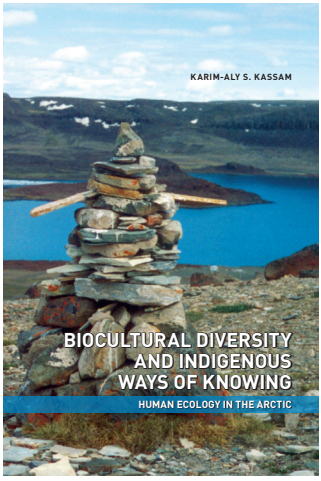

BIOCULTURAL DIVERSITY AND INDIGENOUS WAYS OF KNOWING: HUMAN ECOLOGY IN THE ARCTIC

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ISBN 978-1-55238-566-1

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CHAPTER 4

"Man and His Friends" – An Illustrative Case of Human Ecology in Ulukhaktok, Northwest Territories, Canada

He prayeth well, who loveth well
Both man and bird and beast.
He prayeth best, who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all (Coleridge 1991: 189).

The Arctic Inuvialuit community of Ulukhaktok (formerly Holman), Northwest Territories, Canada, illustrates human ecology in all its dimensions. Before providing details on that community's current interaction with the environment, we need to review the three historical phases that have affected the human ecology of the region. With this background we can show how human ecology, in this case subsistence hunting and gathering, maintains specific cultural values such as sharing which in turn sustain the community through dramatic social change. While community participation is essential in the process of undertaking action research, without it the enterprise of generating human ecological knowledge would fail. This chapter only refers to its necessity while the next chapter explores it in detail.

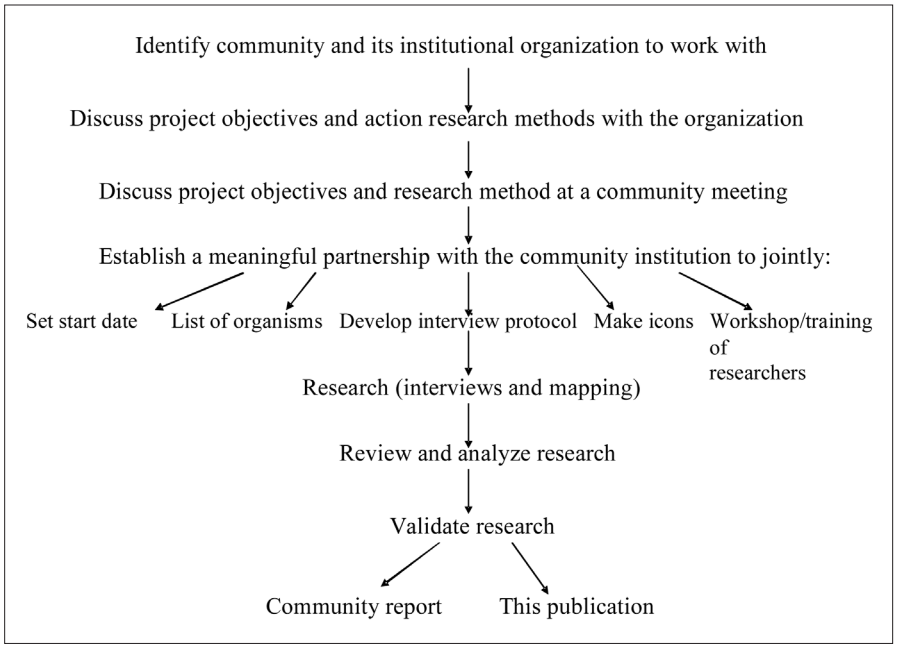

Figure 4.1: Steps to Human Ecological Research.

Community participation for the purpose of applied research requires a meaningful partnership. This partnership is where the researcher(s) and the community forge their working relationship. It is a verbal or written agreement between partners. The project priorities and parameters for the research partnership are identified and established. Figure 4.1 illustrates the steps in undertaking human ecological research which were rigorously applied for each of the communities discussed in chapters 4, 5, and 6.

In the case of the hamlet of Ulukhaktok (formerly Holman), the community was represented by the Ulukhaktokmuit Hunters and Trappers Committee.[1] The Ulukhaktok Hunters and Trappers Committee consists of seven elected members and a hired resource person. The seven members include a president, vice-president, secretary-treasurer, and four directors. At the initial meeting of the Hunters and Trappers Committee (HTC) the following points were presented to set the stage for further discussion: (1) a

description of the project and an explanation of the human ecology component; (2) the role of community researchers in mapping, interviewing, and collecting samples; and (3) community ownership of research results, publications of findings in a non-technical language so as to enable widespread understanding and support for making policy recommendations arising from the study. Discussion began with questions on budget expenditures such as the living expenses of the project team, salaries for community researchers, and incidental costs associated with design of icons by a local artist for mapping. These costs including the purchase of groceries had been budgeted for and designated to be spent within the community where the research was taking place. As the human ecology research was tied to critical issues such as the impact of chemical pollutants, one HTC director was concerned about unnecessarily alarming the residents of Ulukhaktok. However, another director explained that more information is better than no information. Having answered questions, the researcher left and the HTC deliberated on the merits of engaging in a partnership on this research project. The committee members said they would inform the researcher by the end of the day. Within an hour and a half he was informed that the Hunters and Trappers Committee wanted to engage in a partnership and that he should prepare to make a presentation in Inuvialuktun and English at a community meeting set to take place at 7:00 p.m. the next day.

Noted below is a summary of the questions and responses from the community meeting.

- Will the project team take human tissue samples? The researcher replied that they would only take samples of wildlife.
- Would the project team only take samples of marine wildlife? The researcher answered that the Hunters and Trappers Committee would determine which plant and animal; marine and non-marine samples should be collected in terms of priority of resource use by the community.
- A description of the qualifications of community researchers was requested. The researcher explained they had to be bilingual (Inuvialuktun and English), be able to conduct interviews, and that ultimately it would be the HTC that would recommend people to the project research team.

- In which seasons would research be conducted? The researcher replied in all the seasons that are appropriate to the community.
- How would the research be used? The researcher replied that the research would be used to set policy and make decisions on community use of the subsistence resources. The Hunters and Trappers Committee will in due course chart the course of how the information gathered should be used to community benefit. Research would also be used for educational purposes to teach students.

Human ecology identifies patterns of relations of a community to its environment. This includes relations between humans and other animals, plants, and their habitats. As a narrative of human life within a dynamic socio-cultural system intimately interconnected to a dynamic ecological system, human ecology functions as the thread linking culture with nature and an overall system with its individual players. As an interdisciplinary examination of complex interacting systems, human ecology's commitment to applied research addresses cross-cutting issues of relevance to society. The title of this chapter, "Man and his Friends," is inspired by a drawing by Helen Kalvak, resident and artist from Ulukhaktok, Northwest Territories. The basis of this chapter was a study undertaken by the author as part of multi-disciplinary research on the impact of chemical pollutants in the Inuit community of Ulukhaktok, but this chapter will only discuss the human ecology of Ulukhaktok, without entering into a discussion of the issue of chemical pollutants.

Ulukhaktok (70˚43′N, 117˚ 43′) is a community which is part of the Inuvialuit Land Claim Agreement in Canada located on the western extent of Victoria Island on the Amundsen Gulf at the head of the Beaufort Sea (see figure 4.2). The human ecology of the region of Ulukhaktok has undergone three phases of change. While below these stages are outlined as distinct and clear events, the fact is that the change has been mixed, intertwined, and continuous. However, this continuity was interrupted by European contact, fur trading, and resource extraction on an industrial scale. It is difficult to point to exact dates for the transition. For the sake of reference general dates are given to summarize the process of change.

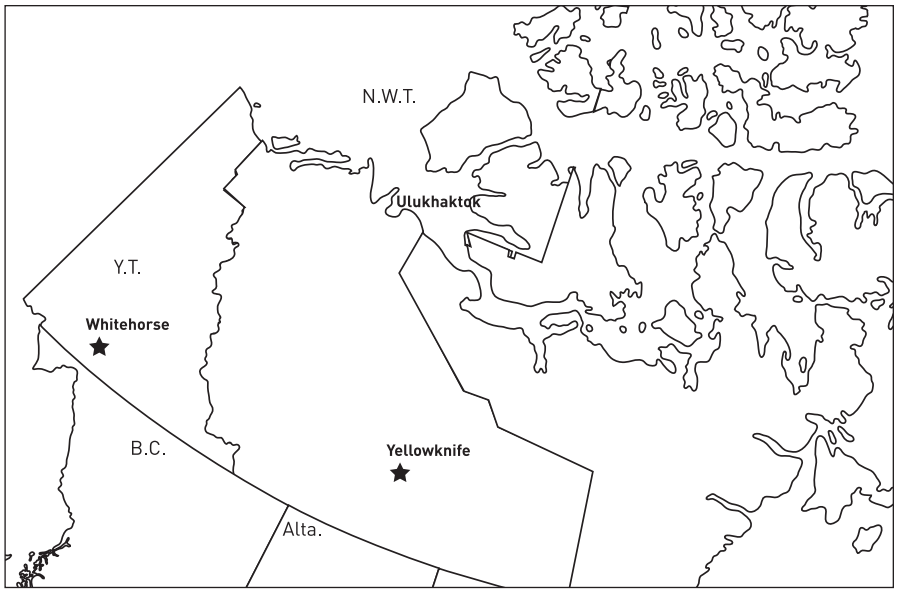

Figure 4.2: Ulukhaktok (Holman) in the Canadian Western Arctic.

4.1. Diversity and Subsistence Hunting and Gathering

The first phase (prior to the establishment of trading posts in Copper Inuit territory in 1916) is characterized by extensive use of the land and sea, seasonal migration, and trading among various small but distinct Inuit groups. The description Vilhjamur Stefansson provides of an encounter with a group of Inuit from southwestern Victoria Island is pregnant with meaning in terms of human ecological relations.

> In general, we tried to get a man from each party we came upon to accompany us to the next party or village so as to introduce us properly and guard against possible mishap, but when it happened that no one was with us when we came to a village, we always had to go through the formality of standing outside the house until some one could get a little blubber, cut it in pieces,

> and let each of us swallow one piece. This … is the ordinary test to determine whether the visitor is human or spirit, for it is a well known fact that spirits will not swallow blubber. We found the people everywhere, when this formality was over, uniformly hospitable and glad to see us (Stefansson 1913: 204).

Consumption of food defines the *realness* of a human person. The ability to eat 'blubber,' a staple for the Inuit, defines one's humanity. Thus, food gained from another organism provides the basis for the formation of relations between human beings whoever they may be (in this case, of vastly different cultures). The modern term that the Inuit of the western Canadian Arctic collectively use for themselves is Inuvialuit, which means *real* person. In the late nineteenth and early twentieth century, it was not common for the Copper Inuit to come across a white man, and they were late in having sustained contact with Europeans. The term 'Copper Inuit' is used in academic literature to identify those Inuit who made copper hunting implements and tools, which the Inuvialuit did.

While travelling further north on Victoria Island, Stefansson makes a note of "superstition" among the Copper Inuit: "There were continual requests that I should next summer 'think away' sickness from them and 'think them' plenty game and good fortune. There have been requests of this sort at all villages, but nowhere so serious, insistent and often repeated" (1913: 295). Stefansson's account misses a fundamental point, namely that to "think good" also means to *act* good.[2] It is a way of knowing and understanding where thought and action are part of a single performance.

