has been at work for millenia. However, the mechanisms behind the phenomenon remain unclear.

Feeding patterns of the bowheads, documented over several years, have revealed many surprising oceanographic and biological features at Isabella Bay. Although it was beyond the scope and capabilities of the Isabella bowhead project to conduct a comprehensive oceanographic study, limited echosounding surveys showed that feeding patterns are associated with deep glacial troughs. (These troughs were not marked on marine charts). Limited zooplankton sampling found high concentrations of adult copepods in deep waters of the troughs. The onset of the autumn feeding season appears to revolve around the life dynamics of two dominant copepod species, particularly the timing of their autumn migrations to deep overwintering sites, and the interaction of prevailing winds and currents with coastal troughs. Thus, the available evidence provides tantalizing glimpses of the important natural phenomenon but it remains hypothetical and cannot be used to clearly define important feeding habitats of the bowhead in other areas.

The historical foundation, linking whale feeding areas to British whaling grounds and productive Inuit hunting areas, has been established. To complete the ecological picture, it is now necessary to demonstrate the significant linkages between feeding behaviour of bowheads, oceanographic

features, and the abundance of copepods. Specifically, the research is aimed at defining and delineating critical bowhead feeding habitat but, in general, the study will aim to increase our understanding of the basic biophysical processes which contribute to productive arctic marine ecosystems.

The new "ecosystem approach" means that resource people shift their focus from parts to wholes, from the "interest" to the "capital", from plants and animals to the three-dimensional landscape ecosystems and waterscape ecosytems that-produce them. J.S. Rowe, ecologist, **1991.**



TRADITIONAL ECOLOGICAL KNOWLEDGE

The traditional knowledge of the hunting people has not yet been accepted parallel to modern biological research as expertise on renewable resources. The general attitude of policy makers, scientists and administrators all over the world is *that this traditional knowledge is not valid information. Hans Pavia Rosing, Greenlandic politician, 1990.*

The bowhead story at Isabella Bay would be incomplete without the considerable wisdom of local Inuit elders. In fact, the studies at Isabella Bay would not have continued after the first year (when the whales failed to appear) if it had not been for the elders' knowledge and advice.

Animals' traditions don't change; once one animal goes over a certain migration route or to certain places, it will return, and others will follow and learn. That is why the whales come back to Isabella Bay year after year. Allaluk, the Big Stranger, maybe the leader of the whale nation, In Inuit stories, the appearance of such unusual creatures is a good omen Of better hunting days to come. Ashevak Palituq, elder, Clyde River. 1988.

Allaluk, the Big Stranger, is a legendary creature arising from Inuit mythology and the Isabella Bay studies. Avery large and unusual whale with a pure whitetail, Allaluk has appeared every year, very nearly on the same date and location, and engages in conspicuous "rocknosing" behaviors. This magnificent whale has become a powerful symbol of the melding of traditional ecological knowledge and science.

The remarkable feature of the work (at Isabella Bay) has been the very high degree of community interest and involvement. A wealth of information has been brought out, shared and absorbed. That exchange has been so thorough that it was hard to tell where any boundary existed between formal *scientific knowledge and local or traditional knowledge- they were so well blended and adopted into the awareness of both the community and the scientist. Heather Myers, Yellowknife. 1990.*

CROSS-CULTURAL COMMUNICATION

Due to inadequate funding and over-specialized training, wildlife management in the arctic operates in an unfortunate management-by-crises manner: biological studies are usually initiated only when there is overwhelming evidence that wildlife populations are in trouble. Typically, endangered species management programs emphasize biological assessments and technical solutions when, in many cases, socioeconomic factors and political forces constitute the basis of the problem. In the view of many Inuit, biologists are harbingers of bad news and more controls over their hunting lifestyle. This results in growing resentment of resource managers, noncompliance with rules and political confrontations.

NUNATSIAQ NEWS, August 24, 1990:

Harrassed hunters fight back

by Janet Smellie

IQALUIT—Two hundred local Iqaluit hunters say they've ignored the Nunavut Wildlife Advisory Board's beluga quota of five beluga's for 1990 and say of the summer hunting season they will continue to ignore the quota in the future.

A spokesperson for Qalugiaq, a group set up in May to represent hunters in the Iqaluit area, claim hunters spent the last days being harrassed by Deptartment of Fisheries and Oceans staff.

Jacopoosie Peter says tic TFN's Nunavut Wildlife Advisory Board which decided last January to impose a 15-beluga quota for Pangnirtung, Iqaluit

The Isabella Bay studies are not so caught up in this vicious circle and therefore can serve as a model of how conservation might be implemented in a cooperative atmosphere. Local participation in the Isabella Bay studies has helped to bridge the cultural gap between local knowledge and applied science, establishing a mutually-credible basis for the implementation of a conservation strategy. There arenoimmediate villains in the Isabella Bay story; the scapegoats, the whalers, are illustrious and safely stored in history. The way is now paved to make a clean success story - one that is shared with the larger Inuit constituency bordering - on both shores of Baffin Bay and beyond.

The success of any marine mammal conservation strategy depends entirely on the willingness of the hunters to cooperate with resource managers, and ultimately on the political will to implement sound management strategies. Muds-Peter Heide-Jorgensen, biologist, Greenland Fisheries Research Institute. 1991.

