

Whaling and sustainability in Greenland revisited

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PREFACE

Impassioned debate about use of whales, seabirds, and other living resources in Greenland is a reminder that managing for sustainability is a profoundly *social* process. Conflict among stakeholders—hunters, biologists, journalists, and policymakers—is almost inevitable when they often hold sharply different views about history, culture, and human-environment relations. Each view can have its own internal logic. Each arises from often-discrete discourses and understandings about interactions of power and knowledge, and about what forms of knowledge are viewed as legitimate in political decisionmaking.

While most people agree that sustainability is a worthwhile if problematic goal, discourses about ‘facts’ and strategies for achieving it are anything but simple. Managing for sustainability requires reflective consideration of what we know about dynamics of a species and its environment, how we know it, and what forms of knowledge are privileged and what are not. The complexities of management reveal that there are often multiple discourses and logics involved. And this means that rather than looking for single solutions to the sustainability puzzle, multiple solutions may well be required.

Whales generate perhaps more debate than most species when it comes to issues of sustainability. This paper, a revised version of one presented to the International Whaling Commission in 1994 (Caulfield 1994; IWC46/AS1), explores that debate and describes changes in Greenlandic whaling for minke and fin whales over time. Conflicts over whaling reveal deep historical, cultural, political, and ethical fault lines that divide diverse stakeholders. But the intensity of these debates should not blind us to important underlying elements of sustainability. First, sustainability is *not an end in itself*. It is a process that is ongoing, difficult, and contentious. This realization does not make the work of research, debate, negotiation, and compromise in management any easier. But it does underscore the fact that such debates have a history, and that they reflect different understandings and applications of power and knowledge.

Second, experience from elsewhere in the Circumpolar North demonstrates that no one stakeholder has privileged insight to the dynamics of wildlife populations or to appropriate management strategies. Wise biologists know the limitations of their science, just as thoughtful and observant hunters appreciate the uncertain dynamics of ice, wildlife populations, and changing human hunting pressures. Hunters’ knowledge and Western science must both be utilized, even if the process of doing so may require extraordinary time and patience. In the end, it may be that hunting practices must be changed, even radically so. But knowledge of Arctic resources is too limited and the challenges of research too great for any one stakeholder to claim privileged status for a particular view. In the end, sustainable practices require at least tacit support of hunters and fishers themselves. Without them, meaningful management is ineffective if not impossible.

Recent criticisms of Greenland’s hunters in the media (e.g., Hansen 2001) ignore the fact that hunters have made substantial adjustments over time in their practices due to changing circumstances. This paper about minke and fin whaling illustrates how hunters have accommodated dramatic disruptions in species availability, changing climate, increased regulation, new hunting technologies, and greater international scrutiny. This accommodation has not been easy, nor has it been uncontested. But I would suggest that it is important and worthy of note.

Uninformed criticism also denies Greenlanders’ their history; it overlooks vigorous debates by hunters themselves throughout the 20th century about hunting practices and technologies in the Greenlandic media, including newspapers like *Avanaamiok*’ and *Atuagagdliutit*. These debates—inaccessible to most because they are in the Inuit language—included kayak-based hunters and those using motorboats, seal hunters using harpoons and those using rifles, and hunters using snowmachines and those using dog teams. At issue is the question of which hunting practices and technologies are appropriate and which were not. This point about ignoring history is not to argue that all hunters act nobly or that Inuit are inherently conservation-minded. Such tired clichés miss the point. The argument here is that a fuller understanding of Greenlandic history and practice is essential if effective and informed management for sustainability is to be achieved.

This call for acknowledging the social nature of management and seeking multiple solutions to complex problems is not an excuse for inaction in the face of management challenges. Indeed, Greenland's Home Rule Government is now in the process of preparing a comprehensive report on issues related to sustainable use of living resources. The report will form the basis for concrete action in promoting sustainable approaches and practices for both the short- and long-term. The Home Rule is also undertaking an intensive information effort about use of living resources. Among other goals, it seeks to better inform Greenlanders about the consequences that can arise if resources are not used on a sustainable basis.