The Arctic community of Ulukhaktok, Northwest Territories, Canada, is made up of the descendants of the Copper Inuit. The settlement of Ulukhaktok was first founded in 1923 with the Hudson's Bay Company Trading Post and then moved to its present site at Queens Bay in 1965. Although currently the people of Ulukhaktok refer to themselves as *Ulukhaktokmuit*, people of the place where the *ulu*, semi-lunar shaped knives, are found, the community traces its ancestry to three groups, namely the *Kanghiryuachiakmuit* from the Minto inlet region, the *Kanghiryuakmuit* from Prince Albert Sound region, and the *Puivlingmuit* from Read Island. In addition, there have been some Inuit from regions further west, including as

far away as Alaska, who came as traders. The term *muit* means 'people of' and expresses the diversity of Inuit human ecology and way of life. While in academic literature these various groups have been categorized collectively as the Copper Inuit, reflecting the hand mining and use of copper tools such as knives, there is diversity among them. Stefansson (1913) documented nineteen subgroups among the Copper Inuit, whereas Jenness (1922) lists seventeen and Rasmussen (1932) refers to fourteen. While scholars like Richard Condon assert linguistic unity among these sub-groups, he admits that their diversity is revealed through the prefix attached to the *muit*. For instance, the names of sub-groups such as *Kanghiryuakmuit*, people of the big sound (i.e., Prince Albert Sound), *Nagyuktogmuit*, people of the caribou antler (i.e., southwestern Victoria Island), or *Umingmaktomuit*, people of muskoxen (i.e., Bathurst Inlet),[3] shed light on each community group's relations with their habitat and not just in terms of geography but also in the nature of their interaction with their environment. Membership in a community (*muit*) is determined by presence in the area and performance of the community's primary activity such as hunting polar bears, seals, caribou, or muskoxen (Condon 1981; 1987; 1996; Damas 1984; Milton Freeman Research Limited 1976a).

Charlie Kitologitak, an Inuit elder with deep knowledge of the livelihood of his people, testified at the MacKenzie Valley Pipeline Inquiry in 1976 and described "two tribes" in the region of Prince Albert Sound. He described an event where a group of hunters from one "tribe" killed without any apparent cause all the children and nearly all the women except for two survivors. As a result, hunters from the other tribe tracked down members of the offending community and killed them all (MacKenzie Valley Pipeline Inquiry 1976: 4006–4009). This suggests that not only was there the presence of diversity among the Copper Inuit, but in some instances these differences led to warfare rather than intermingling.

Tiger Burch (1998; 2005), in his research among the Iñupiaq of northwest Alaska, asserts that the prefix accompanying the suffix *muit* actually represents 'society' or 'nation.' Instead of the conception of the Iñupiaq as one people across the North Slope of Alaska, he asserts diversity of nations, much like the distinct nations of Europe. Despite their relatively smaller size, a few hundred people, and lack of the systems of government we have

come to associate with the nation-state, he argues that the identity of each of these communities was sufficiently distinct to allow this analogy: "Like modern nations, those of early nineteenth-century northern Alaska had dominion over separate territories, their citizens thought of themselves as being separate peoples, and they engaged one another in war and trade" (Burch 1998: 8). Burch credits the diverse fauna of the tundra and forest of northwest Alaska for the survival of these separate nations in their habitats. The spread of diseases from European contact eroded the ability of these nations to defend their territories, and famine forced them to leave their homelands. These two factors collectively weakened and then led to a collapse of these nations by the mid-1800s. Whether the use of the term 'nation' is appropriate or not to describe diverse Inuit communities is irrelevant to the significance of the prefix connected with the suffix *muit* as the indicator of ecological habitat of a people. This prefix, however, is not a deterministic design which hems a particular people into an ecological niche. Instead, it expresses a cultural system that combines with social structure to inform ecological relations, which in turn informed cultural systems and social relations through a complex connectivity. It is this complex connectivity that produced diversity in Inuit communities.

Climatic cooling in the central Arctic has been made a causal factor in the development of the varied fishing and hunting cultures of the Copper Inuit. These cultures are characterized by seasonal migration of small family groups that were highly adapted to their local contexts. It is these varied groups that early explorers such as Robert McClure (1850s) encountered. It was not the fleeting contact made with him during his attempt to find the Northwest Passage, but his ship, the *Investigator*, trapped in the ice at Mercy Bay in June 1853 and abandoned, that had a significant impact on the Copper Inuit. Items of food and clothing were of little value to the Inuit, but its soft wood and iron were of immeasurable value in their daily life. As late as 1905, Christian Klegenberg reports meeting a man with knife made from a saw blade taken from the *Investigator* (Condon 1996; Stefansson 1921; Stevenson 1997).

In terms of seasonal practices, breathing-hole sealing was common in the winter. Once harvested, the seal was divided into twelve to fourteen parts to be shared with partners who previously had or later reciprocated

in exchange. Caribou and waterfowl hunting along with fishing featured prominently in the summer months. In the fall the Copper Inuit continued to fish in small groups at frozen lakes and took advantage of the cache of foods stored from previous hunts (Condon 1996; Milton Freeman Research Limited 1976a).

Food sharing and co-operative hunting among non-relatives is a key facet of this group's social structure. The seal-sharing partnership is an example of this exchange. Sharing extended to spouses when relations needed to be forged between family groups. Certain procedures were observed in preparation of foods so that land and sea mammals were not cooked in the same pot. Seal and caribou meat were not stored together. Sewing of caribou hide was prohibited in the winter, and all clothing had to be prepared by the fall before moving to sealing grounds in the winter. Shamans who acted as seers were said to be helped by a number of guiding animal spirits in their activities. Sharing and co-operation typified Copper Inuit culture and contributed to their survival (Condon 1996). Observations and records from early contact indicate that patience, self-control, and self-effacing humour are characteristics of the ancestors of the modern-day Inuit of Ulukhaktok.

4.2. Trading, Trapping, and the Formation of Dependency

The second phase (1916 to 1980s) is characterized by the increasing role of trapping activities given impetus by the establishment of the Hudson's Bay Company trading posts as well growing efforts at Christianization, particularly by the Anglicans. Ironically, both God and Mammon arrived at the same time because the desire to save souls was matched by a thirst for furs. The effect of this was to promote extensive inland use as opposed to coastal marine use, because of intensive trapping of the Arctic fox among other fur-bearing animals. It is important to note that before the introduction of the snowmobile, dog teams were key to trapping and fishing as well as harvesting of marine mammals. Fishing and hunting of marine mammals was essential not only for human nutritional needs but also for feeding the

dogs. At this time a lot of income was also derived from hunting seal and selling their hides (Mackenzie Valley Pipeline Inquiry 1976: 3949).

> The country has changed since 1916. Even while we said our farewells the traders were all heading eastward to the new land where beautiful white fox skins were valueless [traditionally of no monetary value to the Inuit] and a fortune could be gained in a night. White men have invaded it from every quarter, and the twilight of ignorance and superstition is yielding to the dawn of a greater knowledge. Bows and arrows have passed with other weapons into the darkness of the past, and a new mechanical age has brought magazine rifles, shotguns, steel traps, and even gasol[i]ne engines. The caribou are passing with the bows and arrows; of all the herds that once crossed the narrow strait to Victoria Island hardly one now reaches the Arctic shore. Strange diseases are making their appearance, disease that the old-time Eskimos never heard of and for which he has no name. The stern laws of civilization have descended on the land; no longer is infanticide tolerated, or the blood-feud allowed to run its course. "Furs, furs and more furs," is the white man's cry. "Without furs there is no salvation, no ammunition to shoot the scattered game and satisfy your hungry children." The tribal bands where each man toiled for all and shared his food in common are resolving into their constituent families, and every family vies with the rest in the race for wealth and worldly prosperity (Jenness 1975: 246–247).

In 1916 the Hudson's Bay Company established its first permanent trading post in the region, when Christian Klegenberg built a post near the mouth of the Coppermine River. At the end of the First World War, Diamond Jenness in the quote above observed dramatic change as the culture of the market sought to overwhelm subsistence hunting. However, Jenness's pessimism was not fully borne out until the 1940s. Subsistence activities persisted and continued to inform the values of the community of Ulukhaktok. In this phase most of the communities in the region continued to follow their

seasonal round of hunting and fishing. The Inuit were slow to intensively engage in trapping activities until the 1940s.

In 1939 the construction of the Hudson's Bay store began in *Ulukhatok*. This attracted Western Inuit from the MacKenzie Delta and Banks Island who began to build houses. Increasingly fox trapping was combined with traditional practices. A dependency based on exploitation developed, or as Usher reports, "the Eskimos were being robbed blind" (1965: 63).

> The relationship of the Eskimo to the trader became virtually that of a bonded servant. To trap initially the Eskimo had to be supplied with traps, and generally a rifle and other gear. Having no means to pay for this outfit, he went in "debt" to the trader, and settled his account the following spring by bringing in his catch of furs. Both the availability of the white fox and its market price fluctuated considerably, and in some years the Eskimo was unable to pay his debts. This indebtedness prevailed for almost thirty years, until other sources of cash became available to the Eskimos (Usher 1965: 62).

The dependency was generated through establishing a need for rapid methods of food gathering, such as the fishing net and the rifle (Stefansson 1913: 203), as well as developing a taste for items such as tobacco, sugar, and flour which ninety years earlier were items the Inuit ignored in the wreck of the *Investigator* when they chose useful hardware. In addition, the dependency was engineered by what is tantamount to extortion by not giving market value for the fox furs and deliberately giving cleaning rods for guns which damaged the rifles, thereby furthering sales in a saturated market (Usher 1965). Dependency on traded goods potentially threatened not only relations between neighbours in terms of co-operation and sharing in subsistence activities, but other relations within the human ecological context.

By the late 1950s and early 1960s other income sources such as government employment, family allowances, and social assistance encouraged the process of sedentization and trapping that undermined seasonal migration related to subsistence hunting and fishing. First influenza and then tuberculosis epidemics attacked the region. Furthermore, availability of caribou

and other game declined. Diet, disease, demography, and development were combining to weaken subsistence hunting activities and the Inuit way of life, creating dependency on the new market economy. Nonetheless, while the effect of disease was significant, the Inuit of Ulukhaktok fared better than the Hudson's Bay Company–dependent Inuit to the south because of their persistence in maintaining their traditional subsistence lifestyle.

In the 1960s the price of seal skins increased dramatically. At this point the human ecology of Ulukhaktok consisted of trapping, sealing, and subsistence hunting. At the MacKenzie Valley Pipeline Inquiry, Roy Goose testified on behalf of the Hunters and Trappers Association of the Community of Ulukhaktok. He explained that "Most of the people in Holman Island, the ones without jobs, are professional hunters and trappers. They are people that *know*[4] the land, that *know* the ocean, that *know* everything relating to the environment" (MacKenzie Valley Pipeline Inquiry 1976: 3963). In his testimony, Mr. Goose gave data on the harvest of various mammals, fish, and birds. Over a six-month period from October 1975 to March 1976, approximately 225 caribou were harvested and 900 Arctic fox. Over a period of almost a year 1,700 seals were harvested, based on the number hides sold, although the department of fisheries testified that 6,000 to 8,000 seals were harvested in Ulukhaktok. This discrepancy, if correct, suggests that the remaining seals were harvested for local consumption and clothing needs. In any case, 1,700 seal hides were sold to the local Cooperative or the Hudson's Bay Company. In one year approximately 350 pounds of Arctic char per family or 6,000 pounds in total were consumed by the community. There was a quota of 16 polar bears per year for the community. Mr. Goose also made a request on behalf of the hunters and trappers to end the ban on hunting muskoxen due to their growing numbers and suggested the introduction of a quota system to prevent over-hunting. He could not estimate how many other fish and migratory birds, ducks, or geese were hunted, although they were important to the community's nutritional needs. He provided a dollar value for only those animals that had a market outside of Ulukhaktok and could not estimate the market value of the harvest of other animals for the purposes of subsistence. Total income from the sale of seal hides was $60,000[5] and white fox fur $39,000 (MacKenzie Valley Pipeline

Inquiry 1976: 3962–3973). However, the use value of these and other animals and plants harvested was much greater to the community.

