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Sentient Beings and Wildlife Resources: Inuit, Beluga Whales and Management Regimes in the Canadian Arctic

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Abstract Beluga whale hunting is one of the most social subsistence hunting activities to take place in the Canadian Arctic. Through the harvest, distribution and consumption of beluga whales, Inuit identity and social relationships are affirmed. The whale-hunting complex is influenced by beliefs that beluga whales are sentient beings who inhabit a shared social space with humans. Yet, across the region beluga whales are perceived by wildlife managers as scarce resources and as such require protection through the imposition of management plans. There is currently no management of whales on the west coast of Hudson Bay, in Nunavut. In 2002, Inuit there were requested to sell part of their whale harvest to Inuit in Nunavik, northern Quebec, where hunting quotas exist. The outcome of this event was concern in Nunavut for the future of the whale hunt, and a deepening sense of powerlessness in Nunavik due to the management of the whale harvest.

Key words Arctic · beluga whales · Inuit · Nunavik · Nunavut · hunting quotas · subsistence hunting

> Because hunting activities in Inuit society reflect and maintain special relationships between Inuit and animals or between Inuit and their culturally defined environment, these activities are culturally important to Inuit.—Kishigami, 2005: 137
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> Each community should develop a code of conduct and train novice hunters; each community should co-ordinate all hunts prior to departure; ...the communities that are going to the Hudson Strait to harvest beluga must make arrangements with local communities for the use of any surplus meat. The harvesting/cutting sites must be kept clean.—Department of Fisheries and Oceans, 2005a: 7

Introduction

Beluga whales (*Delphinapterus leucas*) are hunted by Inuit across the Canadian Arctic, in Alaska and in Greenland. They are an important economic resource, used for both human and dog food. The whale hunting complex, which involves the preparation of hunting tools and equipment, a (sometimes) communal hunt, and the butchering, sharing and consumption of whale meat and *maktaaq*[1], is central to Inuit identity, to the reproduction and acquisition of knowledge and skill, and to the maintenance of social relationships. Beyond this, beluga whales are considered by many Inuit to be sentient beings, with whom appropriate relationships must be maintained in order to ensure hunting success. Beluga whales, therefore, form part of the economic, social and cultural lives of many Inuit communities. They are, however, also subject to wildlife management regimes. Whale population and behavioural research has been conducted across the Arctic, and the findings have led to the implementation of management regimes in some regions. For Inuit whale hunters, these in effect mean the imposition of open and closed hunting seasons, hunting quotas, and the requirement to report and/or document all whale hunting activity.

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[1] *Maktaaq*: the skin and thin layer of subcutaneous fat of the beluga whale, which is eaten by Inuit.

In this paper I explore the impacts and outcomes of two different, and at times, mutually opposed, perspectives of beluga whales. On the one hand, beluga whales, as sentient beings, are deeply embedded in Inuit life, while on the other, as wildlife resources, they must be carefully managed and protected. The impact that management regimes have on the subsistence whale hunting complex is something often overlooked by policymakers; just as the detailed, long-term Inuit knowledge of whale behaviour is often discarded as merely "anecdotal evidence." What are the socio-political contexts that have given rise to this situation, and how do Inuit incorporate these management regimes into their hunting practice and relationships with beluga whales?

My attention was first drawn to these issues in 2002, when Inuit in one region of the Canadian Arctic with no beluga management regime sold *maktaaq* to Inuit in another region which was subject to a strict beluga whale-hunting quota. I followed the reactions of Inuit to this sale and began to explore the deeper issues surrounding the implementation of management plans; the distances between Inuit and scientific knowledge and practice; and the concerns expressed by Inuit regarding their self-determination and autonomy.

Methodology

Since 2000, I have been visiting and conducting anthropological research in the community of Arviat, on the west coast of Hudson Bay. During fieldwork conducted in Arviat for 1 year between 2002 and 2003, I explored Inuit perception, knowledge and use of the sea. Employing participant observation as my predominant methodology, through the framework of Tim Ingold's (2000) dwelling perspective of human habitation, I examined the relationship between sensory perception of the marine environment (including marine animals) and the production and reproduction of social relationships, marine knowledge and skill (Tyrrell, 2005). During the course of this research the contentious issue of marine mammal hunting quotas emerged again and again. The controversial polar bear hunting quota was a cause of on-going debate (Tyrrell, 2006), and the sale of beluga *maktaaq* in October 2002 raised fears among some Arviarmiut[2] that beluga whale hunting quotas might soon be imposed on the community too.

In April 2006, I travelled to Quaqtaq, northern Quebec, in order to compare the beluga-hunting situation there to that in Arviat. Quaqtaq was one of the communities to receive Arviat *maktaaq* in 2002, and I wanted to understand the reasons for and reactions to the purchase. Interviews and conversations with Quaqtarmiut[3] provided another perspective on the sale of *maktaaq*. Quaqtarmiut, living with a beluga management plan for the past 10 years, daily face the issues that Arviarmiut merely worry about.

Field research has also involved interviews and discussions with wildlife biologists, government policymakers and managers, and Inuit representatives of co-management bodies. While the focus of my research has been predominantly Inuit knowledge and perception, I have had some opportunity to explore these issues from a Western/scientific/management perspective also.

Geographical and Political Setting

The two Canadian Inuit communities where I have conducted research are Arviat and Quaqtaq (see map on Fig. 1). Arviat, on the west coast of Hudson Bay, is situated in the territory of Nunavut, and has a population of just over 2000, 85% of whom are Inuit (the remaining 15% comprise mostly government workers, teachers, nurses, etc. from southern Canada). The Nunavut Land Claims Agreement (NCLA) was signed in 1993 and Nunavut came into existence on April 1st 1999. As a territory, it enjoys a certain level of autonomy within federal Canada, and the majority of the 28,000 population of the territory is Inuit. The Nunavut Wildlife Management Board (NWMB) was established as part of the NCLA. This is a co-management board with a mandate to conserve wildlife using both traditional/local and scientific knowledge. Using the expertise of resource users, community elders and wildlife biologists and ecologists, the NWMB sets harvest limits, determines what types of wildlife research can be conducted within Nunavut, and aims to "manage wildlife consistent with the principles of conservation, sustainability and ecosystem integrity" (NWMB, 2006).