These efforts within Greenland reflect an ongoing and historically informed approach to resource management that avoids privileging only one way of knowing about the world. This approach is often uneven, and its complexities may not always be visible to outsiders. Yet the case of Greenlandic whaling reminds us that multiple forms of knowledge exist and that significant changes in management have already been made. I suggest that these facts should not go unnoticed, and indeed that they may well be building blocks for the future.

WHALING AND SUSTAINABILITY

In the aftermath of the UN Conference on Environment and Development (UNCED), the world's attention focuses increasingly on fostering economic development that is both sustainable and equitable. 'Sustainable development', according to the World Commission on Environment and Development (1987), is that which 'meets the needs of the present without compromising the ability of future generations to meet their own needs.' While the concept is somewhat problematic, it nevertheless focuses our attention on both maintaining the health of ecological systems and meeting the essential needs of human societies.

In advancing sustainability, ecologists today are seeking a better understanding of human practices that protect biodiversity and promote healthy marine and terrestrial ecosystems. The same is true of anthropologists, sociologists, and political scientists who seek to understand what types of human-environment interactions promote sustainability and equitability. The intent of these complementary processes in the scientific community is to provide clues about how human societies can modify their activities so that sustainable practices are promoted and unsustainable practices are discouraged.

This paper draws upon these efforts to assess the role of whaling in a sustainable future for Greenlandic communities. Greenlanders take minke and fin whales under the IWC aboriginal subsistence whaling regime. This paper examines Greenlandic whaling using a framework developed by a group of social scientists (including the author) published in an article in *Oceans and Coastal Management* (Young *et al.* 1994). In the article, the authors examine 'historically-based practices of socially-defined human groups that value whaling activities on a multi-dimensional basis.' They do so to determine which whaling practices might be considered sustainable and equitable, and those that might not. Based upon extensive discussion, these social scientists conclude that some forms of whaling can be sustainable where users and managers recognize the importance of 'territoriality' and the maintenance of social institutions that effectively restrict user access to commonly valued, used, and managed resources.' They suggest five criteria or questions for identifying sustainable and equitable whaling practices:

- Is whaling conducted within *socially defined groups*?
- Is whaling conducted within *identified territorial limits*?
- Are whaling practices *socially reproducible over time*?
- Are whaling practices *valued multi-dimensionally*?
- Can management regimes *ensure biological sustainability*?

Importantly, the authors also recognize that, for whaling in indigenous societies, another question must be asked: Is whaling recognized as a cultural right under provisions of international law? In what follows, I analyze Greenlandic whaling in light of these criteria, drawing upon my book *Greenlanders, whales and whaling: Sustainability and self-determination* (1997a), and more recent statistical data.

WHALING WITHIN SOCIALLY DEFINED GROUPS: GREENLAND'S INUIT SOCIETY

According to Young *et al.* (1994), sustainable whaling 'must be carried out by groups who share a common culture or social bonds and whose maintenance is demonstrably dependent upon whale harvesting or the consumption of whale products.' That is, whaling must reinforce social and cultural patterns and play a central role in maintaining social relations within the group.

For all of its 4,000-year history, Greenlandic Inuit society has been a hunting society. In remote Arctic settlements, whales, seals, and other renewable marine resources have provided the basis for a system of social organization based upon bilateral kinship ties within extended families. Sharing and exchange of wild foods and other local products are vital elements of this system. Kinship continues to be a central element in the social organization of Greenlandic society today. Nuclear and extended families are commonly the basis for social organization in hunting and other subsistence pursuits. Greenland is a society of nearly 50,000 people, over 85% of whom identifies themselves as Inuit and who speak Kalaallisut, the Greenlandic Inuit language. While Greenlandic settlements are widely dispersed along the country's extensive coastline, there is a strong and growing sense of common identity, e.g. shared feeling of being Kalaallit or Greenlanders. The development of Greenland's system of Home Rule within the Danish realm has fostered a sense of collective solidarity as new technologies make communications and transportation more efficient and as Greenlanders become empowered to exercise greater control over their society.

Allocation of Greenland's minke and fin whale quotas reflects the importance of kin relationships in social organization. Once the IWC makes its determination about Greenland's aboriginal subsistence whaling quotas, the Home Rule government allocates quotas in consultation with Greenland's organization of municipal governments (KANUKOKA) and its national hunters and fishers organization (KNAPK). Only fulltime hunters among Greenlanders are eligible to catch whales. This limits whaling to the most active hunters, those who have a close affiliation to Greenlandic society.