The founding of the Holman Eskimo Cooperative in 1961 was a direct result of sedentization and a response to economic dependency, using co-operative principles. Its aim was to provide a small but stable income to the members of the community. More importantly, it was a source of pride and represented Ulukhaktok's Inuit culture to southern Canada and the rest of the world. With a contribution of ten dollars each, five Inuit and the Oblate Priest, Father Henri Tardy, formed the Co-operative (Wight 2001).

> In 1961 it started with six people, you know, these six people were the ones that started the Co-Op, as members, and their goal was to make some products that could be carried out through the people, the people can make them and sell them. These six people find out that by working together, sticking together, they can support themselves. In those days they had to think lots before they started that Co-Op because they had to start a Co-Op, otherwise they would be on welfare. These six people were too proud to go on welfare, so what they did was they started a little Co-Op by starting with sealskin tapestries. (Testimony of Simon Kataoyak, MacKenzie Valley Pipeline Inquiry 1976: 4001).

In 1965 Father Tardy introduced the first snowmobile and by the 1970s snowmobile use was widespread. By the 1980s, with pressure from animal rights groups and the anti-trapping lobby, the international market for furs was decisively damaged, which marked the decline of trapping and seal hunting for skins.

4.3. Natural Resource Extraction, Land Claims, and Subsistence Activities: A Time of Possibilities

The third phase (1980s to present) is characterized by the collapse of the fur trade and a growing pressure for the development of non-renewable

resource extraction. In addition, it has been characterized by a political assertion of indigenous rights by the Inuit in terms of land claims and the establishment of co-management bodies for natural resource use. Despite these socio-economic changes, the cultural system, characterized by values arising from a tradition of hunting and gathering, has sustained the community: first in terms of its nutritional needs, and second through the preservation of its values, particularly sharing.

> He wants to see the Eskimos live the way they are for quite some time. He wants to see the children on the land supporting themself [themselves] from the land. Like we don't have money among ourselves, but our pride in living off the land is one thing that we don't want taken away. (Interpreter translating for Paul Pagotak who was testifying to Justice Thomas Berger at the Mackenzie Valley Pipeline Inquiry 1976: 3937–3938.)

> They [mining companies] never clean that place up because they were bankrupt. There's a lot of garbage up there that's never been cleaned.… There's barrels there that shouldn't be laying around there.… You see, those kind of advantages that are taken up there, I don't feel too good about Muskox Mines and Grand Roy because they were not cleaned up.… They just left everything there. So you see, that's why we are scared to say "Yes, go ahead drill." We can't do that because these people didn't clean up at all. (Simon Kataoyak testifying to Justice Thomas Berger at the Mackenzie Valley Pipeline Inquiry 1976: 3942.)

> Also we would like to be involved when we start developing this country because we can develop with these southern people. We know that they need oil the same all over they're short of oil. We don't want to see southern people short of oil because in the wintertime some other places they are really cold too, I know, I been in south. All these people, we are Canadians, we should be involved in this country together. So only way we

> can do it is unite together with Eskimos and Indians and white people, only way we can develop this country, because really rich country according to the scientists in the north, because there's all kinds of gas we heard about in Tuk [Tuktoyaktuk], even Banks Island. We are not stingy for this country. That's the trouble, because we really endanger our way of life. Then we would like to see the thing, right now the settlement of land claims before all these things occurs. That's all I have to say for now. (Wallace Goose testifying to Justice Thomas Berger at the Mackenzie Valley Pipeline Inquiry 1976: 4018–4019.)

Some thirty years later and after ratification of the Inuvialuit Final Agreement (1984), the Inuvialuit Regional Corporation (itself a governing institution resulting from the Agreement) is a leading proponent of the MacKenzie Valley Pipeline, where it stands to gain as a partner along with private oil companies.

As a result of the Inuvialuit Final Agreement in 1984, the Wildlife Management Advisory Council, supported by the Fisheries Joint Management Committee, undertook a conservation and management plan for the Inuvialuit region. It organized community-based management plans for each of the six Inuvialuit communities. In the case of the Olokhaktokmiut Community Conservation Plan, information was collected from existing community sources, the Community Conservation Plan Working Group, and from the community in general. Where the community felt appropriate, suggestions from outside experts and specialists were incorporated. The goals of the document were to identify important land-use areas and make recommendations for their management as well as describe a community processes for making culturally appropriate decisions relating to resource management. The report was intended to assist resource management planning and serve as an effective educational tool. It is noteworthy that when this human ecology research began in 1998, the plan was rediscovered by resource-use decision makers in the community because there was a strong consonance between what was documented in the plan and what respondents were saying in the human ecology research interviews.

The conservation plan is meant to provide guidance to the people of Ulukhaktok and to other organizations and individuals with an interest in the land, marine, and living resources in the area. In order to assure long-term, environmental, social, and economic benefits, the Inuvialuit Final Agreement requires the Wildlife Management Advisory Council to determine the total allowable harvests of game. The Wildlife Management Advisory Council accomplishes this by working with the local Hunters and Trappers Committee (HTC), who in turn collaborate with many organizations under the umbrella of the Wildlife Management Advisory Council in determining the total allowable quota. Long-term planning is also addressed in the Olokhaktokmiut Community Conservation Plan through geographic and qualitative documentation of significant cultural and renewable resource sites and the archiving of present conservation measures and future research goals.

4.3.1 Demographic Profile

In the census year 2001, the population of the Hamlet of Ulukhaktok was approximately 400, an almost 6 per cent decline from the 1996 census year (see table 4.1).

The median age of the population is 26 years, with over 40 per cent of the population below the age of 20 (see table 4.2). Compared the Canadian average, where 26 per cent of the population is below the age 20, the population of Ulukhaktok is relatively younger, which is similar to other Aboriginal communities in Canada. High fertility rates combined with increasing life expectancy have given the Inuit the highest growth rate even when compared to other Aboriginal peoples in Canada. In Ulukhaktok the majority of the population is Aboriginal and specifically Inuit, with less than 5 per cent of non-Aboriginal descent (Statistics Canada 2003a; 2003b; 2003c).

Table 4.1: Profile of the Hamlet of Ulukhaktok (Statistics Canada 2003c)

Population in 2001	398
Population in 1996	423
1996 to 2001 population change (%)	-5.9
Total private dwellings	144
Population density per square kilometre	3.2
Land area (square km)	124.43

Table 4.2: Age Characteristics for the Population of the Hamlet of Ulukhaktok (Statistics Canada 2003c)

	Total	**Male**	**Female**
All persons	400	185	210
Age 0–4	25	10	15
Age 5–14	110	50	60
Age 15–19	40	15	25
Age 20–24	15	10	10
Age 25–44	140	70	70
Age 45–54	30	10	20
Age 55–64	25	15	10
Age 65–74	5	5	5
Age 75–84	10	5	0
Age 85 and over	5	0	0
Median age of the population	26.2	26.7	25.7
% of the population ages 15 and over	66.2	67.6	69.0

Sedentization, the concentration of the Inuit in a settlement, has had a significant impact on adolescence. The transition from childhood to adulthood was relatively swift in the first phase of Inuit human ecology, as the young person was expected to participate in subsistence activities. Girls got married close to puberty and boys married as soon as they acquired the necessary skills to sustain a family. Marriages were arranged by families much in advance and were not a matter of individual choice. Time for maturation has increased. Youth role models now come from among peers, both local and electronic, rather than simply small family groupings as in the past. Inuit youth in Ulukhaktok today have a high degree of autonomy. Research

indicates Ulukhaktok teenagers tend to be self-confident individuals with a pleasant demeanour, who live equitably and do not place excessive demands on personal relationships. The youth do not engage intensively in seasonal subsistence activities during the school year and have gained significant leisure time. Nonetheless, seasonal subsistence activities continue to be part of their lives. In the early fall, in addition to temporary wage employment, boys engage in subsistence activities such as seal and rabbit hunting. In the fall, boys accompany their fathers to Fish Lake for caribou hunting and fishing. In the winter, some boys may engage in trapping while attending school as well as playing hockey and skating. Some rabbit hunting continues in this season. In the early spring teenagers may go ice-fishing and caribou hunting. In the spring, adolescents are increasingly outdoors engaged in waterfowl hunting, as well as playing baseball and football. In the summer, many families go to their seal hunting camps (Condon 1987).

In terms of educational attainment such as high school graduation, trades certification, college diploma, or university degree, males tend to have greater qualifications than females in the community, although this may be changing with greater participation of women in school attendance (see table 4.3). In the age group 20 to 24 years, 41 per cent have less than high school education, 41 per cent have attained high school graduation, 12 per cent have trades certification, and approximately 12 per cent have a university degree or diploma. In the age group 35 to 44 years, almost 39 per cent have less than high school education, 15 per cent have attained high school graduation, 23 per cent have some form of trade certification, and 15 per cent have a college certification or diploma. Finally, in the age group 45 to 64 years, 70 per cent have not attained high school graduation, 20 per cent have trade certification or diploma, and 20 per cent have university certification, degree, or diploma. While these data point to the potential for integration into the global market economy, they reveal little about the subsistence hunting practices of the community and its real value to the community.

Table 4.3: Population Characteristics: School Attendance, and Highest Level of Schooling (Statistics Canada 2003c)

School Attendance	Total	Male	Female
Total population 15 years and over attending school full time	50	15	40
Age group 15–19 attending full time	30	10	20
Age group 20–24 attending full time	0	10	10
Total population 15 years and over attending school part time	20	0	10
Age group 15–19 attending part time	0	0	0
Age group 20–24 attending part time	10	0	0
Highest Level of Schooling			
Total population aged 20–34	85	40	50
% of the population aged 20–34 with less than a high school graduation certificate	41.2	50.0	30.0
% of the population aged 20–34 with a high school graduation certificate and/or some postsecondary	41.2	37.5	30.0
% of the population aged 20–34 with a trades certificate or diploma	11.8	25.0	20.0
% of the population aged 20–34 with a college certificate or diploma	0.0	0.0	20.0
% of the population aged 20–34 with a university certificate, diploma or degree	11.8	25.0	0.0
Total population aged 35–44	65	30	35
% of the population aged 35–44 with less than a high school graduation certificate	38.5	33.3	42.9
% of the population aged 35–44 with a high school graduation certificate and/or some postsecondary	15.4	0.0	0.0
% of the population aged 35–44 with a trades certificate or diploma	23.1	33.3	0.0
% of the population aged 35–44 with a college certificate or diploma	15.4	0.0	0.0
% of the population aged 35–44 with a university certificate, diploma or degree	0.0	0.0	0.0
Total population aged 45–64	50	25	25
% of the population aged 45–64 with less than a high school graduation certificate	70.0	60.0	80.0
% of the population aged 45–64 with a high school graduation certificate and/or some postsecondary	0.0	0.0	0.0
% of the population aged 45–64 with a trades certificate or diploma	20.0	40.0	0.0
% of the population aged 45–64 with a college certificate or diploma	0.0	0.0	0.0
% of the population aged 45–64 with a university certificate, diploma or degree	20.0	0.0	0.0

According to 2001 census data, the unemployment rate in the hamlet is approximately 12 per cent. The total number of persons age 15 and over in Ulukhaktok with income was 250. For this group, total income was comprised of 80.1 per cent from earnings, 16.4 per cent from government transfers, and 2.4 per cent from other sources. The median income for persons 15 years of age and over was $12,256 (Statistics Canada 2003c). These data do not address how subsistence hunting practices are valued. While attempts have been made by establishing price equivalences between a pound of beef and caribou, for instance, this market-oriented attempt, while useful, does not reveal the use value (*oikonomia*) of subsistence activities to the community in terms of cultural systems and social structures. Such an approach is vacant in terms of the connectivity of human ecological relations.