INTERNATIONAL COOPERATION

Recently, a "rocknoser" whale from Isabella Bay was photographed off West Greenland. This remarkable "recapture" occurred entirely by chance - bowheads have never been studied in Greenland and the photographs were taken opportunistically during other studies by Danish biologists. Although not unexpected, the recapture clearly shows that the bowhead population is shared between two countries, like many marine mammal populations in Baffin Bay. Until very recently there has been very little international communication and cooperation regarding the marine mammal populations of Baffin Bay. The wandering "rocknoser" bridges the communication gap and is an appropriate symbolic key to international cooperation.

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Photographic Reidentification of a Bowhead Whale in Dav s Strait

M.P. HEIDE-JORGENSEN[1] and K.J. FINLEY[2]

(Received 30 July 1990; accepted in revised form 3 January 1991)

ABSTRACT. An adult bowhead whale photographed at Isabella Bay, Baffin Island, on 28 September 1986 was reidentified from a photograph taken off West Greenland on 10 April 1990. The "recapture" distance was about 460 km across Davis Strait. The recapture is consistent with historical knowledge of the seasonal distribution of bowhead whales and is supportive of the hypothesis that bowheads circulate within the Baffin Bay - Davis Stait area as part of a discrete stock.

Studies on bowheadbehaviour and ecology at Isabella Bay have elicited strong interest and support from several American researchers who have expertise on the Alaskan bowhead whale. The U.S. Minerals Management Service has funded analysis of Isabella bowhead behaviour with the view that the population could serve as an undisturbed "control" for making behavioral comparisons with Alaskan bowheads that are exposed to industrial activities. Dr. Chris Clark of Cornell University has analyzed the sounds of Isabella bowheads and has compared them to Alaskan whales. Dr. Don Schell of the Institute of Marine Ecology, Fairbanks has analyzed radio-isotopes contained in baleen from a bowhead that was recently found dead in Baffin Bay and has found some interesting features regarding age and feeding ecology. Mr. K. J. Finley was invited by the North Slope Borough to participate in the Fifth Conference on the Biology of the Bowhead Whale held in Alaska in 1990; funding support for presentation of preliminary data on feeding ecology of bowheads was provided by the U.S. Minerals Management Service. Such international cooperation and support has added much to our knowledge base and has much more to add in the future.

A PROTECTED AREAS VISION

As a result of the Isabella Bay studies, the area is now being proposed as a protected area of international importance. A sanctuary proposal, prepared by the community of Clyde River in association with World Wildlife Fund, has been identified by the Canadian Environmental Advisory Council as an excellent example of a working partnership in conservation.

Clyde River and World Wildlife Fund: Partners in Protected Areas

A Bowhead Whale Sanctuary

The Community of Clyde River, working with the World Wildlife Fund (Canada), has developed a conservation plan to protect bowhead whales at Isabella Bay on Baffin Island, Northwest Territories. Commercial harvesting a century ago reduced the whale population from 11,000 to approximately 300, and there is no indication that the population is recovering. The conservation plan aims to protect the bowhead whale and its habitat from disturbance and pollution, assist in the recovery of the bowhead whale population, and protect an important cultural heritage of the Inuit of Baffin Island.

The conservation plan calls for the following:

- the establishment of a whale sanctuary under the federal *Fisheries Act* to protect the critical habitat of the whale;
- the establishment of a biosphere reserve to draw international attention to the plight of the bowhead whale and to promote sensitive uses around the sanctuary; and
- the use of territorial legislation to protect important archaeological sites.

The **community** of Clyde River prepared the conservation plan to secure government leadership in the protection of the bowhead whale. It also hopes to draw public attention to the urgent conservation needs of the bowhead whale through the sharing of local knowledge and concerns.

To protect the whales, hunting is no longer allowed. Government leadership and local cooperation, however, are required to address other potential threats to the area including pollution, local traffic, resource development and armed forces activities. The plan seeks to address these issues through the whale sanctuary and biosphere reserve.

This conservation plan is an excellent example of a partnership between a local community and a conservation group for the purpose of protecting areas of national and local conservation significance. It also affirms the need for governments to play leadership roles in protecting endangered species and their critical habitats, and in suppotting the conservation objectives of partnerships.

SANCTUARY PROPOSAL FOUNDERS

The sanctuary proposal has foundered because of political intervention by outside Inuit leaders and their concerns over land claims. The major reason for this failure is one of strategic planning: the larger Inuit constituency was not fully informed of the Isabella Bay studies and sanctuary proposal.

AN ENDURING LEGACY

One of the guiding convictions behind this initiative is that the highest goal that we can aim for- one that is relevant to the generation time of bowhead whales - is a conservation legacy through the cross-cultural exchange of knowledge and ideas. The proposed whale sanctuary at Isabella Bay is an artificial construct thatis largely symbolic in value; its designation on a map may prove to be a hollow victory in the face of socio-political development in the north. To be effective, a sanctuary must be firmly rooted in a regional conservation ethic. Unfortunately, in the public's view, a sanctuary is a more tangible product than an ethic.

The story of the Isabella Bay bowheads is built upon a theme of shared traditional and scientific knowledge. It contains an important conservation message that begs to be shared with the larger Inuit constituency, including Greenland. The story and the conservation message is best delivered in a film produced by Inuit filmakers. The basis of this film already exists in footage of Inuit elders and Isabella bowheads taken by David Poisey of Pangnirtung. Mr. Poisey has connections with Greenlandic film makers and is proposing a joint film venture. Integration of traditional ecological knowledge with science will be an important theme of the film; the highlight of the story will be the demonstration of the major links in the arctic marine ecosystem (e.g., the abundance of copepods in critical bowhead feeding areas) and its connections to Inuit history and the development of the whaling industry. In this way, an important natural history and conservation story will be made available to all polar Inuit, as viewed by them and in their own language.