Quaqtaq is situated on the northwest coast of Ungava Bay where the Bay meets Hudson Strait, in the region of Nunavik, the northernmost part of the province of Quebec. Quaqtaq has a population of just under 400, 90% of whom are Inuit. In 1975, the James Bay and Northern Quebec Agreement gave Inuit in the region a certain level of self-governance through an Inuit body, Makivik Corporation. In October 2006, Nunavik Inuit will decide in a referendum whether to approve a Nunavik Inuit Land Claims Agreement (NILCA) which, if approved, will, amongst other things, allow for increased Inuit control over the offshore area and provide greater powers in the co-management of wildlife.

While these two villages belong to different political regions, they share a similar culture and economy. Both

[2] Arviarmiut: the people of Arviat.

[3] Quaqtarmiut: the people of Quaqtaq.

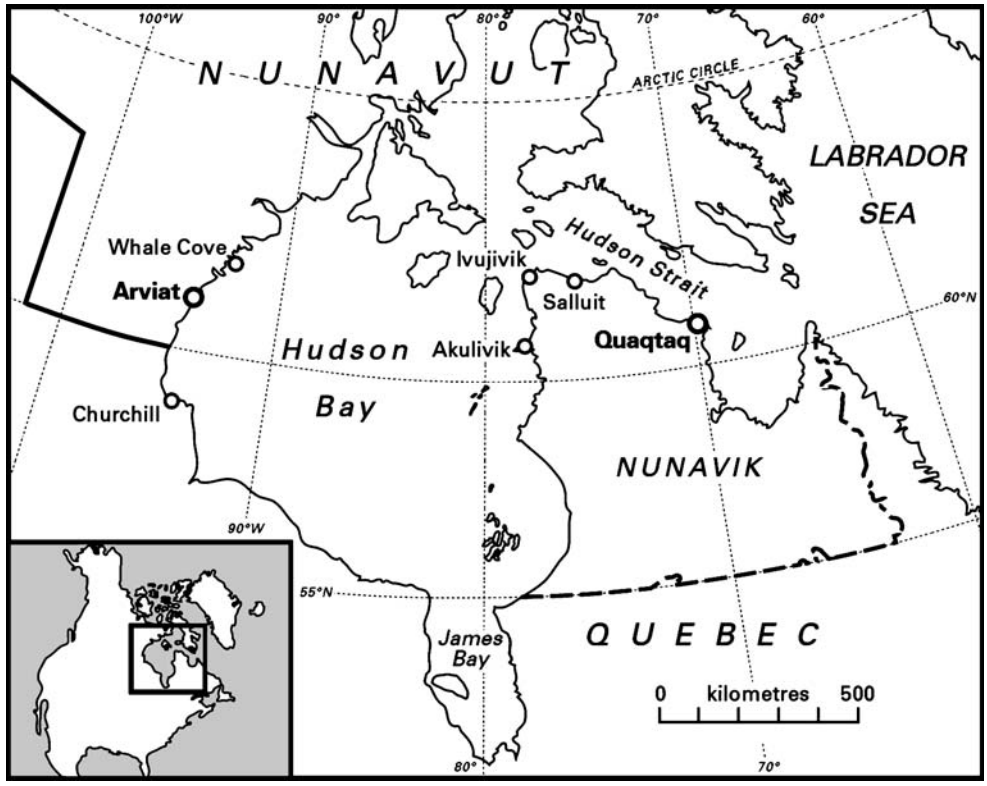

Fig. 1 Map: Hudson Bay, showing Arviat in Nunavut and Quaqtaq in Nunavik.

villages have mixed subsistence economies, where hunting, gathering and fishing exist side-by-side with the wage economy. The country food[4] harvested in both villages is not only of economic value, but is also central to notions of Inuit identity and to the maintenance of social relationships (cf. Condon *et al*., 1995; Bodenhorn, 2000; Jolles, 2002). Some animals, such as the beluga whale, are harvested seasonally during their migration, while others, such as ringed and bearded seals, and caribou, are harvested throughout the year. In Arviat, there are currently no beluga whale hunting restrictions. Arviarmiut harvest on average just over 200 beluga whales each year (Nunavut Wildlife Management Board, 2002: 5), keeping the *maktaaq* for human consumption, and feeding the meat to the community's 27 sled-dog teams. Beluga whale hunting in Quaqtaq, currently part of the Nunavik and Adjacent Waters Beluga Management Plan, is subject to a quota of 15 whales per year (prior to 2002 this quota was set at 35 whales per year). Unlike Arviarmiut, Quaqtarmiut consume all parts of the whale. Inuit in both communities possess detailed knowledge of beluga whale behaviour, of hunting and butchering techniques, and acknowledge the key role the whale hunting complex plays in the transmission of knowledge and skill and in the upkeep of social relationships. Quaqtarmiut are distressed by the imposition of the hunting quota, while Arviarmiut have, at times, feared that a similar quota might be imposed on their village.

[4] Country food refers to all food harvested from the land and sea.

Inuit and Beluga Whales

As with all the animals they harvest, Inuit possess a rich and textured knowledge of beluga whale behaviour essential to safe and successful hunting. The acquisition and reproduction of this knowledge and the accompanying skills are embedded in social relationships and in relationships with beluga whales (Freeman, 2005; Tyrrell, 2005). Beluga whales are much more than a resource to be utilised. As sentient beings, proper relationships with whales must be maintained in order to ensure that they will return each year and allow themselves to be harvested. The deeply meaningful relationships that arise from and lead to beluga whale hunting are often at odds with conservation/management notions of whales as either (a) resources, or (b) animals in need of protection.