There are 105 families and 130 households in the community. Lone-parent families make up one third of the households in the community and one-person households make up 23 per cent of the total households (Statistics Canada 2003c). In terms of religious affiliation, 79 per cent of the residents of Ulukhaktok are attached to Protestant Christianity, 16 per cent to Catholicism, and 5 per cent have no religious association (Statistics Canada 2003c).[6]

4.3.2. Research Overview

A total of thirty-two interviews were undertaken in 1998 and 1999. All interviews were validated in 1999 with the respective community members interviewed. In preparation for this publication this chapter was reviewed by the Hunters and Trappers Committee. Individuals both read and corrected the transcripts of their interviews or, in the case of elderly community members, the transcripts were read to them for comment. Ages of those interviewed ranged from the late twenties to early eighties. At the time the interviews were undertaken, almost half were below the age of forty. Of the thirty-two people interviewed exactly half were female. This gender balance contributed to a more holistic understanding of the human ecology of Ulukhaktok. Ten of those interviewed were senior members of the community and could be considered 'elders,' two of whom have subsequently died. The vast majority, if not all, participate in the subsistence harvesting

lifestyle now or have done so in the past. In addition to day-to-day wage employment, many participate in subsistence harvesting to varying degrees.

Several of the respondents used phrases such "*when I woke up*" or "*when I started remembering*." These terms or phrases refer to their earliest memories as children. In other words, they refer to a time as far back as they can remember as conscious beings. Many references were made to a time long ago. This tended to refer to a period of time when the Inuit (specifically the respondents) lived a seasonal subsistence lifestyle with their families.

The human ecology of Ulukhaktok is fundamentally defined by the subsistence activities of its community members, which has resulted in a cultural system that works in tandem with the social structure. Subsistence hunting is both culturally bounded by subsistence needs and formative of the social structures of the indigenous communities that undertake this activity. In Ulukhaktok, for example, the institutional presence of the Hunters and Trappers Committee and the annual *Kingalik* Jamboree in mid-June are examples of cultural-ecological interconnectivity. At the Jamboree both young and old are encouraged to compete and demonstrate their traditional skills such as seal flensing, hide stretching, fish filleting, and other traditional skills and recreational activities. The event serves as a testimony to the continued interaction between the cultural and ecological. As noted earlier (chapter 3), Inuit collaboration in subsistence activities and food distribution is not only a necessity in the strategy of hunting and fishing, but a recognized behavioural norm. These activities result from social cohesion, but also are undertaken to reinforce it.

With technological change and the introduction of the wage economy, one would expect that social cohesion would be undermined if subsistence hunting was only a necessity – something needed to survive. Today, in Ulukhaktok, it is difficult to differentiate the wage economy from subsistence hunting, as these activities are interdependent. The peoples of the circumpolar world exist in the global economy and yet retain their historical identity and culture. To hunt ringed seal, for example, community members need to take time away from their daily wage employment, buy gasoline to power their boats or snowmobiles, purchase bullets, and so on. It is neither possible nor useful to force a division between the wage economy and subsistence hunting. They are now interdependent activities

and represent the socio-economic reality of many northern indigenous communities. Subsistence hunting is part of the web of contemporary relations that comprise the human ecology of indigenous communities in the Arctic and sub-Arctic. It cumulatively underpins the nutritional, economic, cultural, and social needs of these communities.

For example, several classes at the Helen Kalvak School were asked to describe their favourite foods and meals for the day (table 4.4). Elementary and junior high school students showed greater preference for food harvested through subsistence activities than store-bought foods. In terms of preferred choice by students, foods from subsistence activities are ranked with 80 per cent greater frequency than store-bought food. The most frequently mentioned foods are pizza, seal, and dried meat, with caribou having the highest frequency of mention. Amongst the older children, particularly those in grade 10, non-traditional foods began to feature more prominently (table 4.4). These data imply that the subsistence lifestyle has a significant presence for the younger generation. Overall, the responses of the children indicate the continued vibrancy of the subsistence activities in Ulukhaktok.

The Centre for Indigenous Peoples' Nutrition and Environment (CINE) undertook interview questionnaires and surveys to assess the dietary benefit and risk in 10 per cent of the households in the community of Ulukhaktok in the autumn (September to December) of 1998 and the late winter (February to April) of 1999, along with other Arctic communities. The objectives of the study were: (1) to derive quantitative estimates of "traditional/country and market food," that is, food consumption from subsistence activities versus store-bought food comprised of items from southern markets; (2) to develop databases of nutrient and dietary exposure to contaminants in "traditional foods"; and (3) to outline the benefits of these foods in terms of nutritional, socio-economic, and cultural significance. This study was carried out in eighteen Inuit communities across the Canadian Arctic, including Ulukhaktok. The data is presented in the aggregate, representing the five regions of the Canadian Arctic where the Inuit live, and is of little use in terms of specific information on Ulukhaktok. Whatever specific information is provided on the subsistence activities of the community of Ulukhaktok has been taken into account in the human ecology research

Table 4.4: Preferred Foods of Students at Helen Kalvak School

	Kindergarten	Grades 2–3	Junior High	Inter Class	Grade 10
Breakfast	N/A	N/A	Cereal (11) Juice (6) Toast (3) Tea (1) Pancakes (1) Eggs (1)	N/A	Cereal (7) Toast (4) Nothing (3) Juice (2) Eggs (1)
Supper	N/A	N/A	Caribou Soup (6) Caribou Meat (4) Pizza (1) Burgers (1) Meat (1) Duck (1) Fish Heads (1) Potatoes (1) Corn (1)	N/A	Caribou Soup (2) Corn (2) Sandwiches (1) Stew (1) Beef Ribs (1) Potatoes (1) Pogos (1) Fish (1) Pop (1) Hamburger Helper (1) Chicken (1) Caribou (1) Salad (1) Steak (1)
Favourite Foods	Noodles (1) Cereal (1) Pancake (1) Caribou (1) Muskox (1) Seal (1) Bird (1) Fish (1)	Caribou (6) Duck (4) Fish (2) Char (1) Seal (1) Rabbit (1) Meat (1) Spaghetti (1)	Caribou (12) Pizza (9) Dry Meat (7) Seal (5) Muskox (4) Fish (4) Duck (3) Soup (2) Polar Bear (2) Char (1) Piffie (1) Corn (1) Junk Food (1) Pie / Cake (1) Mahu (1) Chicken (1) Fries (1) Hamburger (1) Rabbit (1)	Caribou[7] (8) Fish Soup (4) Dried meat (3) Seal (3) Muskox (1) Frozen Meat (1) Ice Cream (1)	N/A

results. Furthermore, the CINE study provides general trends that validate the human ecology research results for the hamlet (Kuhnlein et al. 2000).

Overall the CINE study concluded that food obtained from subsistence hunting and gathering activities was a significant socio-cultural resource. These food sources contained substantial nutrients and a higher quality of diet compared to the store-bought foods. Furthermore, respondents maintained that foods from subsistence hunting are healthy for children and pregnant women, as well as being "tasty" and important to community life. Various meats and mixed food preparations such as pizza and spaghetti were most frequently mentioned as favourite store-bought foods. Store-bought food tended to be higher in fat content, especially saturated fat. Store-bought food was also associated with chronic disease and obesity. Furthermore, the economic benefits of foods arising from subsistence hunting and gathering were considerable – 8 per cent of the respondents in the eighteen communities surveyed indicated that they could not afford to buy store-bought food to meet their daily dietary needs (Kuhnlein et al. 2000).

Subsistence activity in Ulukhaktok is seasonal and linked with harvesting of several species at one time. The seasonal round derived from our human ecology research (figure 4.3) indicates the interrelationship of seasons, plant appearance, animal movement, and harvesting by the community of Ulukhaktok. In addition, it illustrates the intensity of resource use according to seasons. In the interviews, berry harvesting was most frequently mentioned as a plant harvesting activity. Among the birds, ptarmigan, Canada goose, and eider (king and common) feature most prominently. For the large terrestrial mammals, both muskoxen and caribou are important subsistence foods. Among the fish, lake trout and char were commonly mentioned as harvested foods. Among furbearers, Arctic hare and Arctic fox were the most frequently mentioned. It is noteworthy that the fox was harvested for its fur, whereas the hare was harvested primarily as food. Among the marine mammals, seals and polar bears are most significant. The seal is slightly underestimated because some respondents did not differentiate between the ringed and bearded seal. If this is taken into account, the two most significant species to the community of Ulukhaktok are seal and caribou (Ulukhaktok Interviews[8]).

The interviews indicate that sedentization of the Inuit and the wage economy has resulted in the decline of harvested foods over time in Ulukhaktok. However, the wage economy also funds the continuance of the harvesting of subsistence foods. In terms of food consumption there have been slight changes in the usage of the organs, some of which are rarely consumed. In terms of storage, use of refrigeration rather than indigenous methods of caching food is a relatively recent option.[9] Certain types of meat, such as seal, are no longer aged by many of the respondents. In terms of consistency over time, boiling of foods continues to be a method of preparation.

4.4. Human Ecology of Ulukhaktok

This section should be read with the land and marine use map of Ulukhaktok (see foldout map). Listed below are detailed descriptions of harvesting procedures, harvest sites, and methods of consumption of plant and animal species of particular significance to subsistence living in Ulukhaktok as determined by the Hunters and Trappers Committee and through interviews with community members. The map, along with the icons (visual representations) of the plant and animal life, the Inuit names in the local dialect, common English names, and the scientific names creates a shared vocabulary for subsistence harvesters, scholars, and policy makers to engage in discussion of the human ecology of Ulukhaktok.

Preceding the detailed description drawn from the interviews, vignettes from taped interviews in 1964 by Helen Kalvak (1901–1984) will be added to provide texture to the human ecological information. Found in a shoe-box with the first of eighteen tapes missing, these interviews impart a narrative quality to the human ecology of Ulukhaktok. Helen Kalvak, a Ulukhaktok resident, local artist, founding member of the Co-operative and reportedly *angakuq* (shaman), originally gave these interviews to accompany her drawings. While these drawings may have been sold, the accompanying narratives remain largely ignored.