The cost of doing such a film for an Inuktitut audience alone is prohibitive. However, because such a film story has broad international appeal, the initiative can be partly carried by an international audience. Efforts are now underway to organize such an undertaking.

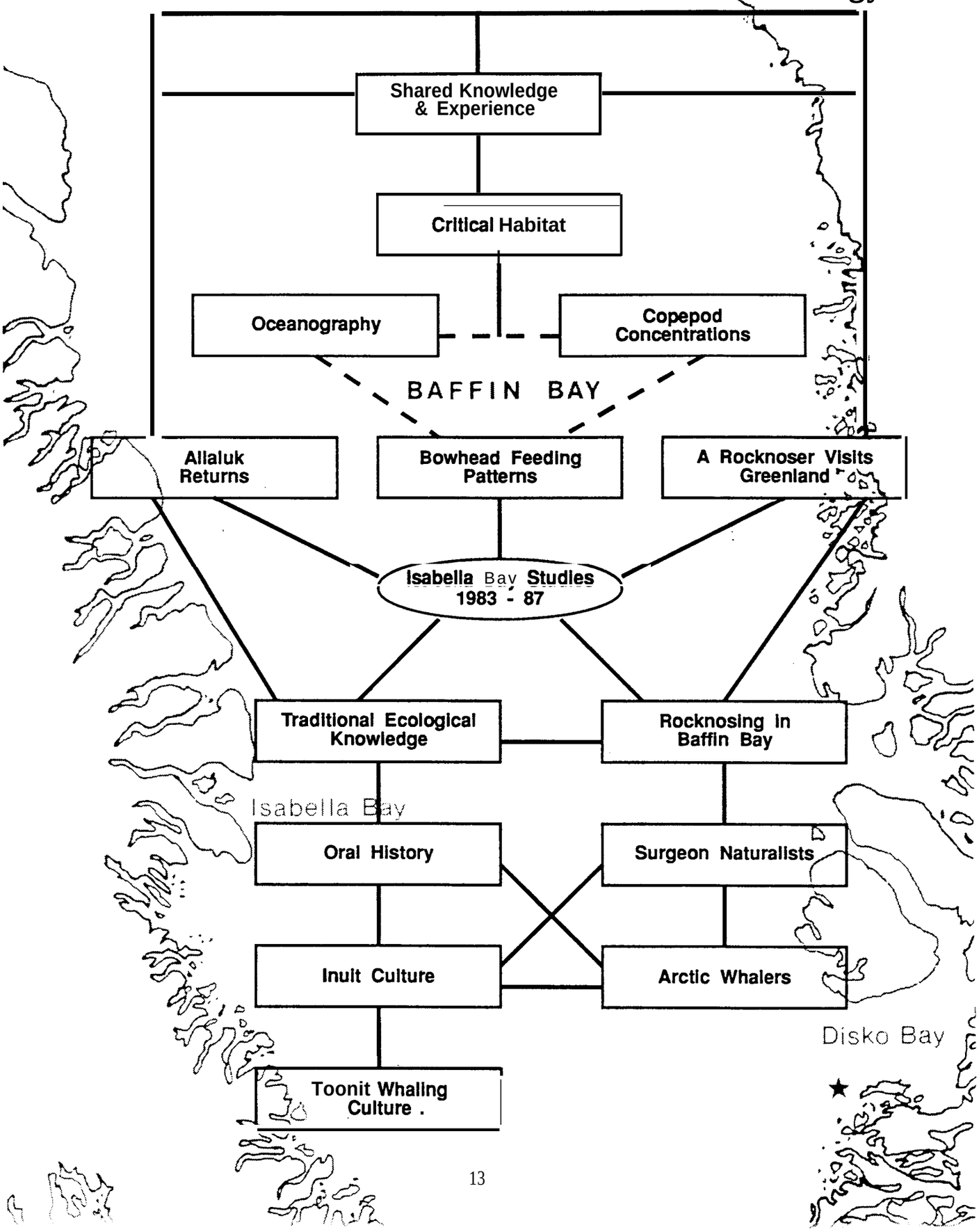
A MULTI-DISCIPLINARY APPROACH

Attempts to complete the research part of this initiative have been futile in the past two years even though it has the strong support of several government and non-government agencies. It is an unfortunate accident of history that the final steps of this conservation initiative appear in a time of recession and cut backs in government spending. Considering the time and energy that has already been invested in the Isabella Bay studies, the final installment represents a small investment in conservation.

Another problem with promoting such a proposal during an economic recession, is its multidisciplinary nature - the onus to support the study does not rest squarely on the shoulders of any particular agency. Furthermore, multi-disciplinary studies are difficult to promote because the various agencies tend to devalue their role relative to the bottom cost line. If the merits of the holistic approach could be tallied from the broader perspective of several agencies, the whole would be seen to be greater than the sum of its parts. Such holistic approaches require considerable orchestration and leadership.