Furthermore, many of Greenland's municipalities have their own criteria for allocating whales equitably when quotas are insufficient for local need. Most commonly, allocations are made to those who have few other income opportunities. Municipal authorities strive to ensure that those who do not receive approval to take a whale in a given year do receive approval in subsequent years. Likewise, municipalities ensure that allocations are shared equitably between larger towns and smaller communities. Thus, Greenland's catches of minke and fin whales (Table 1) are consistent with IWC quotas, and reflect both the need for sustainable harvests and equitable distribution of quotas throughout Greenlandic society.

Table 1.
Greenlandic minke and fin whale catches, 1996-2001
 (Direct catches as reported to IWC; struck and lost in parentheses: source, Greenland Home Rule Government)

SPECIES	1996	1997	1998	1999	2000	2001
Minke	182(4)	157(5)	173(3)	179(5)	152(3)	151(5)
Fin whale	19(0)	11(2)	9(2)	7(2)	6(1)	7(1)

WHALING WITHIN TERRITORIAL LIMITS: COASTAL CATCHES FOR LOCAL CONSUMPTION

Social scientists study whaling communities note that sustainable and equitable whaling practices typically are confined to 'operations associated with specific shore-based communities' (Young *et al.* 1994). This observation reflects the importance of territoriality in promoting stewardship of marine resources and effective management regimes. In Greenland, minke and fin whaling is carried out from local communities ranging in size from about 50 to 14,000 people. The products of that whaling are strictly for Greenlandic consumption. By law, no whale products can be exported.

Minke whales taken in West Greenland are typically caught by fishing vessels up to 40 feet in length equipped with harpoon cannons. They are also caught in smaller numbers by hunters in skiffs in what is known as a collective hunt. The Home Rule government grants approval for the collective hunt in taking minke whales where no fishing vessels are available. Fin whales are caught solely using the larger fishing vessels. These vessels are primarily used in commercial fishing and are only occasionally used for whaling. In both cases, the craft used in whaling are ill suited for extensive voyages away from land.

Whaling activities are typically carried out within 10 to 20km offshore. Hunters and fishers out in their boats keep close watch for whales. In some cases, hunters prefer to catch and flense whales within sight of the local community where they can get assistance from family and community members. Often community members monitor hunters' efforts by walkie-talkie radio. Hunters customarily flense a whale within 24 hours to avoid spoilage. In all municipalities, hunters know traditional sites where conditions are best for the flensing process and where flensing equipment is commonly kept. When a whale is towed to one of these sites, community

members often come down to assist in processing the whale. In return, they may receive a share of the meat or the *mattak*, the whale's skin and first layer of blubber.

SOCIAL REPRODUCIBILITY: GREENLANDIC WHALING THROUGH GENERATIONS

Sustainable and equitable whaling involves practices that are socially reproducible over time. That is, 'the rules governing whaling and the knowledge to engage successfully in whaling must ordinarily be handed down from generation to generation within the same community' (Young *et al.* 1994). Importantly, this process of handing down knowledge 'serves to reinforce relationships based on kinship or other alliance-creating institutions.'

In Greenland, detailed traditional knowledge about the marine environment and about whales and other marine resources is handed down from generation to generation. Greenlandic stories and legends note that whales and other creatures from the sea are gifts from *Sassuma Arnaa*, the 'mother of the sea.' According to these legends, she gives whales, seals, and other animals to hunters who show these animals proper respect.

Hunters typically learn about whaling from experienced elders who know about feeding areas, whale behavior, and effective and safe whaling practices. In many communities, oral traditions relate the exploits of a long-deceased *piniartorsuaq*, or great hunter, who excelled at whaling or other subsistence pursuits. This body of knowledge is usually shared only with those speaking *Kalaallisut* and is therefore usually inaccessible to non-Greenlanders.

VALUING GREENLANDIC WHALING MULTI-Dimensionally

A key difference between sustainable and unsustainable whaling practices may be the extent to which societies value whaling beyond mere economic considerations. That is sustainable whaling is often embedded within the social fabric of a coastal community that has long-standing historical, socio-economic, cultural, and nutritional relationships with marine resources. In these instances, whaling is not a means to maximize profits. Rather, it is largely done to meet nutritional needs, to sustain indigenous social and cultural systems and to generate sufficient cash to support local livelihoods. They seek, as Freeman (1993) points out, a means to 'sustain local social, cultural, and economic activity intergenerationally.'