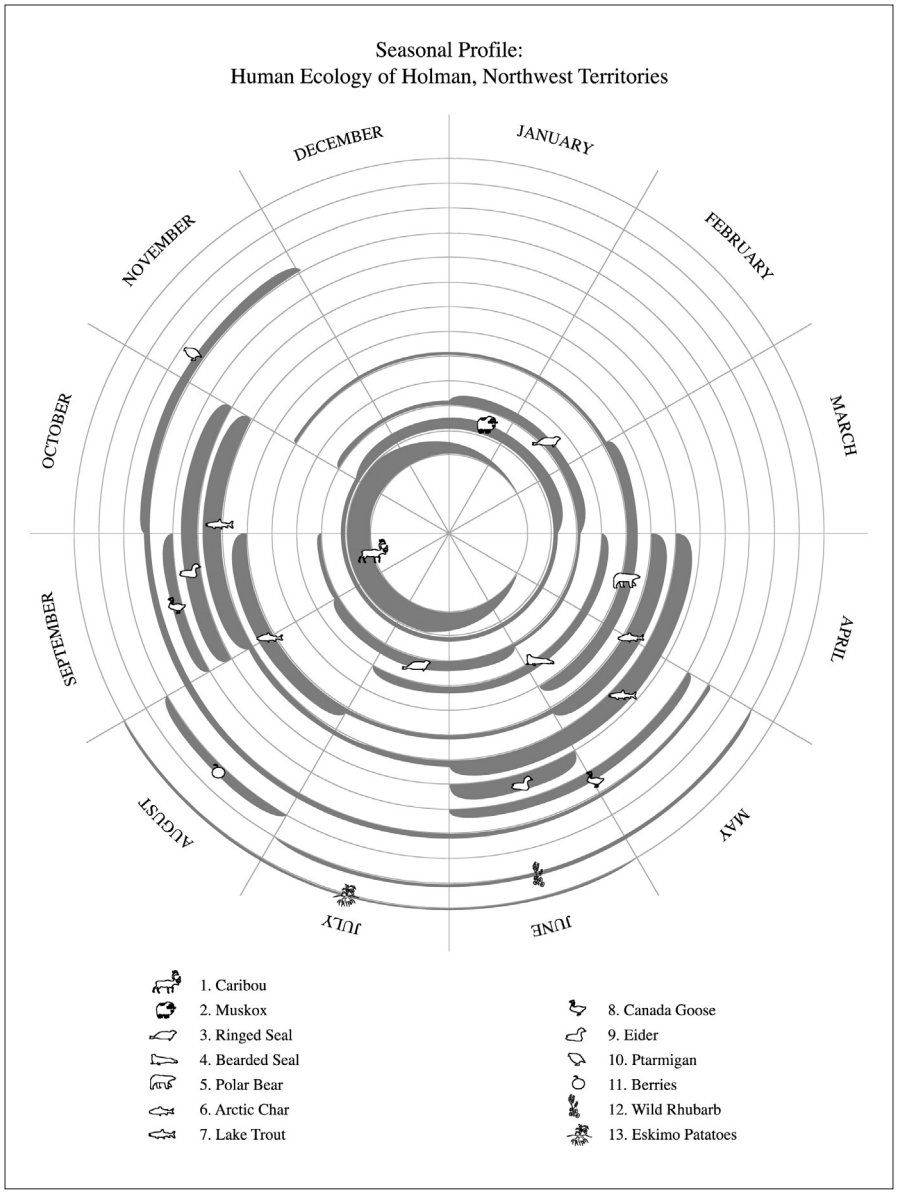

Figure 4.3: Seasonal Round Indication Intensity of Harvest.

4.4.1. Tariuqmiuttat*: Marine Mammals*

The residents of Ulukhaktok have historically relied on marine resources for their livelihood. Seal and polar bear hunting continue to be important because they provide income from the sale of skins and subsistence food for local residents (Ulukhaktok Interviews).

☞ ***Nattiq*: Ringed Seal *(Phoca hispida* or *Pusa hispida)***

> Long ago when it was time for the seals to come up on the ice to sunbathe – when it is almost time to travel inland – the family would hunt seals together using metal sled runners. Sometimes the father would take his son with him. They would hunt seal by the crack [in the ice] or look for seal holes. They did not have many dogs, and so would walk beside their sleds or even help their dogs pull the sleds. That's the way the people were long ago (Kalvak 1964: Tape 6).

Seals continue to be a key resource for the people of Ulukhaktok (Kuhnlein et al. 2000; Mackenzie Valley Pipeline Inquiry 1976; Neumann 1992). Although both the ringed and the bearded seal are present in the area, ringed seals tend to be more abundant (Damas 1984; Neumann 1992; Usher 1965). Due to their greater numbers and their smaller size, which makes it easier to handle them once harvested, the ringed seal is preferred by the hunters of Ulukhaktok (Ulukhaktok Interviews).

During the mid-sixteenth century seals were harvested from kayaks in the open water. The cooling of the climate, however, gradually limited the amount of open water present in the area and the local residents were forced to adapt to the changing environment. Four hundred years later, the Copper Inuit of Victoria Island developed a successful ice-harvesting method for the hunting of seal (Condon 1996). The sealing season would begin in February, with April being the best time for hunting young seals. Hunters would go out on the ice and take seals at their breathing holes, or by their snow dens, using toggle head harpoons. This method of sealing involved co-operation among the hunters, and therefore, when a seal was caught it

was shared among those who participated. Hunters would also distribute portions to predetermined partners who would reciprocate with the same body part sometime in the near future (Condon 1996; Neumann 1992). An elder recalled, that is when he *started to remember*, his parents did not live in one place; rather they travelled within the region seeking the best hunting grounds. At this time, April Island had a high seal population, as did the open water between the settlement of Ulukhaktok and the nearby two small islands[10] (Ulukhaktok Interviews).

> When the snow drifts came and the snow was hard enough to build igloos, the people looked for seal holes. The dogs were used to sniff out seal holes. When there was an area found where there were many seal holes, the community built their homes there. Throughout the winter they hunted seals right up until there was no sunlight. When hunting for seals, the hunter used a tool called an *Unaak* to poke and find the seal hole. Then they would harpoon the seal. They would also use an *elukin*. An *elukin* was a bent tool (like a hook) that allows the hunter to find the exact middle of the hole because that is the best spot from which to harpoon the seal. After a seal was caught, the seal was prepared for all of the community to share. The meat, the blubber and the blood were shared among the people. The hunter's wife divided it and the women of the community were responsible for getting their share from her. After all the people had their share of the seal, the remainder was cooked by the hunter's wife. All parts were boiled and then divided up among the community members. When there were no more seals in that area, the community moved. They moved in search of seals until they could no longer find the breathing holes. When this happened the men started to hunt polar bears (Ulukhaktok Interviews).

In the first half of the twentieth century winter trapping activities grew in importance, and as a result less time was devoted to the harvesting of seals within the winter months (Condon 1996). Hunting therefore became

common in the summertime, when hunters would travel to areas such as Minto Inlet, Kugluktuk (Coppermine), and strategic spots close to Ulukhaktok. Hunters would travel together in search of breathing holes, at which the seals were taken (Mackenzie Valley Pipeline Inquiry 1976).

With the dramatic decline of caribou populations in the area during the 1960s and the opening of the Co-operative store in 1961, sealing activities increased (Condon 1996; Neumann 1992). Three techniques were utilized by hunters so that they could harvest the seal almost year round: (1) seal stalking in the springtime; (2) open-water hunting by boat in the summertime; and (3) seal hooks in the wintertime (Condon 1996). The meat from the seals harvested was a major source of dog food, while the hides were commonly sold to the Co-operative store (Neumann 1992; Usher 1965).

In April, hunters would make a basin in the snow and put the sealskin over it and let it freeze, then use it to store seal fat in June. It would be used all winter for the lamps.

> Long ago they hunted ringed seal. They would hunt the seal in Minto Inlet with a harpoon or a bow and arrow. At the end of the summer, after they hunted the seals, they dried out the sealskin to make containers in which they stored seal blubber. This blubber was used the next winter as fuel for the lamps. Once the ice became strong enough they went out onto the ice to hunt seals. The hunters brought dogs in order to go along the ice ridges and sniff out the seal holes. The hunter would then break the top of the ice that was covering the hole. Many hunters went out together and gathered around different breathing holes, standing on caribou hides and fox skins to keep their feet from getting cold. They used harpoons and hunting blades; they tied the hunting blade to the end of the harpoon to stab the seal. Once a seal was spotted, the men would create noise and disturbances so that the seal would go to a designated breathing hole where a hunter awaited the prey. Once the seal was caught, the men slit the seal down the middle of its chest and ate the liver and the blubber of the seal. This gave them energy that allowed them to continue to hunt. When the men returned to the

> village, they divided the seals equally between the community members, and a young adult distributed the seal to each household. When they caught a lot of seals they would store the meat in a stone cache covered with sealskin. The storage area would be chosen and located in a place that could not be accessed by polar bears. Throughout the winter they looked for seal holes for hunting, but as the days got shorter and there was little light, they would walk back to town guided by lamps lit in town and telling stories. It was these stories that kept the men alive during the cold walks. In the town at night, one person would light a seal lantern and then distribute the flame to each household. The flame would be started by flint-like rocks, rubbing them together – this was the guiding light for the hunters (Ulukhaktok Interviews).

At present ringed seals are hunted from November through to September in the vicinity of Ulukhaktok. In the winter, the seal is taken on the ice using a hook and snowmobile. It is common for the skins of these winter seals, however, to be heavily scratched, making them less desirable. In the summer, they are hunted by boat in the open water or at the edge of the ice floe, using a .222 or .223 calibre rifle. Some respondents reported that seals are fattest in the summertime (June to August) and are easier to hunt, as they like to lie on top of the ice and bask in the sun. The meat of a young ringed seal hunted in the spring is said to be tender and preferred by elders (Ulukhaktok Interviews).

The seal harvest is widely distributed, being shared with family, friends, and particularly elders. The skin is often sold to the Department of Renewable Resources as a source of income. In addition to being harvested for human consumption, these sea mammals also provide dog food for hunters who keep dog teams (Ulukhaktok Interviews).

The stomach, liver, kidneys, blubber, and heart are eaten, although one respondent specifically stated she does not eat the innards. The penis, head, bladder, and the bowels are not consumed. A number of the respondents have reported that they have stopped eating the kidneys, although no reason was given. The flippers are aged and eaten. Seal meat is prepared and

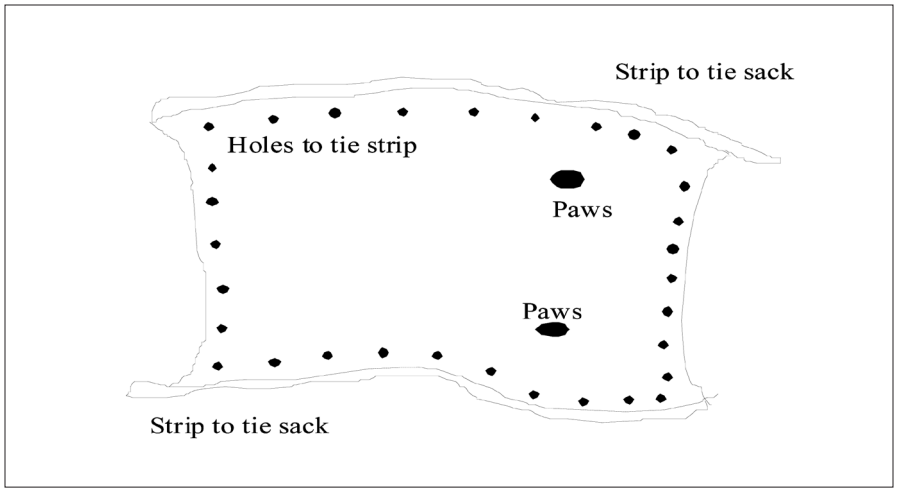

Figure 4.4: Sealskin Sack Used for Aging.

consumed in a variety of ways: boiled, frozen like icicles (*qwak*), roasted, or with seal oil. Dried meat and oil also is made from ringed seals hunted in the summertime. According to one resident seal meat is never fried because "… once my mother had fried seal for my father and it had poisoned him" (Ulukhaktok Interviews). The liver is consumed fried, frozen (*qwak*), or raw. Two respondents indicated that they avoid eating seal during their mating season (mid-March to mid-June), due to the strong odour of the meat (Ulukhaktok Interviews).