The timing of this proposal is critical due to the congruence of several factors: the history of the project, the support of the community, the availability of a research vessel, the scientific expertise and the commitment of several agencies. Failure to act now will kill the initiative. This, in my view, would be a shameful loss of opportunity. Monte Hummel, President of World Wildlife Fund (CANADA). 1991.

International Cross-Cultural Conservation Strategy



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The impact of the whalers on the Eskimo culture was devastating but not all contact was so base as that depicted by Whitehouse. The Eskimo was the subject of great fascination by the British and amongst the artifacts that were taken as souvenirs, the whaling captains also brought back the real thing, live Eskimos, sometimes for misguided philanthropic reasons, more often for public exhibition. The account of Eenoolooapik, "a young man of considerable intelligence, " who, by his own volition, ventured forth inro Victorian society, reads like Gulliver's travels though written from the perspective of the host. His hosts musr have felt snubbed at his anxiousness to return home, shunning the "'temple of knowledge" for a few practical tools. As was the case for most other Eskimos removed from their element, the consequences of exposure to Victorian civilization were tragic for Eenoolooapik. Although he almost "found a grave where he had come to worship at the temple of knowledge" he did manage to survive to return to his people to report on the whaling nation which was in the throes of the Industrial Revolution. His stories muse have seemed fantastic.

A few whalemen were enchanted by Eskimo culture and lived amongst them," coming to know them as friends and learning to see the country in a less adversarial light. Their knowledge, records, and collections were indispensable to the anthropologist, Franz Boas, in his landmark studies on Eskimo culture, The journal of David Cardno, who spent several years amongst the people of Cumberland Sound, represents an important contribution to arctic ethnology and is an appropriate concluding chapter in Ross' book, set as it is at the end of the whaling era and the beginning of Canadian sovereignty over the arctic islands.

Ross stitches the narratives together in chronological order with knowledgeable introductions and numerous, well-placed illustrations and vintage photograph. I found the book so absorbing char I had to force myself to set it aside occasionally, in order to savour each chapter more fully. The book is handsomely laid our and well refermced, a tribute to the many archivists and institutions who are acknowledged. It is one of those books that, along with Scoresby (1820), will not gather dust in my library and will certainly remain an essential reference on the topic.

The Greenland right whale, because it was the right whale to hunt, was the first victim to fuel the expansion of the whaling industry. Despite obvious signs of the exhaustion of the stock and in spite of dire warning of the consequences, "the arctic whaling industry went blindly on, consuming its own capital at a furious pace until, like the very whales it sought, it perished." Today the huge, former range of the Greenland right whale to the east of Greenland is devoid of these creatures and although the whales have not been hunted in Baffin Bay for over 75 years they have shown no appreciable signs of recovery. Although Ross concludes that "at no point in history can there be any excuse, on a finite earth, for the unthinking destruction of its renewable resources," his book is a tribute to the hardiness and courage of the whalemen who "routinely endured extraordinary hardship and risk on voyages to arctic regions to earn their livelihood."

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K. J. Finley
9768 2nd St.
Sidney, B.C. V8L 3Y8'

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ARCTIC WHALERS, ICY SEAS. NARRATIVES OF THE DAVIS STRAIT WHALE FISHERY. W. Gillies Ross. Irwin Publishing, Toronto. 1985.263 pp. Price $34.95 (in Canada). In the U.S. available from U.S. Naval Institute, Annapolis, Maryland 21401 for $25.95 + $3.00 postage.

With the circumnavigation of Baffin Bay in 1818, Captain John Ross opened the last frontier of the Greenland right whale or bowhead (*Balaena mysticetus*) *to the* British whaling industry. During the next 90 years British whalers and, to a lesser extent, American whalers, penetrated this icy realm in pursuit of the bowhead. During that period over 3,000 voyages were undertaken, over 18,000 whales were killed, and many men and ships were lost due to the severity of the ice conditions. The expansion of the whaling frontier had important biological, cultural, and political consequences. W. Gillies Ross, a pre-eminent scholar of this history (e.g., Ross 1975, 1984), brings this illustrious era to life through the first-hand accounts of the men—whaling masters, surgeon-naturalists, a mate, a boatsteerer, and a sporrsman-advenrurer-who participated in the industry. The 15 narratives, gleaned from logbooks, unpublished journals, and other sources in British and American archives, provide a remarkably intimate look into many aspects of the industry—the trials and tragedies of ice-entrapment, life aboard the ships in winter quarters, aspects of the behavior and biology of the bowhead, methods of killing and processing whales, arsd the interactions of the whalers wich the Eskimos.

We are particularly indebted to the ships' surgeons for our knowledge of the nature of arctic whaling and the arctic environment; they were often trained in natural history and usually had the rime and inclination to record their experiences. Ross salutes the anonymous surgeon of the *Hercules* for his curiosity, his powers of observation, and attention to detail; his account, believed to have been written in 1831, is richly anecdotal and adds much to our knowledge of the natural *history* of the region. In his account we find the earliest references to migratory habits and population segregation of the bowhead, a pattern that determined the manner in which whaling was prosecuted in various regions and which caused differential selection of various components of the population. These anecdotes enhance our understanding of the present distribution and status of the remnant population.