Belugas are small, toothed, white whales. Adult males measure, on average, 4.25 m and weigh 1,000 kg (Richard, 2001: 42), while adult females are slightly smaller. Throughout the Arctic beluga whales are prized for their *maktaaq*, which is prepared in a variety of ways, and stored for consumption throughout the year. The blubber is

rendered to make a condiment into which the dried meats of other animals are dipped. In most regions Inuit also eat beluga meat, although this is not the case on the west coast of Hudson Bay.[5] The meat is prepared in a variety of ways and is stored to be consumed year-round. The meat is also a source of dog food, an important consideration for dog team owners who may have up to 20 dogs at any one time.

Whales are hunted close to shore or at the floe edge (this varies from village to village depending on local conditions). In Arviat, they are hunted between July and September as they migrate north having spent the summer at the mouth of the Churchill River, to the south. The predominant hunting method is the use of a harpoon from a skiff or canoe. Hunters have various techniques for herding the animals into shallow waters, where they can be more easily harpooned. The harpoon head, attached by rope to a float, serves to tire the animal out, before it is shot with a rifle. Boats carry two, and usually not more than three, hunters, one of whom controls the boat while the other harpoons and shoots the whale. Depending on a variety of factors, there can be anywhere from one to 30 boats involved in a hunt, although the latter number usually only occurs when large pods of 300 or more whales migrate close to shore. The second method of harvesting whales in Arviat is by means of whale nets, which are set along a reef, Huluraq, close to the village and are checked by the hunter at each low tide.

In Quaqtaq, whales are hunted, with rifles rather than harpoons, twice a year, during their spring migration west and their autumn migration east. Spring hunting takes place from the floe edge and autumn hunting from the beach. Boats are used only to herd the whales to shallower water and to retrieve them once they have been killed.

The safety of the hunter and protection of the boat must be ensured for a successful hunt and Inuit knowledge of whales thus includes not only methods of harvesting, but also knowledge of whale behaviour, social organisation, and adaptation to changing situations. Various authors (Dahl, 1990, 2000; McDonald *et al*., 1997; Mymrin *et al*., 1999; Tyrrell, 2005) have recorded Inuit knowledge of the fishing techniques employed by beluga whales; their avoidance of killer whales and walrus; their shared social space with other marine mammals such as ringed and bearded seals, and bowhead and humpback whales. The foods preferred by belugas are well known to Inuit, as are their mating habits, and the relationship between mothers and calves, as well as the social relationships within pods. Whales travel in groups of different size and composition depending on their age and sex, and belugas are known to either move away from sources of human noise if it is perceived to be a threat, or to ignore it if found to be harmless. During their brief summer migration past Arviat, belugas travel close to shore in shallow water, and can be observed rubbing against rocks and reefs to remove dead skin. Whales are known to have very good hearing. And hunters say that they are drawn to the sounds of the supply barges that arrive in July and August. During quiet times hunters are able to distinguish the breathing patterns and sounds of whales at great distances. Knowledge of other animals is also linked to knowledge of whales. The congregation of large pods of belugas in bays and shallower waters often indicates the presence of the beluga's other main predator, the killer whale; while Arctic terns swooping over the water indicate belugas, as they feed on the small marine animals carried to the surface as the whales come up to breathe.[6] As with all animals, hunters acknowledge that one must think like a whale in order to hunt it successfully. This detailed knowledge of whales is vital to safe and successful hunting, but also situates whales in the category of thinking social beings.

Circumpolar literature is replete with references to human–animal relations (Guemple, 1986; Fienup-Riordan, 1988; Bodenhorn, 1990; Turner, 1990; Nuttall, 1997; Lowenstein, 1999; Pelly, 2001). For example, Bodenhorn (1990) reports that Inupiat hunters in Alaska believe that whales are aware of the generosity of hunters' wives, and will give themselves only to those hunters whose wives are socially responsible and generous. Turner (1990) writes that, for Inupiat hunters, the initiative rests with the whale and whether it chooses to give itself. For Inupiat and other Eskaleut groups, whales are thinking creatures bound to humans through specific reciprocal relationships. The good behaviour and good manners of humans, both towards each other and towards the animals they hunt, are essential to safe and successful hunting.

These reciprocal human–animal relationships are integral to hunter–gatherer interactions with their environments more generally (Ingold, 2000). For the hunter–gatherer the environment is sentient and knowing. As actors within that environment, humans must maintain proper relationships with the animals they harvest. Ingold (ibid: 67) writes, "Hunter–gatherers, if they are to survive and prosper, have to maintain relationships with these powers, just as they must maintain relationships with other human persons." These concepts are also explored in Bird-David's (1990)

[5] Arviarmiut have informed me that in the past people ate dried whale meat, but few in the village recall eating it themselves. I believe the far greater abundance of caribou in this region and a culture more oriented towards land mammals has led to the lesser appeal of whale meat (see Burch (1986, 1988) and Fossett (2001) for a discussion of the inland origins of west coast Hudson Bay Inuit).

[6] See Fienup-Riordan (1990) for a detailed account of knowledge of sea birds in Alaska.

idea of "the giving environment," which will provide for humans as long as appropriate relationships are maintained. Inuit often use the word "respect" when referring to the manner in which they hunt whales. Respectful behaviour includes not showing excitement at the prospect of a whale hunt; harvesting animals that present themselves to be harvested; not harvesting more animals than are required; killing each animal as quickly as possible; and making use of as much of the carcass as possible.[7] Respect for whales is further expressed by generosity with the harvest, sharing it with family and neighbours. From an Inuit perspective, therefore, beluga whales are sentient beings who inhabit the same social space as humans and other animals, and with whom respectful relationships must be maintained.