Seal meat may also be aged and it is usually the older hunters who continue this practice. Many residents of Ulukhaktok eat aged blubber and flippers as a delicacy. There were two methods described for aging seal flippers: the traditional and the contemporary. For the traditional method a thin layer of fat is applied to the sealskin sack and the seal flippers are placed on top. Another layer of fat is applied directly to the flippers before the sack is tightly sealed and placed underground. Figure 4.4 illustrates the sealskin sack used for aging. The sealskin sack remains underground for two months, at which time the flippers are properly aged. Although aged meat can be eaten cooked, aged seal flippers and fish are always eaten raw (Ulukhaktok Interviews).

The more recent methods use a similar technique, though instead of using the sealskin sack, a brown paper or cardboard box is used. Using the same process as described above, the paper or box is covered with a thin layer of fat, as are the flippers. Stored above ground, a piece of plywood is placed on top of the paper or cardboard box, with stones surrounding it to protect it from light. Aging is complete in about one to two months, depending on the air temperature (Ulukhaktok Interviews).

To age seal meat, it is placed in a sealskin sack with the innards taken from several seals. No fat is added as it is already contained within the meat. The sack is stored underground or in a cache covered with gravel, for one to two months. Care must be taken to ensure it is not left too long, as over-aged meat is too strong to eat (Ulukhaktok Interviews).

Seal fat is aged so that it can be easily stored and used for food and lamp fuel in the winter months. For this process the fat is cut into strips, placed in a sealskin sack, and stored above ground. Large stones are placed around the sack to protect the aging fat from weasels. If meat is left on the fat, it will hurt the eyes when the oil is burned. To lessen the effects, contaminated oil is mixed with fresh seal oil (Ulukhaktok Interviews).

There is a clear gender division of labour in the butchering the seal. Women "flesh" (skin or flense) the sealskin using an *ulu*, after which the men wash and stretch it. "Even if a man wants to go hunting, but his wife does not know how to flesh the seal, the man needs to get someone else to do it" (Ulukhaktok Interviews). Once dried, the hide is either sold or women use it to make clothing. Sealskin is useful for making waterproof clothing, wind pants, mittens, and boots. Hats and *utugaks* (white soles) are items made from seal hide. Sealskin is softest in the spring, summer, and fall, though the best market price is given for hides hunted in July and August. A hunter recalled having waterproof boots made of ringed seal skin that had bearded sealskin soles for increased durability (Ulukhaktok Interviews).

Ugyuk: Bearded Seal *(Erignathus barbatus)*

> There were two men going seal hunting. They were going to look for the bearded seal. The one waited for seals at their holes, while the other was looking for more seal holes. When

> the man was going to seal holes he yelled out to the man that was waiting for seal at a seal hole, 'There was a bearded seal here. It may be going towards you.' When the bearded seal went to him he speared it and when he was trying to pull it up real hard, the other man ran to him.… 'Pull harder and try and pull it higher so I can poke it too.' That's what they would say to each other. The other would reply 'I'm trying to pull as hard as I can. Wait until it has stayed under water for a while. If it stops the struggling I will let it up.' If it stops struggling that means that it needs air and it will be easy to pull. They would talk to one another. When it had stopped struggling, he pulled it out of the water. So if it came out of the water, he wanted to poke it by the eyes. When it came up from the water the other man speared it in the chest. When they had poked it with the harpoon in the chest where the bones are far apart in the heart, before they had pulled the harpoon out of its chest, the bearded seal started to sink. That was when it had died. When it had died they made the hole bigger with the knife so they could pull it out (Kalvak 1964: Tape 6).

Although not as actively hunted as its ringed cousin, the bearded seal continues to be important to the residents of Ulukhaktok. The CINE study indicated that there was very low consumption of bearded seal (Kuhnlein et al. 2000). In the past, an abundance of bearded seals were to be found at Berkeley Point, where there would also be great numbers of polar bears. People would utilize the entire seal, except for the "pass" (lower intestine or bowels), gall bladder, and the yellow tissue surrounding the liver. The seal blubber would be aged to make oil dip. Amongst the organs the liver, stomach, and kidneys would commonly be eaten. Seal flippers would be covered by the hide and then buried underground for aging. Half of the skin of the seal was used as strands for rope, while the other half was used for *kamik* (boots). The making of rope was a complex task, which usually took place in the summertime. The strands were made out of sealskin that was first aged to produce skin that was soft, flexible, and strong enough for rope. The finished product would be used to make harnesses for dogs and

wider strands would be used for runners on the *komatik* (sleigh). Women and men worked close together in this activity, as careful flensing was important in the making of the rope strands (Ulukhaktok Interviews).

In the spring and summer months (April to August), the bearded seal is hunted in the northeast corner of Prince Albert Sound, as well as the same areas as the ringed seal. Some hunters sell the skin to the Northern Store,[11] give it away, or dry it to make *mukluks* and shoe soles. Preparation of bearded seal is similar to that of ringed seal. The meat is boiled to make a rich broth and the fat is aged, boiled, and then eaten. Some hunters age or dry the meat. As in the past, seal flippers are often aged before being eaten. Two respondents stated that they do not eat the lungs. Bearded seal is commonly shared with relatives and elders. If there is an abundance of seals harvested, the meat and skin with fat attached is also fed to the dogs (Ulukhaktok Interviews).

Nanuq: Polar Bear *(Ursus maritimus)*

> … The man had a knife, but when he was running away from the bear, he was trying to run so fast that he dropped his knife. When the bear caught up to the man it tried to bite him and it sniffed him. It slapped him with one of its paws by the hips, but the bear did not make the man fall. And it never bit him. When the bear smelled the man, it had smelled a loon because … he was wrapped in it when he was just born. His grandmother had wiped him with a loon skin when he was just born.… When the bear smelled the scent of loon he didn't bite the man. Because the bear had grown up with the loon, and he had smelled the loon, the man that had been attacked by the bear did not die and he lived. And so he got the bear, he killed it (Kalvak 1964: Tape 5).

In the past, hunters would venture far out into Amundsen Gulf in search of polar bear. Although the best time to hunt was during the winter months, bear could be hunted year round. Hunting for polar bear would begin in

March, when the seal holes could no longer be found in the area. Either alone or in pairs, hunters would venture far out onto the ice in search of the polar bear, to areas such as Banks Island, Walker Bay, Horizon Islets, and Nelson Head. One or two dogs would accompany the hunters and would be used to track the bear (Condon 1996; Mackenzie Valley Pipeline Inquiry 1976; Milton Freeman Research Limited 1976a; Neumann 1992). When a polar bear was located, the hunters would carefully watch and observe before sending the dogs to distract it. Once the dogs attracted the bear's attention, the hunters would use harpoons and attack the bear from behind. The hunter would try to stab the bear in the kidney region of the lower back where there was no bone. He would then fight with the bear until he was able to kill it. If the bear carcass was too big to pull, the hunter would cut up the skin, making a sled on which he could pull the bear home. As the hunter approached the village the people would run out to help him drag in the meat to the village (Damas 1984; Mackenzie Valley Pipeline Inquiry 1976). In his second expedition, Stefansson described a group of Inuit in the region of Prince Albert Sound that survived in the winter by solely hunting polar bear and traded the fat and meat for seal from other Copper Inuit (Stefansson 1913).

Hunters would sometimes spend ten to twelve days on the ice hunting bear and taking no food with them. Each man had a pouch tied around his neck that he kept under his clothes. When he put snow in this pouch, his body heat would melt it to water, allowing him necessary hydration. The longer the man walked in search of food, the longer he survived merely on water. Once the polar bear was caught and killed, the man could eat some of the fat. He would cut the fat into small chunks, put it into the snow to cool and then ate a very small amount of fat, being careful not to eat too much, as it would have been quite some time since he had last eaten. The bear was then brought back to the community, where an *ulimaun* was used to cut it up. The entire animal, including the skin, was divided and shared within the community (Mackenzie Valley Pipeline Inquiry 1976).

In the past, the intestine, meat, and the heart were eaten, while the urinary bladder, liver, lungs, and the pass (bowels) were not. Out on the ice, the first part of the bear to be eaten was the ribs. Hunters would wait until they returned to camp to eat the paws, which were prized and considered

a delicacy. The skin – which was prepared by fleshing, drying, and finally cleaning it – was often used as a ground sheet. According to one seasoned hunter, the best way to prepare a sled was to use polar bear fur to smooth mud on sled runners. The lighter skin of a year-old cub could also be used for pants as wind-breakers (Ulukhaktok Interviews).

For the 1975–76 calendar year, the Ulukhaktok settlement area had a quota of sixteen polar bears. According to the records kept by the Hunters and Trappers Association of Ulukhaktok, this quota was filled in approximately one and a half weeks, 99 per cent of it in a 25–30 mile radius of Ulukhaktok (Mackenzie Valley Pipeline Inquiry 1976). According to some hunters, these conservation measures are not necessary as the number of polar bears harvested prior to hunting regulations was much lower (Ulukhaktok Interviews).

At present, hunting is restricted to male polar bears from November to December, after which both male and female bears are hunted until May. Hunters are able to distinguish between male and female bears by their tracks. Males have heels and females do not; as well, the female bear's front feet are turned in (Ulukhaktok Interviews).

> Two years ago [1996], he and his uncles were hunting bear. They got carried away playing crib till about one in the morning. An elder went out to get some snow and he heard heavy breathing close-by him. He looked and there was a polar bear 7 feet away, sitting back eating char. He quickly went back in and said there was a bear outside. They sent up a flare to light the sky but had to wait until the next day to get the bear (Ulukhaktok Interviews).

If the bear is fat the meat is consumed or it may be aged for a couple of days in order to tenderize the meat. The meat is boiled. In the past it was not uncommon for the fat and meat to be eaten frozen or raw.[12] The meat of a thin bear is particularly tough and therefore not eaten. Polar bear fat is commonly consumed, and the "feet" (paws) are eaten as a delicacy. As in the past, the kidneys, bladder, pass (bowels), and genitalia are not eaten. Although no reasons were given, most community residents no longer

consume the intestines, lungs, stomach, and heart. The liver of the polar bear is especially avoided; as it is known to cause hair loss when consumed. Hunters who use dog teams may feed a small portion of the liver to the dogs. This was to allow the dogs "to be familiar with the bear." Since polar bear meat spoils easily, it is not stored for later use. Consequently, when a bear is successfully harvested, it is shared with friends, family, elders, and other community members. In some instances, polar bear meat is left behind at the harvest site after the valued skin and paws are removed. Polar bear hide is usually salted and sold, either in the fur auction or privately, although the hide of a particularly large bear may be saved and used as a ground sheet (Ulukhaktok Interviews). According to the CINE study, bear consumption in the community is low (Kuhnlein et al. 2000). Many, but not all, of the respondents and their families, including children but not teenagers, consume polar bear meat.[13] What is not consumed is often given to the dogs, including some of the internal organs (Ulukhaktok Interviews).

The polar bear is hunted using a rifle and is tracked by either a snowmobile or with a dog team. The snowmobile is useful in chasing the bear on smooth sea-ice but it is not effective on rough ice or near open water. In some cases, sport hunters use bows to kill bears (Ulukhaktok Interviews).