In Greenland, whaling is embedded within sociocultural and economic systems extending back generations. Whaling has strong historical roots in Inuit society, roots which remain despite dramatic changes in whaling practices and technologies. Ecological dynamics, over-exploitation of whales by Euroamericans, and Danish colonial practices have all contributed to these changes. However, perhaps the most striking thing about Greenlandic whaling is not how much it has changed, but that it has persisted despite these challenges.

Greenlanders prize food from whales and other 'country foods,' which they refer to as *kalaalimerngit*, or 'Greenlanders' foods.' These foods constitute a significant part of many household diets and are integrally linked to Greenlandic identity. They are clearly distinguished from 'white man's foods' or *qallunaamerngit*, which is considered by many to be inferior for sustaining oneself in an Arctic climate. This distinction has important cultural significance. Eating Greenlandic foods is of great symbolic weight in determining whether a person is a true Greenlander. Furthermore, the procurement, processing and sharing of *kalaalimerngit* reflects underlying systems of reciprocity and community solidarity that continue to be important in Greenlandic life today.

Contemporary Greenlandic communities, like indigenous communities elsewhere in the Arctic, have mixed subsistence-cash economies. In such communities, cash and subsistence sectors are mutually supportive. Cash generated through wage employment or other local activity underwrites subsistence production; the purchase of weapons, fuel, and so forth. Distinguishing between 'commercial' and 'subsistence' sectors in Greenland's economy can be difficult in smaller communities. Indeed, Dahl (1989) argues that these sectors are so closely interrelated that efforts to distinguish between them are meaningless.

This relationship between subsistence and cash is clearly revealed in the local production of country foods in Greenland, where hunters and fishers catch a wide variety of marine resources, keeping some for household consumption but also selling some for cash. These foods are sometimes sold on an individual basis within a community, but more often they are sold at a local *kalaalimineerniarfik*, an outdoor kiosk located near the harbor in many Greenlandic towns. In general, Greenlanders prefer to buy country foods at the *kalaalimineerniarfik* rather than from a local store. While store purchases may be necessary (at some times more than others), fresh foods are usually much preferred. Prices for foods sold at a *kalaalimineerniarfik* are negotiated annually between

local authorities and the hunters' and fishers' association. This fixed-price system minimizes any tendencies toward competition among hunters and ensures that community needs are met.

Some country foods may also be sold to a small scale processing firm that distributes such products throughout the country. However, Home Rule regulations approved in 1998 prohibit the sale of traditionally dried, salted, and smoked fish or meat, including whale meat and certain other products in these kiosks. The reason for this has to do with health and safety, because there is no systematic monitoring of the kiosks by health officials. Instead, whale products must be processed at an approved facility located in South Greenland.

Greenland's system for local food production helps protect food security and reduce the country's dependence on imports from Denmark or beyond. Even with the production of country foods, Greenland imports substantial quantities of protein in the form of meat products. By supporting a local market for country foods—when taken on a sustainable basis—the Home Rule Government accomplishes multiple goals: 1) it reduces imports and utilizes renewable rather than non-renewable resources; 2) it enables Greenlanders to eat wholesome and nutritious foods, and supports economies of small settlements with few economic alternatives; and, 3) it promotes culturally-valued Greenlandic traditional hunting knowledge and practices.

BIOLOGICAL SUSTAINABILITY AND GREENLANDIC WHALING

While the criteria discussed so far may be necessary for sustainable and equitable whaling, they alone are not sufficient. The literature on common property resources makes clear that they must be accompanied by sound biological research and monitoring systems that can take into account environmental and other changes affecting specific whale stocks. Young *et al.* (1994) suggest that:

the frequency and extent of such monitoring should be decided on a case-by-case basis. Given the inexact nature of fishery science, the best scientific judgements must necessarily allow for some (minimal) level of continuing disagreement among competent scientists regarding stock assessments.

One might add that such judgements must also allow for some disagreement between scientists and hunters themselves.