The Beluga Whale Hunting Complex

In Arviat (the main focus of my research) whale hunting is the most social and communal of hunting activities. People meet up on the ocean, tying their small boats together and co-ordinating hunting plans over a shared pot of tea or pack of chewing tobacco. Whale hunting is what Wenzel (1991: 83) has referred to as a "venture activity" where success on any given day is highly uncertain. Hunters put to sea with all the equipment they will require for potential whaling, sealing, or Arctic char fishing. Hunters can sometimes go for many days without even seeing a whale, while on other days when large pods of whales migrate close to shore, many whales can be harvested in a short period of time. On such days all those with access to boats put to sea. At these times, a hunter may have difficulty finding a hunting partner, and so will often take his wife along (cf. Dahl, 1990, 2000). Occasionally it is possible to hunt from shore, and those without access to a boat may attempt to shoot a whale from the shore. Once the hunt has ended and whales are dragged to the shore, the process of butchering each animal and the sharing of *maktaaq* and meat begins. News of the hunt also attracts those not directly involved in the hunt, and who now have the opportunity to participate in the butchering and distribution. In Arviat, the sharing is more informal than, for example, in Greenland (Dahl, 2000; Sejersen, 2001) but there is an unspoken understanding regarding who will receive which share of each animal. *Maktaaq* and meat are shared with a broad range of kin, friends and neighbours.[8] In the days following a big hunt, local radio and CB[9] are inundated with calls from people (especially elders) praising and thanking others for sharing their harvest. In Arviat, *maktaaq* is often served at the many community feasts that take place throughout the year. When a young person kills his or her first whale it is common for the family to hold a feast at home and invite people to share in the harvest.

Through the hunting, distribution and consumption of beluga whales, social relationships are created and affirmed. Identity as Inuit is reaffirmed through the skill and knowledge related to whales and the hunt, and through the butchering and sharing of the harvest, as well as through understandings of whales as sentient beings with whom humans share the ocean. The whale hunting complex goes beyond the mere hunting and distribution of whales. Throughout the year the sharing of *maktaaq* continues at community feasts, and the manufacture and maintenance of equipment (boats, harpoons, floats, clothing, etc.) bring together groups of people who again reaffirm their social relationships and Inuit identity. Through these activities young people acquire and grow into their knowledge of whales and whaling practice, and come to understand the importance of beluga whales to their lives as Inuit.

Selling *Maktaaq* 2002

In October 2002, Arviat Hunters and Trappers Organisation (HTO) purchased 5,000 lbs (2,268 kg) of *maktaaq* from Arviat families for CN$2.50/lb (/454 g). This was the *maktaaq* of some 20–30 whales, or approximately 10% of the harvest that year. Before exploring how Arviarmiut reacted to this unusual sale, I will first examine the events in Nunavik which prompted the sale.

The Canadian Department of Fisheries and Oceans (DFO) currently recognises seven distinct populations of beluga whales throughout the Canadian Arctic and in the St. Lawrence River estuary (DFO, 2005b: 1). While the beluga population on the west coast of Hudson Bay is estimated to be between 24,000 (DFO, 2005c) and 57,342 (DFO, 2005d) and, therefore, not endangered (although listed as of "special concern" (COSEWIC, 2004)), the populations around the coastline of Nunavik are classed as either endangered or threatened (varying from one sub-population to the next). The population on the east coast of Hudson Bay is estimated between 1,000 and 2,000 animals; and Ungava Bay is believed by biologists to have between 20 and 40 animals (DFO, 2005c). Hudson Strait is seen, by biologists, as a migration route for various populations and, therefore, no statistics are recorded for the beluga whales in

[7] See Freeman (2005) for a discussion of "use" and "waste" of harvested beluga whales.

[8] See Bodenhorn (2000) on kinship and the importance of food-sharing as a reaffirmation of kinship ties.

[9] CB: Citizen Band radio, an essential communication tool while out hunting, used by Inuit throughout much of the year.

that area. Due to intensive commercial whaling beginning in the 1750s, the whale population on the east coast of Hudson Bay and in Ungava Bay declined dramatically and has never recovered (Hammill *et al*., 2004). Biologists and wildlife managers believe that a growing Inuit population, combined with improvements in hunting technology, is causing continued stress to the beluga population and denying them the opportunity to recover to pre-commercial whaling numbers.

In 1996, DFO implemented a 5-year beluga management plan in Nunavik (DFO, 2005d). Harvesting was limited to 240 animals per year for the entire region. However, over that 5-year period, an average of 282 animals was harvested each year, 42 more than the quota allowed. Excluded from this total were dead or wounded belugas that hunters had failed to land. In 2001, a second management plan was introduced (ibid). The quota for the region was slashed to 125 whales per year. From DFO's perspective, this proved an even greater failure, as in the first year alone Inuit *reported* harvesting 395 whales, and it was suspected that many more were not reported.

In 2002, quotas were further slashed. Villages with quotas of 35 whales were reduced to 15, and those with quotas of 25 were reduced to 10 (Kishigami, 2005). Nunavik Inuit strongly protested that the new quotas were far below their subsistence needs. Following consultation, DFO paid CN$50,000 to Makivik Corporation to help provide Inuit with an alternative solution to their subsistence needs. Having considered a variety of options, Makivik Corporation approached the Kivalliq Wildlife Board, which is responsible for wildlife issues on the west coast of Hudson Bay, with an offer to purchase some *maktaaq*. The request was passed on to Arviat HTO, and in October 2002, the sale took place.

In Arviat, this sale brought mixed reactions from both Inuit and wildlife managers, and disputes arose between organisations and individuals over the sale and its implications for future sustainable whaling in the waters off Arviat. There were two distinct arguments.