Qilalugaq: Beluga Whale *(Delphinapterus leucas)*

Beluga whales have not generally been hunted near the community of Ulukhaktok and therefore, consumption is low (Kuhnlein et al. 2000). They migrate past Read Island every year in the fall (Mackenzie Valley Pipeline Inquiry 1976).[14] Some Ulukhaktok residents trace their ancestry to this small island located off the coast of Wollaston Peninsula in Dolphin and Union Strait (Milton Freeman Research Limited 1976a). Therefore, while beluga harvesting is not a major subsistence activity in Ulukhaktok, some older respondents remember the process. Whale nets were used by beluga hunters of the early to mid-1900s. When a whale was caught in the net, the hunters would hurry out to it in their boats and harpoon it before it drowned and sank. Women would then prepare both the meat and the *muktuk*. The meat would be boiled, dried, smoked, or eaten raw. The *muktuk* was eaten raw (Ulukhaktok Interviews).

The beluga whale carcass also provided material that would be used for a variety of purposes. According to one respondent, sometimes the skin was used for soles of shoes, while the stomach would be thinned, dried, and made into a sack that would be used to store and transport subsistence foods. Some people would also stretch the whales' intestines over cabin windows, enabling the light to shine through while providing protection from the outer elements (Ulukhaktok Interviews).

Beginning in the late 1960s, beluga whales began to be sighted further north on Victoria Island nearer Ulukhaktok, in areas such as Berkeley Point, Minto Inlet, and Prince Albert Sound (Mackenzie Valley Pipeline Inquiry 1976). In the summer of 1975, several belugas were harvested in these areas. It is estimated that about thirty whales wintered east of Prince Albert Sound at the time (Mackenzie Valley Pipeline Inquiry 1976). "The whales kept the ice open all winter and also had a spot of open ice at the east end of Prince Albert Sound" (Ulukhaktok Interviews). Beluga harvesting near Ulukhaktok is opportunistic and not a regular part of the subsistence life of the community. Only one Ulukhaktok resident hunts belugas regularly. He does so in the summertime near Read Island and only consumes the *muktuk*. In June 1998, several belugas were sighted near Ulukhaktok, but there were no reports of harvesting (Ulukhaktok Interviews).

Aiviq: Walrus (*Odobenus rosmarus)*

> The walrus had killed a seal and he had it as food. And the bear had smelled the seal and the bear was trying to take the seal away from the walrus. And they were arguing with each other. They were fighting each other. The bear was trying to take the seal away from the walrus because the bear's food is seal and walrus. Their meat and fat are the same. I only found out that the meat and fat of seals and walrus are the same when I was left alone by my relatives. When I was a little girl when we were kagikyoak, my uncle Kanana got a walrus. I don't know what they did with the meat, but I used to see them eating the fat and they used to eat the skin when they cook it (Kalvak 1964: Tape 9).

The walrus is not common in the Ulukhaktok area, with rare sightings every three to four years. As hunters are not familiar with the animal, they are cautious about hunting it (Usher 1965). One Ulukhaktok resident successfully hunted a walrus in 1996, during the month of August. He noticed that no seals were present in the area where he found the walrus. The skin and fat of the animal were given to community elders, and the hunter's parents – "they ate it like *muktuk*." The hunter consumed the rest of the walrus, eating everything but the lungs. He dried most of the meat (Ulukhaktok Interviews).

4.4.2. Nigyutit*: Terrestrial Mammals*

Residents of Ulukhaktok have relied on two key terrestrial mammals for food and clothing – the caribou and the muskox. Both animals inhabited the region in vast numbers before European contact in the late 1800s, when animal populations began to decrease (Condon 1996). With the advent of the rifle, both of these species significantly decreased in numbers – so much in fact, that the muskoxen in the area were almost hunted to extinction (Condon 1996). The meat and hide from these animals continues to be an important source of food within the community of Ulukhaktok. They are hunted separately. Many residents stated that "caribou don't like muskox" and that they would never be found in the same areas at the same time (Ulukhaktok Interviews).

From the 1940s to the 1980s, Ulukhaktok relied heavily on income generated from trapping. It is estimated that 45 per cent of a household's income came from trapping activities (Condon 1996). According to Usher (1965) residents of would hunt and trap the Arctic fox, weasel, Arctic hare, and occasionally ground squirrels for their pelts. Reliance on the trapping and selling of furs, however, has decreased over the years. Respondents mentioned that the only animals harvested currently for their pelts are the Arctic hare, Arctic fox, and if the opportunity arises, wolf (Ulukhaktok Interviews).

Tuktu: Caribou *(Rangifer tarandus)*

> While a man and his wife had been walking on land, they chased caribou. The woman chased the caribou and the man was hiding. They had made Inukshuks. One got left behind so they got it (Kalvak 1964: Tape 12).

According to one respondent, caribou hunting is the highlight of the whole year. Currently, the caribou is a staple in Ulukhaktok and is widely shared by the hunters with elders, family, and other community members – one hunter reported sharing with forty-six individuals within the community. The CINE study confirms high consumption of caribou (Kuhnlein et al. 2000). Because sharing has social and cultural importance, it remains a significant component of the subsistence and food consumption activity of Ulukhaktok (Mackenzie Valley Pipeline Inquiry 1976). Several respondents stated, however, that it is difficult to find community members with additional caribou meat to share.

According to Usher (1965), Ulukhaktok residents in the 1950s harvested caribou from the following herds: (1) Great Bear herd – winter range was in the Fort Franklin/Dease Bay area and summer range was in the Richardson and Coppermine River area; (2) Radium herd – winter range was in the Hottah Lake area and summer range was in the Tree River area; (3) Rae herd – winter range was in the Lac la Martre area and summer range was in the Bathurst Inlet area.

Although the caribou were being harvested from all three herds, there were very few animals to be found at the time Usher was undertaking his research (Usher 1965). At present hunters report harvesting caribou in the following regions: George's Island, Prince Albert Sound, Minto Inlet, Berkley Point, Wollaston Peninsula, the west end of Diamond Jenness Peninsula, and the Shaler Mountains (Ulukhaktok Interviews).

In the past, men and women worked together in groups to hunt caribou at the north end of Victoria Island. At this time guns were not available and hunters used harpoons or bows-and-arrows. During the season when "the caribou would be dropping their long hair" (summer), the hunting

party would build a narrowing corridor composed of *inukshuks* that were placed 100 metres apart from one another. The men would hide in dugouts at the narrow end of the corridor, and the women would guide the caribou through the corral by chanting. When the caribou came to the narrowing portion of the passage, the waiting men would strike the animals. After killing the caribou, the women would prepare the meat and leave it out to dry on sticks propped horizontally between two large stones, allowing the group to continue with their subsistence pursuits. On their way back from hunting, this meat would be used immediately for meals, and any surplus would be stored in packs carried by dogs. The caribou hunting season would conclude at the end of the summer and prior to "freeze-up," when the Inuit would travel to the lakes upstream and engage in fishing (Mackenzie Valley Pipeline Inquiry 1976). Hunters also speared caribou from kayaks as the animals crossed rivers and lakes. This practice took place when caribou and hunters were further inland (Condon 1996; Damas 1984; Stefansson 1913).

The Northern Copper Inuit had strong beliefs about the preparation of the caribou after it was harvested. People who participated in the hunt were required to help in the butchering and distribution of the carcass. It was believed that those who did not help would embarrass the animal spirits and would consequently be hunted themselves. Additionally, the hide of the caribou would never be sewn during the winter months, the meat would not be cooked in the same pot that contained items from the sea, as land and sea products were prohibited from being cooked in the same pot. Finally, one could not place seal meat beside caribou inside the snow house. When a young hunter made his first kill, it was customary for him to cut open the caribou head with an *ulimuan* (chisel-like instrument) and distribute the inner membrane to the elders, who would consume it (Condon 1996).

During the 1940s and 1950s the caribou population in the Ulukhaktok region declined significantly. One resident reported that in the 1950s caribou crossed from Banks Island to Ulukhaktok and many had drowned in the salt water during the crossing. He suspected that this event might have been responsible for the decline in caribou numbers that was reported during this time period. Other residents attribute the decline of the caribou in the 1940s and 1950s to a change in hunting practice. During this time, the harpoon and bow-and-arrow fell out of use, as hunters took aim with the

newly introduced rifle, which allowed larger numbers of caribou to be taken. Another hunter indicated that there were no caribou in the area when he was a child; however, as he grew older the caribou number increased until they could be found all year round (Ulukhaktok Interviews).

In the past, caribou would be hunted all year round, but hunting intensified in late August when the caribou were fat and considered the most desirable (Condon 1996). Usher (1965) indicated that at the time of fall-rutting, male caribou were avoided because they had a strong taste and were not considered "good eating." Today, the majority of the hunters hunt caribou from July to November only due to conservation measures, although some respondents also hunt in May during the calving season and in the winter months (Condon 1996; Kuhnlein et al. 2000).

Caribou meat is eaten fried, dried, boiled, roasted, made into soup, "ground up" (minced) and cooked in lasagne, raw, or frozen (*qwak).* Caribou bulls are said to have more fat, which is usually stored and consumed with dried meat or fish. In addition to the meat other parts of the caribou are consumed. The snout, when boiled for two to three hours, is said to be tasty. The brain is eaten cooked or raw, and the tongue and eyes of the caribou are eaten boiled. Caribou hooves are boiled for two to three hours and are also considered "very good eating." The bone marrow is scooped out and eaten raw. The heart, liver, head, feet, fat, and kidneys are also consumed.

In the past the entrails of the caribou would be eaten with seal oil, although one respondent specifically stated that he did not consume the intestines and several others stated they no longer eat the kidneys. The lower intestine and bowels are not consumed. The contents of the stomach (undigested plant matter) can be eaten like vegetables; however, several respondents stated they no longer engage in this practice. One respondent reported giving the foetuses of pregnant caribou to elders because they are easier to chew. Animals found already dead are not consumed, based on guidance from elders (Ulukhaktok Interviews).

In the past, caribou hunted in the spring were aged under large stones (not gravel) to protect them from scavengers like foxes and wolves. In the winter, the hunter would return to claim his cache. At present some hunters continue to age their caribou in this manner and pick it up using a snowmobile in the winter. However, the majority of respondents store their caribou

directly by freezing it (in a community freezer), often drying it first. One respondent reported leaving the caribou meat to age in a warm area, where the meat would not receive direct sunlight. The meat would be left there for about two weeks and then frozen if its taste became too strong (Ulukhaktok Interviews).

The skin of the caribou hunted in August is said to be very useful for clothing. The legs are skinned and dried, and given to the Hunters and Trappers Committee (HTC) or the school. This part of the hide is usually utilized to make boots (*kamiks*). The rest of the skin is used for making trousers, parkas (*kulitak*), *mukluks*, and mittens. Caribou hide is thickest in the fall, and is usually used as a ground sheet or sleeping roll because of its high insulating quality. The antlers are also used for jewellery, such as earrings, as well as for spears used for fishing and hunting seal. In the past, sinew from the caribou was dried and utilized to make snares and ropes (Condon 1996).

Caribou are commonly hunted using .22, .270, .30-.30 calibre, and 7 mm rifles. However, some hunters use a bow-and-arrow. While snowmobiles and all terrain vehicles are the most common form of transportation when hunting on land, some respondents reported using dogsleds to hunt caribou (Condon 1996).