The account of Thomas Macklin, surgeon of the *Narwhal* in 1874, is an eloquent essay of the fishery beyond its halcyon days and I found it particularly interesting in its description of a poorly-known aspect of the fishery called "rocknosing." The publication of this account could not have been more fortuitous, coinciding with the first field studies ever conducted on the eastern arctic bowhead (Finley *et al.* 1986, **World Wildlife Fund 1986). I was excited** *to be* able *to connect this* account with the WWF study site at Isabella Bay, an important refuge for the remnant eastern arctic population of bowheads. "Rocknosing" was an especially dangerous enterprise directed at a critical component of the population, the breeding stock. This subpopulation lay at the periphery of the whalers' capabilities and for that reason the "rocknoser" whales still survive in this isolated location on Baffin Island-a legacy of differential selection.

Ross has carefully preserved the integrity of the narratives by minimal editing arsd the logbook records, in their terse style, chronicle the daily events from the routine to the strange in the same matter-of-fact tone. For example, the journal of Albert Whitehouse, boatsteerer on the *Emma*, records—sometimes in a barely literate manner—the debauchery associated wish one of the earliest deliberate overwinterings of the whalers amongst the Eskimos of Cumberland Sound. A typical entry, 14 April 1860: "Weather fine. All hands employed in taking boars to the island. Several Yacks on board from the other ships. Some of our natives came tonight. All hands singing and dancing, some drunk. Edgar Grasby been frightened tonight—saw something on the ice but we don't know what. Some drunk. Master and mate not friends. "

BOOKS

Recalling an extinct way of life

WHEN THE WHALERS WERE UP NORTH
Inuit Memories from the Eastern Arctic
By Dorothy Harley Eber
McGill-Queen's University Press
187 pp, S29.95

By K.J. FINLEY
Special to The Gazette

Contrary to popular history, it was the whale and not the fox" that brought the Eskimo culture into contact with the Europeans. Although old fur traders of the" Hudson's Bay Company like to claim that HBC means Here Before Christ, because they beat Christianity to the Eskimo's door, British whalers had preceded them by nearly a century. The whalers were pursuing the Greenland Right whale, the "right" whale to hunt because of its huge supply of blubber and its valuable baleen, and because it was a slow swimmer that, floated when killed.

The only (and major) difficulty in pursuing the whale was that it lived among the pack ice. But such were the rewards that the whalers pushed their woodenships deep into the icy realms of the whale and, consequently, into the lives of the Eskimos.

By the late 1800s, the whale was near extinction, as was the huge industry that it had spawned. In its final stages, the whalers depended more and more on trading furs and ivory to make ends meet, and they also outfitted and contracted the Eskimos to hunt the remaining whales. The last of the whaling ships sailed into the Arctic over 75 years ago, leaving a void that was eventually filled by the fur traders.

It wasthewhalers who first brought change — ovenvhelming, bewildering change — to the Eskimo culture.

Dorothy Eber states that her book is about the start of change as viewed by the Eskimos. As she discover@ vivid memories of this illustrious era are still alive in the minds of older Eskimos. This oral history was undocumented, so Eber set out to salvage what was left at the 11th hour.

Her interest in arctic whaling history began, like my own, with the crew. This was oral history unsullied naive realization that history does not only reside in books and musty-smelling archives. Like Eber, I was introduced to the arctic whaling era unexpectedly: I was communicating (through an interpreter) with Komangapik, a charming elder from northern Baffin Island, about the biology and habits of sea mammals.

I assumed that he knew little about Right whales, as they are rare and not frequently encountered by the Eskimos. However, to my surprise, he described the whale in great detail, using a vocabulary that the young interpreter had never beard before. Sensing our surprise and interest, he asked whether we knew what day it was. It was Saturday, Sivataqbik, biscuit-giving day, he began. And did we realize that this day had its origins inside the huge iron bins that lie rusting on the shores of Baffin Island?

These were the biscuit bins; there were two of them in the hold of the whaling ship, and when the whalers arrived in summer the bins were full of hardtack biscuits. The Eskimos eagerly awaited the arrival of the whaling ships and Sivataqbik. On that day, a sailor would climb into the huge bin, making loud crunching sounds, and with a wooden shovel he would scoop up the biscuits to be distributed to the Eskimos. They had no sense that one day was different from the next until Sivataqbik came along.

Komangapik's mind slipped out of the present, and with him we were transported back 100 years to the whaling era. The imagery was exceptionally vivid, complemented by sound effects: the terrible whining of crimson air from the harpooned whale; the cheers from the Scottish looped round the bollard, enveloping the whaling boat in steam; the blast by the passage of time.

Komangapik was only a child at the time but long after the last whaling ship sailed out of the Arctic, stories were told and retold inside the igloo about the Ikumalik (those who carried fire), also known as the Upirnagiit (those who arrived in spring).

Dorothy Eber has captured similar reminiscences, most of them from older Eskimos in the Hudson Bay region where American whalers were the dominant influence. Although a few of her contacts had first-hand impressions of the last of the whaling days, most of the reminiscences had been passed down.

Through them we meet some of the famous personalities of the day: the American captain George Comer and Shoofly, his seasonal concubine; the drunkard George Cleveland, who was adopted by the Eskimos; Angutimarik, the Eskimo whaling boss. Many of these people appear in vintage photographs by Captain Comer. The faces that stare suspiciously into the camera are handsome, haunting. The elaborate, beaded costumes of Shoofly and her contemporaries speak volumes ahout cultural pride.

Ora! history is not as immutable as the written word, and over time the human mind tends to forget the bad times. The memories recorded by Eher are steeped to nostalgia for an innocent age and, given the magnitude of change that Eskimos face, the old days may appear especially rosy.