On the one side were those in Arviat, comprising both Inuit and biologists/wildlife managers, who were pessimistic about the sale. Their general concern was that during the next whaling season Arviarmiut would over-harvest whales in anticipation of a repeat sale. The sale of *maktaaq*, from this perspective, would encourage Arviarmiut to hunt more excessively in the future. The eventual outcome would be the imposition of a similar management and quota system as that already in existence in Nunavik. These concerns were echoed by a representative of DFO, who visited Arviat on October 31, 2002 to speak to Arviarmiut at HTO's annual general meeting. He expressed concern regarding what he saw as first steps towards the commercialisation of the beluga whale hunt. The DFO representative also did not believe that the village had been in possession of 5,000 lbs of *maktaaq* above and beyond its own needs. He said the village was now short of *maktaaq* as people had chosen to sell their supplies, to make money, rather than store them for their own winter use.[10]

On the other side of the debate were those who viewed the sale in a more positive light. Some Arviarmiut I spoke to said that the sale had provided much needed cash. It was not a moral or social issue if people chose to sell their *maktaaq* because they needed the money. With regard to over-harvesting, this group of Inuit did not foresee any increase occurring in 2003. One Arviat man, a wildlife technician working at the Department of Environment, pointed out, "We've always hunted lots of whales here. We're hunting to our maximum potential. There is only so much time and so many people and so many boats. We can't get any more whales than we're getting now." He said that while some people might consider the possibility of harvesting more whales in 2003, it was logistically impossible for them to do so.

The board of Arviat HTO, conscious of these conflicting opinions amongst its members, prior to the 2003 migration of whales past Arviat announced that there would be no further sales of *maktaaq*. This angered some within the village–those who had sold some of their *maktaaq* in 2002 hoped for a repeat sale, and those who had not gotten in on the act quickly enough in 2002 and hoped to sell for the first time. But HTO was determined to stand its ground. As it turned out, Makivik Corporation made no request for *maktaaq* in 2003. However, in 2005, when Makivik Corporation requested permission for Nunavik hunters to hunt beluga whales in Arviat waters, as part of its 2005 Beluga Management Plan, the request was denied (DFO, 2005a; George, 2005).

The residents of Quaqtaq, one of the Nunavik communities which received *maktaaq* from Arviat, were less than impressed with what they received. By the time the *maktaaq* reached them it had thawed out and begun to discolour and rot, and many found it inedible. The amount of *maktaaq* received by each household was very small, and many felt it was merely a token gesture, rather than an answer to the *maktaaq* shortage brought about by the hunting quota. However, amongst Quaqtarmiut I spoke to, by far the biggest complaint was the sheer foolishness of the whole exercise. It is well known by Quaqtarmiut and by beluga whale biologists that the whales which frequent

[10] This concern possibly reflects more deeply held misperceptions concerning hunter–gatherers and the "commercialisation" of their subsistence harvest. While exchanging products of the harvest for money is not of moral concern to most Inuit, it is of concern to certain animal rights organisations and those concerned with maintaining "cultural integrity". For more discussion on this topic, see Wenzel (1991) and Caulfield (1997).

Arviat waters during summer are the same whales which migrate through Hudson Strait in spring and fall.[11] Why, some Quaqtarmiut asked me, should they be given the *maktaaq* of whales hunted in Arviat, when they themselves could just as easily harvest from that same population earlier or later in the year. It was felt that Makivik Corporation had wasted CN$50,000 on buying, freighting and distributing *maktaaq* for no purpose.

2002–2005: Management of Whales

Since the 2002 sale of *maktaaq* and the disputes that continued through to the middle of 2003, there has been little discussion of the matter in Arviat. The impact of hunting restrictions on other species both in the Arviat area and elsewhere in Nunavut gave people cause for concern. At public meetings I attended in Arviat, in 2002 and 2003, hunters spoke about cases in other villages, where hunters were faced with imprisonment or severe (and unpayable) fines for exercising what they saw to be their hunting rights as Inuit.[12] Many felt that the subsistence hunt was in a precarious position, dependent on the whims of scientists and policy-makers, who had neither the time nor the inclination to gain proper knowledge of whales or to understand the relationship that exists between Inuit and whales. Other hunting issues have emerged since that time, most notably changes to management of polar bears across Nunavut, and Arviarmiut at present do not appear to be overly concerned about the future of their whale hunt. Since 2002 there has been no marked increase in the size of the harvest, harvesting techniques remain the same, and the sale of *maktaaq* in 2002 has been relegated to the position of a cautionary tale from the recent past.

In Nunavik, the management of whales continues. The 2005 plan was the most detailed yet, outlining not only how many whales could be harvested, but also how they should be harvested and how hunters should behave and organise their hunts. Despite this (or because of it), throughout the 2005 season, the management plan was, from the point of view of wildlife managers, an unmitigated disaster. A group of hunters from the village of Salluit harvested more whales in 1 day than was allowed for their entire village for the whole year (Siku News, 2005). This led to conflict with other villages over access rights to resources. Each of the 14 communities in Nunavik was allowed a harvest of 15 whales in Hudson Strait in 2005. Salluit harvested 23, Ivujivik 37, Akulivik 28. Five whales were harvested in Ungava Bay and one from the east coast of Hudson Bay, both areas supposed to be off-limits to the hunt (Nunatsiaq News, 2005). Conflicts developed between villages, with Inuit accusing each other of infringing on hunting areas, exhausting quotas and thus denying hunting opportunities to other communities and hunters.[13] Conflicts also emerged between Inuit and DFO, with Inuit in larger villages arguing that each community should receive a quota based on its population size, rather than each village, no matter the size of its population, receiving a quota of 15 whales. The management regime in 2006 has led to continued conflict, but far less flouting of the rules. From 2006 on, failure to stick to the quota will result in a quota reduction the following year.

Discussion

This case study speaks to issues of resource use and wildlife management, and to hunter–gatherer resistance to hegemonic ideologies of conservation, and stewardship of, the environment. Below, I discuss the efficacy of both management regimes and the ideal of co-management, and why, after a decade of failure, does DFO continues its present regime of beluga whale management in Nunavik.