With this in mind, it is important to mark the significant accommodations and improvements made to management systems for whaling by the Home Rule since 1979. These include significant regulatory changes, improvements in hunting and processing technology, and monitoring harvests. Home Rule officials have made concerted efforts to educate hunters about whale population dynamics and to work cooperatively with KNAPK, the hunters' and fishers' organization. At the same time, marine mammal biologists from Greenland are also working with other scientists in the North Atlantic and around the world in expanding our knowledge of whale stocks found in Greenlandic waters. These interactions between hunters, officials, and biologists have not been problem-free. But the point here is that no one concerned about sustainability should expect them to be.

The Greenlandic Parliament enacts laws governing Greenlandic whaling. Regulations implementing these laws are promulgated by the Home Rule administration in conjunction with local municipalities and KNAPK. Participants involved with whaling must have a fulltime hunting license, reside permanently in Greenland, and have a close affiliation with Greenlandic society (Table 2). Furthermore, only hunters with a special license for whaling may take a minke or fin whale. This license obligates the hunter to follow Home Rule whaling regulations and to report the striking or killing of a whale to appropriate authorities.

Sanctions are imposed on hunters who violate these regulations. Home Rule authorities can fine individual hunters and confiscate any illegally taken whale products. Moreover, as an additional penalty, authorities can reduce quotas in subsequent years for the hunters' entire community. Because of close kinship ties in many Greenlandic communities, these actions can bring powerful social pressures to bear on hunters, encouraging them to avoid illegal hunting.

Table 2.
Selected Greenlandic whaling regulations, 2001

REGULATION	MINKE WHALING	FIN WHALING
<i>Type of hunt</i>	<ul style="list-style-type: none"> vessel whaling, OR collective whaling (with special dispensation) 	<ul style="list-style-type: none"> vessel whaling only
<i>Hunter licensing</i>	<ul style="list-style-type: none"> fulltime hunting license permanent resident close affiliation to Greenlandic society 	<ul style="list-style-type: none"> fulltime hunting license permanent resident close affiliation to Greenlandic society
<i>Whaling license</i>	<ul style="list-style-type: none"> required from municipality vessel must be under 70 foot dispensation for collective hunt when it has major significance for local community and where products from vessel whaling is unavailable 	<ul style="list-style-type: none"> required from municipality can be issued to a) one vessel >36 feet or two vessels >30 feet in length
<i>Season</i>	<ul style="list-style-type: none"> 1 April-31 December 	<ul style="list-style-type: none"> 1 January-31 December
<i>Hunt requirements</i>	<ul style="list-style-type: none"> no females with young may be taken whale must be killed as quickly as possible use of vessel with 50mm harpoon cannon: grenade required, training for harpooner, cannon in good condition, registration and inspection of cannon, vessel equipped with winch OR special dispensation for collective hunt, with minimum of five skiffs, 7.62mm rifles or larger, no semi- or fully automatic rifles, all skiffs equipped with hand harpoon, float, and 12mm+ line, designated hunt leader all edible meat and mattak must be used catch data must be reported to authorities before any sale of whale products sample of whale products must be provided for research 	<ul style="list-style-type: none"> no females with young may be taken whale must be killed as quickly as possible use of vessel with 50mm harpoon cannon: grenade required, training for harpooner, cannon in good condition, registration and inspection of cannon, vessel equipped with winch whale must be greater than or equal to 15.2m all edible meat and mattak must be used catch data must be reported to authorities before any sale of whale products sample of whale products must be provided for research

Greenland's management regime for whaling has expanded dramatically since the implementation of Home Rule in 1979. Those who ignore the history of such regimes too often overlook this fact. Perhaps one of the most significant developments is the cooperation hunters have shown in using new technologies to reduce the time to kill a whale. Since 1991, all hunters involved with fishing vessel whaling have been required to use the penthrite

grenade, which is designed to kill whales more quickly. With support from the Home Rule and from KNAPK, hunters made the transition to this new technology with little objection, despite additional cost and the need for specialized training. Since 2001, hunters are now using a new type of grenade, developed with specialists in Norway. This grenade can be reused, and is a much improved type compared with those used previously.