Thus when Eber queried her informants about the impact of the whalers, they gave her the impression that the relationship was one of harmony, that the whalers were virtuous and that they did not seek to dominate Eskimos like modem white men.

The written word gives a very different impression. The whalers were looking after themselves: they traded for profit and souvenirs, taking advantage of the guilelessness and sexual morés of a people they considered inferior. Most Europeans didn't appreciate the Eskimos' grasp of the harsh land. They were people to be taken advantage of, to be treated like children. They were snidely called "Yakkies."

Ship logbooks from the era often give us a vivid picture of debauchery, drunkenness, venereal disease and cultural decay. Rumors of this kind of behavior brought the first Christian missionaries to such iniquitous places as Blacklead Island.

As a journalist, sponsored by the Urgent Ethnology program of the Canadian Museum of Civilization, Eber had the task of recording the Eskimos' reminiscences, of presenting them fairly and accurately, and of making them accessible to the public by providing an adequate historical context. In this she has succeeded admirably. Her tapes and transcripts are deposited in the museum for our posterity.

Unfortunately. the tapes and the book are essentially inaccessible to the culture that urgently needs them. Traditional oral knowledge constitutes a firm foundation for cultural stability and persistence; now, more than ever before, such knowledge may serve as a touchstone to the past, helping to alleviate the *enormous stress* of cultural change in the late 20th century.

● *K.J. Finley is a* marine *biologist living in Sidney, B.C. For the past 15* years, *he has worked with Eskimo colleagues in the Arctic.*

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First Canadian Breeding Record of the Dovekie *(Alle alle)*

KERRY J. FINLEY' and C. ROBERT EVANS'

Key words: Dovekie, Alle *alle*, Baffin Island, breeding

The Dovekie (*Alle alle*) is the smallest and one of [he most abundant alcids inhabiting the North Atlantic Ocean (Salomonsen, 1950; Brown *et al.*, 1975; Roby *et al.*, 198 I). Until now there have been no documented breeding records of the Dovekie in the Canadian Arctic, though they are known to gather by the millions in northwest Baffin Bay during spring migration 10 breeding colonies in Northwest Greenland (Renaud *et al.*, 1982), The Dovekie is well known to the Inuit of Baffin Island: it is called *akpaliapik*, in contradistinction to its larger relative, the *akpa* or Thick-billed Murre (*Uria lomvia*).

In August 1983, during a bowhead whale (*Balaena mysticetus*) study on the east coast of Baffin Island, Apak Qaqqasiq mentioned that Dovekies nested in at least two locations in Home Bay. With him and Josepi Tigullaraq, N.W.T. Wildlife Officer from Clyde, we visited one of these colonies by boat on 20 August. The colony was located on a small island (1 km long) called Abbajalik in Inuktitut (unnamed on maps). in northern Home Bay (69°02 'N, 67°23 'W) about 800 km south of the closest known Dovekie nesting locations in Northwest Greenland. "Abbajalik" means two parts or halves of one thing, and possibly refers to the island's centrally-constricted shape and the notable difference in the terrain on either end. The eastern portion of the island. where Qaqqasiq indicated the colony. consisted of boulder moraine — probably a terminal or lateral deposit of Pleistocene glaciers emanating from adjacent Tingin and Pitchforth fiords.

Only a few small flocks of Dovekies were seen flying around the island when we arrived and we saw none among the boulder moraine where Qaqqasiq had seen many in June. However, the typical pungent smell of a seabird colony and the enhanced growth of vegetation and nitrophilous lichens throughout the boulder moraine indicated an established colony. A colony of about 500 Arctic Terns (*Sterna paradisea*) also occupied the island: we found two nests with single eggs (one hatching), one with a pair of eggs (one hatching), and a pair of newly-hatched chicks (one dead). The terns were unusually non-aggressive towards the intruders. Many old eider nests were scattered throughout the tern colony, and a female Common Eider (*Somateria mollissima*) was flushed from a nest containing two eggs that were just hatching. Ice conditions in the eastern Canadian Arctic were unusually severe in the summer of 1983 (Ice Forecasting Central, Ottawa) and might have contributed to the apparent poor breeding success of the terns.

The Dovekie colony appeared to be vacated and we were about to leave when Qaqqasiq detected a faint "call from the moraine. After carefully moving a few boulders. we found two Dovekie eggs, and nearby an adult Dovekie. The eggs (47.6 x 32.3 mm and 46.9 x 32.6 mm) were addled. Tigullaraq then located a chick (Fig. 1), and in the same crevice. an ancient Dovekie snare of baleen fibres (Fig. 2). The snare gives a clue to the age of the Dovekie colony: the baleen is undoubtedly that of a bowhead whale. a species that was brought to near-extinction in the area at the turn of the century. Qaqqasiq indicated that the snare was very old, dating long before his lifetime. Ancient tent circles and cache sites indicate that the island has a long history of use by the Inuit, possibly as a place to gather eider eggs and snare Dovekies as Northwest Greenland Inuit still do. (Eider eggs are still occasionally collected in spring on Abbajalik and other nearby small islands — Qaqqasiq, pers. comm. 1983.) The island is located close to the spring floe edge in Home Bay, and currently serves as a cache site for various marine mammal products such as narwhal (*Monodon monoceros*) muktuk.

FIG 1. Nearly-fledged Dovekie chick from the Home Bay colony.