Co-management

The 2005 Nunavik and Adjacent Waters Beluga Management Plan was developed through a process of co-management that involved consultation between DFO and representatives of various Nunavik (and Nunavut) stakeholder organisations. Despite this, there is a feeling amongst Inuit that the management regime and low hunting quotas have been forced upon them. In my discussions with Inuit, DFO are portrayed as the "bad guys," always imposing stringent regulations without any thought for the human consequences. Richard Caulfield (1997), in his study of large whale hunting in Greenland, notes that co-management can create indigenous elites and bureaucratic structures that do not reflect indigenous social relationships or human–animal relationships. Further, these developing relationships between hunters and distant political forces can lead to stress and disruption of society. Despite hailing itself as an equal partnership between indigenous hunter–gatherers

[11] The endangered east coast Hudson Bay whale population also migrates through Hudson Strait, but Inuit can easily distinguish between these two populations due to the timing of the migration, the size of the pods, and the size and shape of the whales.

[12] In 2003, eight hunters in Taloyuak faced charges for killing narwhals outside of the quota set for that village. This case was widely reported by the northern media. The convicted hunters finally won their appeal in 2006. The duration and severity of this case has been a cause for concern amongst many Inuit hunters.

[13] Once the regional quota was filled, the hunt was closed, thus denying some villages the opportunity to fill their quota.

and wildlife managers, co-management often necessitates that hunters speak and behave in ways culturally appropriate to the non-Inuit managers. "Co-management can too easily become co-optation; a situation one indigenous leader disparagingly characterizes as '*we* cooperate and *they* manage'" (ibid: 4). Kishigami (2005: 129) has argued that the management plans in Nunavik have been developed "by DFO officials who were not very familiar with traditional Inuit hunting practices in the region." Based on the way Inuit ignore the regulations and continue to hunt in as normal a manner as possible, it would appear that there was no agreement between DFO and Inuit as to what the management plan would entail, and that consultations were perfunctory rather than meaningful and successful for both parties.

The success of co-management plans is often reflected in the co-operation and involvement of local resource users. The management of polar bears in Nunavut is a case in point. Despite some complaints from Inuit (Tyrrell, 2006), quotas are adhered to across Nunavut, hunters co-operate with biologists and managers, and the management of polar bears is viewed as a continually evolving process. The credibility of the polar bear management regime, the meaningful involvement of Inuit through the Nunavut Wildlife Management Board, and the relative ease of its implementation render it acceptable to most Inuit most of the time (cf. Caulfield, 1997; Berkes *et al*., 2000). Tensions continue to exist but these make co-management a dynamic, continually evolving process, and can be beneficial in the long run (Caulfield, 1997).

But this is not the case in Nunavik, where there is outright resistance to the beluga management plan often expressed through non-cooperation (cf. Caulfield, 1997; Anderson and Berglund, 2003; Stevenson, 2006). As noted above, beluga management plans have been consistently ignored by Inuit in Nunavik for the past 10 years. The science upon which the management plan is based is not deemed credible and, despite claims to co-management, most believe that their views and long-term experience of beluga whales are not taken into account. Many hunters in Nunavik do not believe that whales are threatened or endangered (George, 2005). The methods employed by scientists are believed to be faulty, and do not give a clear and full picture of whale populations and their movements. Inuit argue that their more long-term knowledge of whale behaviour is more relevant than the information gathered by scientists during 1-day fly-overs and a variety of short-term counting and sampling techniques, but is overlooked or considered merely anecdotal. One DFO report, published in 2005, referred to multi-generational Inuit knowledge as "Inuit tales" (2005d: 8).

Another impediment to the success of this management plan lies at the core of Inuit belief systems regarding respectful behaviour towards animals. From a scientific perspective, harvesting whales will ultimately lead to a reduction in numbers; while for many Inuit, a failure to harvest whales who present themselves to hunters will result in the same outcome.

> [Elders] emphasised to middle-aged and young Inuit that once Inuit hunters stopped hunting beluga, the whales would avoid the area completely and finally disappear. They further appealed to other villagers, encouraging them to hunt beluga even if it meant going to jail. The elders stressed the necessity of maintaining reciprocal relationships between Inuit and their game animals (Kishigami, 2005: 130).

The Nunavik management plan, as I will discuss below, fails to take into consideration the deeply embedded relationship that exists between Inuit and beluga whales. Failure to see whales as anything more than "resources" and Inuit as anything more than "resource users" is an insult to Inuit who have shared the same social space with beluga whales for their entire lives.

Yet another factor in the non-cooperation of Inuit is that, despite continued hunting on the east coast of Hudson Bay, scientific research has shown that the beluga whale population has undergone a steady increase from 968 animals in 1985 to 2045 animals in 2004 (DFO, 2005d). In contrast, in the St. Lawrence River estuary to the south of Quebec, where no hunting of belugas takes place, the whale population has continued to decline sharply. Inuit argue that this points to other factors that effect beluga populations. DFO itself acknowledges that killer whale predation, contaminants, disease, ice and tidal entrapment, net entanglement, a native turbot fishery, noise and disturbance, pollution, and loss of habitat are all factors which impact on beluga populations (ibid). Despite all of these other factors, it is subsistence whale hunting that is targeted in an attempt to restore the population to pre-commercial whaling figures. The Nunavik beluga whale management plan, fails to include the knowledge, beliefs or concerns of the people who live in the region and who have in-depth and long-term knowledge of beluga whales based on their long-term observations and interactions.

Cultural Considerations

Throughout the 2005 management plan there are frequent suggestions that Inuit must change their hunting behaviour. From an Inuit perspective, these suggestions are objectionable and patronising. The plan states that "each community should co-ordinate all hunts prior to boat departure" (DFO, 2005a: 7). This fails to take into consideration cultural values regarding leadership, decision-making and transmission of knowledge. By its very nature, whale hunting

cannot be easily co-ordinated in advance. Whale hunting in Arviat, for example, often begins with just two men putting to sea. If whales are sighted, hunters in other boats may join in, and the hunt may become more co-ordinated as it progresses. But hunters will remove their boat from a hunt as quickly as they have joined it, choosing to pursue whales that have separated from the main pod, or abandoning the hunt altogether. The management plan in Nunavik does not take into consideration the ways in which people work, the kin relationships around which most hunts are based, and the ways people become involved in whale hunting. And it fails to take note of the importance of individuality in Inuit planning and decision-making (Brody, 2000). Consensus decision-making is absent from the hunt––if one hunter disagrees with others, then he pursues his own course of action. There is no leadership in the form imagined by DFO, whereby a leader would co-ordinate and manage a hunt.