In the mid-1990s, Home Rule officials and KNAPK undertook a thorough survey and evaluation of all harpoon cannons, and sponsored renovation of the cannons to ensure a safe and effective hunt. They trained shipyard personnel in Greenland to do this work and they prepared a new maintenance manual for the cannons written in the Greenlandic Inuit language. They also tested a new flensing knife to improve efficiency in processing large whales. The Home Rule has subsidized many of these activities because it believes that their success is vital to sustainable use over time.

Sanctions for violations of whaling regulations have been enforced, and enforcement personnel have been hired for some municipalities. This is not to say that violations don't occur, or that improvements in the overall regime are not worthy of consideration. However, these changes point to ongoing efforts in pursuit of sustainable use and a more effective management regime.

WHALING AND INDIGENOUS RIGHTS

Increasingly, indigenous peoples point to international law in seeking protection for their right to sustainable use of resources coupled with responsibilities for effective management. For example, Article 27 of the UN Covenant on Civil and Political Rights upholds the right of minority peoples 'to enjoy their own culture.' The UN 'Earth Charter' calls for all nations to "affirm the right of indigenous peoples to their spirituality, knowledge, lands and resources and to their related practice of sustainable livelihoods."

Journalistic exposés about Inuit hunting practices give cause for alarm from indigenous leaders who point to a long history of 'outsiders' casting sweeping aspersions on hunting. Allegations that Greenlandic hunters believe 'they can do no wrong' in hunting ignore history. Articles like this one, and a careful reading of Greenlandic newspapers and journals, reveal that wildlife management is contentious but that negotiated approaches to management and use are common. The assertion that hunters claim infallibility as 'natural conservationists' in an 'idyllic Arctic' is incomplete and misleading. Such attacks, given privileged status in media around the world, too often use scientific data selectively and choose to ignore other explanations for resource changes. Says Inuit Circumpolar Conference president Aqqaluk Lynge (2002), "we do not think of our past or our present as 'idyllic' . . . We acknowledge that Greenland Inuit are human and make mistakes. But all Greenland Inuit – and the social, political, and economic institutions through which we express ourselves -- know that our living resources are the backbone of our existence. As such, we want to protect them and use them sustainably."

THINKING GLOBALLY, ACTING LOCALLY: SUSTAINABLE WHALING IN GREENLAND

While Greenland's ties to the world economy are increasing, most Greenlanders continue to identify with a culture based upon hunting and fishing. At a time when many people in industrialized countries are beginning to appreciate the importance of being rooted in a place and being stewards of local resources, Greenlanders draw upon 4,000 years of history as a coastal people, reliant on renewable resources from the sea and land.

As Greenland's population grows and as Greenlanders continue to become accustomed to a higher standard of living, they will undoubtedly seek new opportunities to create jobs and to expand ties with other countries. But even with these changes, many Greenlanders, particularly those living in smaller outlying settlements, will continue to rely on whales and other marine resources for nutritional, sociocultural and economic benefits.

This greater involvement with the world economy also means that Greenlanders will need to continually re-examine what sustainable use of resources really means. Potential impacts on whales and other species of new technologies, climate change, expanded hunting pressures, and other factors cannot be ignored. Indeed, a careful reading of history shows that debates about such matters are not new; they have been going on for many years. More research, more debate, and more action will be needed. As Greenland's premier Jonathan Motzfeldt (2002) notes, "We cannot use our living resources to excess. We must respect the limits for how much a single species of bird, fish, or animal can sustain. In the same way, we must think about the future generations when we establish policies for the use of our living resources" (author's translation).

In whaling, Greenlanders realize today that survival in the modern Arctic requires thinking globally about environmental factors, but it also requires acting locally: being stewards and respectful users of renewable resources. As this paper makes clear, this stated goal could all too easily mask the contested terrain of managing for sustainability. But the fact is that Greenland has demonstrated a willingness to cooperate with the IWC in matters of resource conservation for large whales. They have accepted a zero quota on the take of humpback whales because of international concern about stock levels. They have worked to improve whaling practices in response to concerns about humane killing and to strengthen reporting requirements and sanctions. And Home Rule officials, KNAPK, hunters, and biologists continue with the hard work of debate, negotiation, and compromise in improving regulations and hunting practices. No one involved would say it is easy, but then experience throughout the Arctic shows that it rarely is.

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