'LGL Ltd.. *environmental* research associates. Suite 333.2453 Beacon Avenue Sidney, B. C.. Canada V8L I X7

We found another Dovekie chick attended by an adult before departing at about 2200 local time. It was becoming darker and other adult Dovekies may have roosted for the night; though flocks of 15, 12, 4, and 2 were seen flying around the island, none were seen returning to the colony. Qaqqasiq indicated that Dovekies had covered the boulder moraine in large numbers in the spring. Possibly many adults and chicks had already departed from the colony; the peak of fledging occurs in mid-August in Northwest Greenland (Roby *et al.*, 1981). In any. case, it was apparent that the colony was not large, being restricted to the boulder moraine on the eastern tip of the island. Judging by patterns of excrement deposition, the present colony was restricted to an area of -0.5 ha. It appeared from the distribution of vegetation and the availability of suitable moraine habitat that the colony once covered a larger area (roughly 3-5 ha). We were unable to visit another reported Dovekie colony on a small island called Ijutuq, located further south in Home Bay. Qaqqasiq indicated that the colony was considerably larger than the one on Abbajalik, but was able only tentatively to identify its location on a map (Fig. 2).

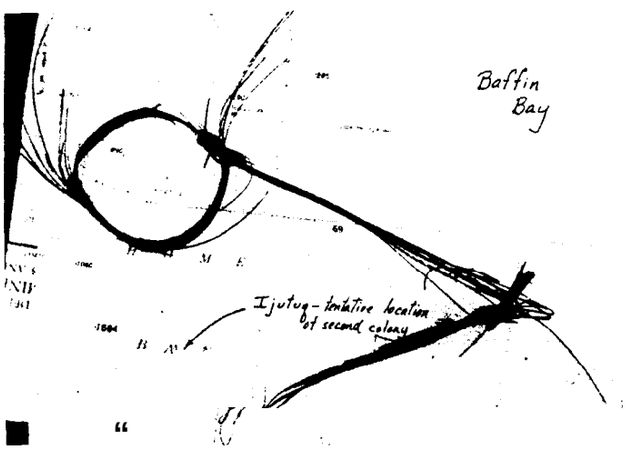

FIG. 2. Baleen snare encircles the location of the island referred to in text.

The extralimital situation of the Home Bay colonies may be explained in part by their proximity to a major flaw lead that enlarges early in spring (LANDSAT imagery). This open-water flaw zone between the fast ice and the Baffin Bay pack ice is created by the southwarddrifting Baffin Current, and is the only major and predictable area of open water to occur during the spring along the east Baffin coast between Davis Strait and Lancaster Sound (- 1000 km). According to local Inuit, the Home Bay flaw lead is an important staging and migration area for many seabirds, although to our knowledge this has not received attention by biologists. The limited distribution of the Dovekie colonies in Home Bay could also be explained by their specific nesting habitat of talus slopes or moraine, though this habitat seems abundant along this heavily-glaciated coast. Predation by land-based predators might also influence the locations and survival of the colonies, and maybe indicated by the small, insular situation of the nesting sites.

Our enthusiasm at the "discovery" of breeding Dovekies was treated with tolerant humour by Qaqqasiq, for the existence of the Home Bay colonies was well known to hunters who knew the area. We had only to ask.

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WHALING COMMUNITIES. Edited by ELISABETH VESTERGAARD. North Atlantic Studies, Vol. 2, No. 1-2. Aarhus: Aarhus University Press (DK-8000 Aarhus C, Denmark), 1990.220 P., figs., maps, black and white photos. Softbound. 240 DKK.

Perhaps the brief, uninformative title of this publication was intended to shield its potential audience from any preconceived notions they might have about its subject, whaling. Or maybe its scope defied an all-embracing title. However, I suspect that most readers would like a more informative title than "Whaling Communities"; I would suggest something like: "The Science and Politics of Whale Conservation and Its Impact on North Atlantic Whaling Communities," subtitled 'The Proceedings of a Conference."

This conference, held at Aarhus University, Denmark, in January 1990, was organized by the Society for North Atlantic Studies "on the basis of their interdisciplinary research interests," which, according to the editor, "are regionally and not nationally defined and independent of organisations or governments in favour of or against whaling." An examination of the list of conference sponsors (Danish, Greenlandic, Icelandic and Faroese institutions) and speakers makes a mockery of this claim and the pretense of academic neutrality. (Although it is not a whaling nation, Demnark represents its dependencies, Greenland and the Faroe Islands, in the International Whaling Commission [IWC].) In fact, the proceedings clearly have a pro-whaling message. Furthermore, it is probably no coincidence that the conference was scheduled to occur before the 1990 meeting of the IWC, a meeting in which the 1986 whaling moratorium was to be reconsidered. Since the moratorium, Japan and the Nordic whaling nations have lobbied the IWC to recognize a new category of whaling — "small-type coastal whaling" — and to evaluate proposals for higher quotas under "research whaling." Despite this detracting background, it would be unfair to dismiss the conference as only a political prelude to the IWC meetings. There is much more to it.

When the IWC officially recognized aboriginal subsistence whafing, it gave legitimacy to cultural arguments for the continuation of whaling on a localized scale. The Aarhus conference takes up this argument with the stated aim of bringing socio-cultural perspectives on whaling together with the science of whale conservation, which, according to the editor, has dominated public discussions about whaling. Accordingly, a mixture of biologists, anthropologists and politicians were brought together to create a more "holistic" forum for discussion of whaling and whaling societies in the North Atlantic.