The management plan also proposes that, "each community should develop a code of conduct and train novice hunters" (DFO, 2005a: 7).[14] This displays a clear ignorance of Inuit acculturation and knowledge transmission and acquisition. There is no formal whaling education. Young Inuit learn by actively participating in the hunt from a young age. The long tradition of training novice hunters has been overlooked by DFO, as it occurs in relaxed, informal family contexts. No certificates are awarded at the end. Indeed there is no end point, as the acquisition of skill and knowledge is considered a lifelong endeavour (cf. Palsson, 1994; Ingold, 2000).

Far from contributing to the acculturation of novice hunters, many Nunavik Inuit believe that the regulated hunt is resulting in the involvement and participation of fewer young people. Due to the quota system (whether hunters strictly adhere to it or not) hunters feel a greater burden to be successful when hunting whales. They are, therefore, less likely to include novice hunters, who will perhaps slow the progress of the hunt or not be as successful as more accomplished hunters (Siku News, 2005). The management plan, rather than encouraging the development of better hunting skills is, in fact, leading to a reduction in the number of people who possess the requisite skills.

The management plan also suggests that each community develop a code of conduct in their whale hunt. However, a strong moral and practical code of conduct already exists within Inuit communities, based on understandings of whale behaviour and the maintenance of proper human–animal relationships. This encompasses the notion of respect, and of behaving in ways that will be inoffensive to whales. Transgressions can and do occur. One day during summer 2003, some Arviat hunters shot far more whales than they required and then failed to retrieve the carcasses. Their behaviour was disrespectful, put other boaters/hunters at risk, and angered those who witnessed it. In the days that followed Arviarmiut of various ages spoke to the community at large, via FM and CB radio, about the proper treatment of whales and correct hunting techniques. The guilty parties were not mentioned by name, but no-one had any doubt as to why these people broadcast their views, and to whom they were aimed. In the 3 years since, there has been no further misbehaviour of this kind.

The management plan is viewed by many to be offensive to, and dismissive of, Inuit culture. The knowledge possessed by Inuit, embedded as it is in an entire cultural way of life, is dismissed, reduced to the level of anecdotes and "tales." What, then, are the theoretical positions and research agendas of the managers and scientists that have led to the grievances expressed by Inuit and the continuing failure of the beluga whale management plan?

Knowledge: Facts and Frictions

Ingold (2000) draws the comparison between a hunter–gatherer view of the world and a pastoralist view of the world. For the former, the relationship between human and animal is one of trust, while for the latter it is one of domination. This distinction, I argue, is fundamental to the conflicts that arise between hunter–gatherers and conservationists, wildlife managers, or animal rights activists. Animals are viewed as renewable resources to be utilised wisely and/or in danger and in need of human intervention and protection. A complementary approach is Ingold's (ibid) idea of globes—humans stand outside of the world, external to it, and looking down on it—and spheres—each person stands at the centre of ever-expanding experiential spheres continually coming into contact with, and influencing, those of other human and non-human animals.

From the perspective of DFO scientists, managers and policy-makers, beluga whales are animals that have been decimated by past human actions and for them to return to a "natural" state, intervention must take place. The COSEWIC beluga report (2004) distinguishes between "natural" predation of belugas, by polar bears and killer whales, and "human" predation. For Inuit this distinction is flawed. In Arviat, all three are linked. Killer whale predation often delays the migration of belugas past the village; while the harvesting of beluga whales by humans is followed by the scavenging of beluga whale remains by polar bears. The activities of humans, killer whales and

[14] In 2002, I conducted an interview with a DFO official who was visiting Arviat, who informed me that Inuit do not know how to hunt whales properly. He claimed that there is no history of whale hunting in the region (despite historical and archaeological evidence to the contrary), and the methods employed by Inuit were "improper". This was the same individual who spoke at the HTO AGM about his concerns regarding the sale of *maktaaq*.

polar bears are linked. So a clear distinction between "natural" and "human" ignores the intricacies and interdependencies that exist.

The intricacies of human and animal interactions are also simplified in scientific and management attempts to restore whale populations to pre-commercial whaling numbers. Scientists are unsure how many animals there are at present and, therefore, any attempts to determine population sizes from a few hundred years ago are, at best, futile. The "pristine" whale population that scientists and managers hope for (Hammill *et al*., 2004: 186) not only cannot be achieved, it never existed in the first place. As Berkes (2005: 17) has pointed out, "societies are rarely, if ever, in balance with their resources... rather than assuming stability and equilibrium, we would be better off assuming that there will be crises and cycles of change". Viewing the world as a globe from which humans are excluded and which once existed in a pristine and untarnished state ignores the obvious fact that humans are, in fact, a fundamental part of the environment. To strive for stability and control, and to attempt to return to a non-existent past, leads to greater shocks and crises. Berkes et al. (2000: 1259) writes, "such management appears to cause a gradual loss of resilience, as well as reduction of variability and opportunity, thus moving ecosystems towards thresholds and surprises."

Many of the management regimes across the Arctic are based on categorising species into distinct stocks. In the case of beluga whales in Canadian waters, there are seven stocks. However, belugas are migratory animals, moving from Hudson Bay, through Hudson Strait, perhaps migrating up through Davis Strait, or out into the north Atlantic. The COSEWIC report (2004) notes that the different "stocks" mingle at certain times of the year and migrate along similar routes. Inuit distinguish them by their size, shape and colouration, while scientists distinguish them by their DNA. Inuit see fluidity in the migration patterns of whales, while DFO bases its management of whales on these distinct whale stocks. A similar situation exists in Greenland with the management of minke and fin whales. Caulfield (1997: 142) writes, "The Scientific Committee acknowledges this difficulty but is unable to change the boundary [it has drawn between different stocks] because it can't really say where it *should* be." While the Committee sees a problem with where it has placed the boundary between stocks, it has not recognised the arbitrariness of such a boundary in the first place (cf. Stevenson, 2006).