Thirty papers were presented, of which over half relate to Faroese and Greenlandic whaling. The volume begins with a brief history of whaling, which claims to portray the two competing kinds of whaling: commercial whaling, driven by avarice, and "limited, ecologically-justified" subsistence whafing. Although the latter category is never properly addressed, we are informed that the commercial whalers left a "totally ruined ecosystem" and nowit is unfair that native whalers have to pay for these "irresponsible actions." Hardly a credible preface to the conference!

The proceedings are organized into three sections: "Biological Studies," "Policy and Regulations," and "Socio-Cultural Aspects." Although the "Biological Studies" section constitutes nearly 40070 of the proceedings, not much new or interesting information is presented. If artything, this section reveals the large uncertainties inherent in stock assessments of whafes, the nebulous data that conservative environmentalists have exploited in bringing about a blanket moratorium on whaling. Survey data were presented by Norwegian and Icelandic biologists, but both found the costs of obtaining accurate data on pelagic whale species to be prohibitive and unlikely to detect anything but very gross trends. Some of the biological data presented was obtained under the controversial label of "research whaling." Such data, obtained from the Icelandic catch of fin whales, was presented as evidence that changes in several growth and reproductive parameters had occurred over the past few decades, apparently as a result of changes in population densities and resource competition. It was argued that such density-dependent responses of the population to whaling could only be detected through long-term monitoring (i.e., through dissection of dead whales) and that there was a need to look at whales in a broader perspective in connection with the management of other marine resources.

Science and the International Whaling Commission received a bashing in the second section of the proceedings, "Policy and Regulations." In a long diatribe, anthropologist Milton Freeman dismissed the recent history of the IWC as being one based on politics and sentimentality — the end of an era of attempted scientific rationality — and he argued that the resulting management decisions have caused serious and pervasive damage to a number of human communities. Greenlandic politician Finn Lynge stated that science was simply a costume that one put over the attitudes one already had, and he asked the audience to "try to imagine what would happen if the various national delegations at the International Whaling Commission were encouraged to formulate their policies on philosophical and emotional principles, without trying to cloak them in statistics or other scientific garb." (1 tried to imagine but quickly returned to the comfort of my biologist's costume.) Norwegian political scientist Alf Heel presented a concise history of the IWC and the role of the United States in using trade sanctions "primarily for the sake of demonstration of some action [to environmental activists]" to force the end of Norwegian whaling. (Norway holds a unique position in the IWC in that its objection to the 1986 moratorium is still in force and it is not bound by the vote.) Heel stated that the blanket moratorium on whaling represented a major setback for rational resource management and that Norwegian whaling could not be viewed in isolation from its fishing policies. Unfortunately, the recent collapse of Norway's fish stocks is not especially exemplary of rational management.

In the final section, "Socio-Cultural Aspects," several anthropologists examined the international political development of the anti-whaling campaign and its socio-cultural impact on coastal communities in the North Atlantic. The whale-hunting culture of the Faroe Islands figures prominently in this arena, much like Newfoundland did during the anti-sealing campaign. Anthropologist Raoul Anderson, drawing on his experience with the Newfoundland harp seaf hunt, paints a picture of a beleaguered salt-of-the-earth folk in battle with the urban environmentalist (however well intentioned) who doesn't know which end of the animal his porkchop comes from. He claimed that international resource politics, especially environmentalism, threatened the subsistence independence and self-esteem of coastal communities. *Ott* the other hand, as another anthropologist pointed out, foreign criticism has served to rally the whaling societies, to entrench cultural identity and to ensure that whaling will endure As anthropologist Anne Brydon noted, Iceland has responded to the anti-whaling campaign with its own propaganda, which portrays the anti-whaling stance as a morality that can onfy flourish in those societies where the majority have lost touch with the realities of food production. The Icelanders argue that it is the very wealth of these non-whaling nations that permits such a morality to exist, a wealth that is built upon a far more destructive use of nature.

Considering the swiftness with which the proceedings were pubfished, and the fact that English is not the first language of most of the participants, the publication is remarkably weff produced. However, there are some glaring editorial errors that may be attributed to the haste. The subject material is poorly organized; for example, at least three papers in the biology section have little or nothing to do with the subject. Some papers should have been edited for brevity; for example, in a rambling paper by Anderson, an entire section of over three pages was repeated but with minor editorial variation. It appears that most of the papers were carefully proofread but a couple are full of typographical errors. Presumably, as with many symposium publications, the papers did not benefit from peer review, which may account for their uneven quality. The proceedings are followed by a table with the heading "Whales — IWC'S Nomenclature," which includes sever-al scientific names that are not officially recognized by IWC.

Despite the problems with this publication, it is an important contribution to the continuing dialogue on whaling. It represents the inevitable swing its the pendufurn away from the extreme environmental politics of the '70s and '80s towards (I hope) a more rational discussion on the use of marine resources. It is a useful reference for biologists, anthropologists and students of international resource politics. Now that the whales are on the way to being saved, we may have to think about managing them as an integral part of our coastal marine ecosystems. And like it or not, in the convener's words: "Basically, people, politics, and cultures are also parts of the global ecosystem."

K.J. Finley
KJ Finley Ecological Research
10232 Summerset Place
Sidney, British Columbia, Canada
V8L 4X2