Knowledge is continually evolving and expanding, and for true co-management to take place, each side must be open to learning from the other, and also facing up to its own past mistakes. From discussions I have had with biologists and wildlife managers in Arviat and elsewhere in Nunavut, it appears that there exists a misunderstanding regarding the true meaning of knowledge-sharing and co-management. Making scientific research and its findings accessible to the general public seems to be of primary concern. This is a very necessary and worthwhile undertaking. But it should be only one step towards true knowledge-sharing. Scientists must also come to understand Inuit knowledge, and not dismiss it because it is presented in a format with which they are unfamiliar. One biologist, with whom I spoke, expressed the opinion that the problem lies with Inuit not understanding the science. If only they understood, he argued, they would see the management point of view and would recognise the importance of managing wildlife stocks. This same biologist told me that, despite living in a few different Inuit villages over the years, he had little interest in Inuit culture and, in fact, knew very little about Inuit customs or ideologies. His interest, he said, is wildlife, not people. This conscientious and hard-working scientist, who has the best interests of wildlife at heart, failed to see the irony in his belief that if only Inuit could understand the science, they would come around to the scientist's way of thinking, while he himself made no attempt to understand the Inuit viewpoint. Not everyone wishes to be an anthropologist. However, in the Arctic, and possibly amongst hunter–gatherers more generally, humans and animals are so inextricably linked culturally, socially and economically, that attempts to "manage" animals without appreciating their relationships to humans will not meet with success.

Resistance by Nunavik Inuit to the management of beluga whales reflects these difficulties. A co-management regime that ignores the role beluga whales play in Inuit life; that pays only lip-service to the long-term observational and practical knowledge possessed by Inuit; and that bases policy on ideologies of stability, equilibrium and a pre-human natural state, does not and will not work. It is essential that co-management evolve into true collaboration, involving the shared setting of goals and objectives; meaningful knowledge and information sharing; and a continually evolving management regime that incorporates new evidence in a culturally appropriate manner.

Conclusion

In Arviat, where Inuit continue to hunt beluga whales without restriction, the sale of *maktaaq* in 2002 momentarily alerted people to the idea that the continuation of their subsistence whale hunt was vulnerable. In reflecting on the management of other species and on the management of beluga in Nunavik, Arviarmiut feared for the continued autonomy of their hunting practices, and the culturally appropriate acculturation and conduct attendant on the hunt. In Nunavik, Inuit have for the past 10 years harvested belugas under a management regime that with each passing year becomes more restrictive. Caulfield (1997) has noted

that continually changing quotas and regulations, imposed from the outside, leads to stress amongst Inuit and conflict both within and between communities.

The establishment of the NWMB in Nunavut has had a positive impact on wildlife management. While the board is not without its problems, it is on the right path to developing meaningful and culturally appropriate methods of conducting scientific research on Arctic animals, and of developing research agendas that incorporate Inuit ideologies and concerns. The co-management of animals in Nunavik is not nearly so advanced, but perhaps with the signing of a Nunavik Inuit Land Claims Agreement Inuit in northern Quebec will gain greater autonomy and self-determination over the way they interact with the animals on which they depend.

Differences obviously still remain between Inuit and scientific modes of knowledge. In Arviat, despite the existence of the NWMB, Inuit were concerned about the consequences of a potential imposition of a management plan. These differences are grounded in different perceptions of the world. From an Inuit perspective, humans and whales inhabit a shared social space. From a management perspective, a distinction is made between the natural world and the human world, and the unmanaged actions of the latter can have detrimental impacts on the former. Inuit often find the research and management strategies employed by scientists and policy-makers to be disrespectful. Just as all humans are strong individuals with minds of their own, so too are animals, and to "manage" them shows disrespect. If an animal presents itself to be hunted, then it should be hunted, as to ignore it is to show disrespect and the animal will go away and not return.

Inuit and some management regimes also view environmental processes differently. From an Inuit perspective, the environment is always in flux. There are times when there are many whales (and other animals) and there are other times when there are few. The beluga whale management plan in Nunavik, on the other hand, is target-based, seeking to return whale stocks to a former "pristine" state. This type of management, characterised by rules and regulations, and enforced by agents who are not resource users, emphasises "steady states and the maintenance of predictable yields... [and focuses] on controlling the resource" (Berkes *et al*., 2000: 1259). When management plans are imposed from outside on the basis of little or no visible research and with minimal consultation with resource users, it is hardly surprising that those affected refuse to co-operate.

Tensions will always exist in the management of resources, be they animal, land or water resources, and mistakes will be made. But these tensions and mistakes can be constructive. Wildlife scientists and managers must develop a greater openness to Inuit ideologies and relationships to animals, and to the ways that Inuit express their ideas and feelings on these issues. The cultural distances that exist can and are being forded. The management of polar bears in Nunavut is one situation where Inuit and scientific knowledge are truly attempting to speak to each other. The polar bear management regime is not without its flaws, but the tensions that exist lead to an ongoing evolution of the management regime. A similar openness must be developed in Nunavik between DFO and the several villages affected by the management plan. Scientists and managers must come to a greater understanding of the social and cultural role that beluga whales play in Inuit society. It is not simply a matter of "helping" Inuit to understand the science. A sea change of thinking is necessary on the part of DFO, who must understand that there are multiple and overlapping ways of perceiving the world. The Western ideology of wildlife conservation and resource management is but one of these. In the Canadian Arctic, Inuit have taken leaps to meet managers and policymakers, incorporating new concepts such as conservation and management into their interactions with animals and the environment. It is now time for the managers to take an answering step forward towards some common ground.

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