Umingmak: Muskox *(Ovibos moschatus)*

> There were two muskoxen, a female and a male. The male had really nice black fur and its horns were real white, and the female had a young one. An Inuk was looking at the male muskox's horns to see if it was a young horn muskox, because it may have marrow in its horns. If it did, he would not want to kill it. If a horn has too much marrow in it the people would not use them for anything. They would not use them for their tools or clubs or anything. While the man was looking at their horns to see if they were too young to kill, the female muskox held her horns for the man to see. The man was not a real man, but a shaman, a real smart shaman. Because he was so smart he was checking to

> see if the horns of the muskox had some marrow in them with his hand. If the muskox was old enough, and if the horns were good, he wanted to kill the male. The horns were real nice and white, and looked young. The horns of the male muskox had no cracks on them, because he had seen that the male muskox was not full grown yet. The shaman told his people not to kill it (Kalvak 1964: Tape 10).

Muskoxen are found throughout the Ulukhaktok area, and consequently there are no specific areas where they are hunted. Respondents mentioned a variety of areas where muskoxen have been harvested, both in the past and at present: near the hamlet; north along the west end of Diamond Jenness Peninsula; Boot Inlet; north side of Minto Inlet; east of north Tahiryuak Lake (heading toward Shaler Mountains); Holman Island; south end of Diamond Jenness Peninsula; Kuujja River; Amitukyok Lake; Imigaahook[15] Lake; and Third Lake (Ulukhaktok Interviews).

Residents hunt muskoxen with either a rifle or a bow, and prefer small or young female animals. When a mother is killed, the calf must also be killed as well because it cannot survive alone. Although muskoxen are hunted year round, a number of respondents stated that hunting intensified during the winter months. The CINE study confirms high consumption of Muskoxen and hunting throughout the year (Kuhnlein et al. 2000). One respondent does not hunt muskox when it is dark (in the winter), as the meat tends to take on a strong odour during this time (Ulukhaktok Interviews).

Muskoxen meat is dried, sometimes ground up prior to cooking, fried, boiled, roasted, or made into soup. Salt, pepper, and spices are often added for taste. Eating the meat frozen (*qwak*) is a recent practice that a few hunters engage in. The meat is stored through either drying or freezing. Some residents also age the meat for about a week before freezing it. Five respondents specifically stated that the muskoxen are shared with others (Ulukhaktok Interviews).

The majority of respondents stated that the meat, hindquarters, ribs, marrow, tongue, and fat are commonly consumed in the community, while the penis and testicles are typically avoided. However, there is some variation when it comes to the hooves, heart, head, lungs, eyes, and stomach of

muskoxen. Some respondents reported eating these parts, while others said that they did not (Ulukhaktok Interviews).

The hide from the legs of muskoxen may be made into boots (*kamiks*), while the horns are used for carving and the hide of muskoxen calves may be used to make mitts. The wool (*kiviuk*) from the hide is sometimes sold by the pound to the Co-operative store. Occasionally, Ulukhaktok residents will invest a large amount of time in preparing the hide to make ground covers, toboggan cushions, camouflages for goose hunting, or rugs (Ulukhaktok Interviews).

Ukaliq: Arctic Hare *(Lepus arcticus)*

> A story of a Muskox and a rabbit. The rabbit was feeding along a river where there was a lot of sticks, and while the rabbit was feeding, a muskox was getting closer to the rabbit, and the rabbit looked up and looked at the muskox. The muskox said to the rabbit, 'my friend is eating like a ball of kidneys,' the muskox called the rabbit his friend … '*Novila Novila Panagisakniatoga Panagisakniatoga Oyagaom Okoagani*,' that was the song of the rabbit, but the muskox had no song to sing. And so the both of them went their separate ways following the river, eating grass and plants. The rabbit ate roots and then it went behind some rocks by the river, and the muskox stopped and laid down between two small hills (Kalvak 1964: Tape 9).

The Arctic hare is hunted mostly for food, rather than its skin. It is roasted, boiled, and then eaten with seal oil or as soup. One respondent stated she coats the meat with "Shake-and-Bake" and then fries it. In the past, the entire rabbit would be eaten, including the intestines. Today, however, it is only the meat, and to a lesser extent the internal organs (liver, kidney, and heart), that are commonly consumed. Some respondents stated that they only consume Arctic hare when it has been freshly caught, while others dry and store it, or simply freeze it for use later (Ulukhaktok Interviews).

The majority of hunters harvest the Arctic hare between the months of August and February. The hunting of the hare is commonly associated with the increasing darkness brought on by winter. One respondent stated that he hunted the Arctic hare year round. In August the hare is said to be "fat, tasty, and good-eating." This furbearer is usually found and hunted on higher ground with a .22 calibre rifle (Ulukhaktok Interviews).

Although the Arctic hare is primarily harvested as food, older women use the skin for clothing and trims. Other hunters simply dispose of the skin. On average, one hunter indicated that he would harvest twenty to thirty hares annually (Ulukhaktok Interviews). Our research contradicts the findings of the CINE study (Kuhnlein et al. 2000) that consumption of Arctic hare is very low in the community. Previous studies (Condon 1987; 1996) concur with our results.

Tiriganniaq: Arctic Fox *(Alopex lagopus)*

> A polar bear got a seal. When the bear had pulled the seal on top of the ice, a raven came along because it smelled the seal that the polar bear got. The raven wanted to eat from it. There were also some foxes that smelled the seal that the bear got. They also came. The polar bear and foxes were trying to fight over the seal. It was the way long ago to fight for food (Kalvak 1964: Tape 15).

The Arctic fox is consumed less frequently today than in it was in the past. One respondent stated that he was concerned about rabies and therefore chooses not to eat the fox anymore. He concluded, however, "they are still good if they are boiled." Only "fat-foxes" are eaten; thinner ones are trapped solely for their pelts (Ulukhaktok Interviews).

The "fat-fox" is generally boiled for a long time prior to eating, "until it is soft and tender like canned chicken." It is considered cooked when it is tender enough that a knife is not required to cut it. Fox meat can also be prepared by frying it with onions, and salt and pepper are often added for flavour. All family members will eat the tender meat. If the hunter keeps

a dog-team, the head is often fed to the dogs. The pelt of the Arctic fox is commonly used as trim around the hood of parkas, and consequently many respondents who trapped the animal stated that they sold the hides at auction, or to the local Northern and Co-operative store (Ulukhaktok Interviews).

Trapping of the Arctic fox takes place between the months of November and May, and is commonly combined with other subsistence activities. Both conibear and double-spring leg-holds are used to trap the fox. However there is a clear preference for to latter, as they are less hazardous to humans. Testimony from the Mackenzie Valley Pipeline Inquiry indicates that during the 1970s, the community of Ulukhaktok would harvest approximately 900 Arctic fox a year, and that there was a shrinking population of the animal in the southern reaches of Victoria Island (Mackenzie Valley Pipeline Inquiry 1976: Ulukhaktok Interviews).

Amogoh: Wolf *(Canis lupus)*

> … When we had skinned the wolf, the wolf had so much fat that it looked so good to eat, and I thought it was a dog. I was so surprised to see a wolf with lots of fat. The wolf had fat just like caribou fat, and my husband said to me that he's got to have fat like the caribou, he eats only caribou because they're inland away from the ocean. I was cutting it and I asked what part I should cook, the leg parts or some other part? I was going to get some from the leg, but I thought again and took part of the ribs (Kalvak 1964: Tape 4).

The wolf is hunted during the fall, winter, and sometimes in the spring. Two respondents stated they were opportunistic hunters, as they would only hunt wolf when they came across them while undertaking other harvesting activities (Ulukhaktok Interviews).

Wolves have been hunted at Kikiktolak Island (George Island) Halahikvik, Diamond Jenness Peninsula – specifically at the northwest and east end of Prince Albert Sound, Fish Lake, Air Force Lake, and around the town site. Long ago the wolf was also hunted in the Kugluktuk region.

4.4.3. Tingmiat: *Birds*

> People long ago made weirs where they would try and catch geese and ducks. They would try to make them go into the weir by chasing them towards the trap that was meant for the geese and ducks. They made them rest before killing them – they didn't kill them when they were tired, only when they were rested. The weir was made from a hole in the ground that was covered with grass, far away from the lakes. Where there are some ducks or geese in the pond or lake, they tried to make them go up on land. Down at Banks Island, long ago, they killed them for dry meat and to eat. They dried the parts with more meat on them, like the hind legs, the chest, and the back part. They cooked only the feet, head, and wings when they wanted to eat. That's the way people down at Banks Island used to hunt ducks and geese long ago (Kalvak 1964: Tape 3).

Several species of birds are hunted in proximity of Ulukhaktok. Migratory waterfowl such as geese, ducks, cranes, and loons were being reported by community members as common food sources. Ptarmigans, which are relatively abundant year round, are also an important dietary component. Hunting tends to be focused around the spring and fall during times when migratory birds are gathered in groups and numerous. The selection of species hunted and consumed is dependent on a number of factors including accessibility, abundance, and desirability of the meat. While certain species are prized more than others, bird harvesting is often an opportunistic venture. Birds are taken when fishing or when hunting caribou or other mammals. Often, less desired species of geese and ducks are accidentally harvested by hunters while attempting to shoot a preferred variety. Still others become caught in fishing nets.

Having replaced the bow-and-arrow, snares, and the bola in the 1960's, Inuit hunt waterfowl almost exclusively by shotgun, while ptarmigans and owls are also hunted by .22 calibre rifles. During the 1960s and 1970s, bird harvesting increased in popularity. Spring camps were strategically located near migration routes, feeding grounds, or nesting areas. In the summer,

ducks would be taken while hunting seals on the open water (Milton Freeman Research Limited 1976a). With the introduction of the shotgun, birds could be taken in larger numbers than in the past, permitting the meat to be dried or frozen for use in the winter or following seasons. While hunting methods have changed, sharing of the catch has remained a vital part of community relations. Hunters commonly distribute bird meat to elders, relatives, and other members of the community. As in the past, many members of the community take an active interest in the hunting, preparation, storing and distribution of the meat.

> In early spring they moved back onto the land. They hunted small game, whatever they came across, and gathered eggs. They also snared or lassoed the waterfowl. The snares and the ropes were made out of the sinew of caribou. If they ever caught a seagull or a jaeger, they dried out the skins and used them for napkins or rags (Ulukhaktok Interviews).

With a few exceptions, preparation methods are common to most species of birds. Drying and freezing is used to store meat. Large walk-in freezers are now available for community use; however, bird meat is also dried and stored under the permafrost. An unplucked eider duck, for example, is placed in a burlap or gunny sack with or without innards to be dried, aged, and frozen in an underground cache. The amount of time required for aging depends on the temperature and final use. If the meat is for human consumption, the aging process typically takes two weeks. However, the meat can be stored in this manner for several months if it is to be used as bait for trap lines. Boiling and roasting are the preferred methods of cooking most bird species. In the case of boiling, the resulting broth is used as a stock for soups.

Consumption patterns are also similar among Ulukhaktok residents. However, depending on the type of bird and the variety of tastes within the community, organs, intestines, and other parts not considered meat may or may not be eaten.

Qingalik*: King Eider *(Somateria spectabilis)

Amaulik*: Common Eider *(Somateria mollissima)

As with most migratory birds, the hunting season for eiders begins in the spring and continues through to July. Both species are hunted in the same locations, including the immediate area around Ulukhaktok, the west end of Diamond Jenness Peninsula, along the north shore of Prince Albert Sound, Coast Point, Holman Island, around Union Strait, Five-Mile Island, and at Mashooyak. It is common for a single hunter to take fifty or more eiders per season (Ulukhaktok Interviews).

While both the king and common eider are prevalent on Victoria Island, and share a number of similar characteristics, hunters indicated a decided preference for the king eider. The main reason for this preference is that the meat of the common eider tends to be tough "like rubber."

Eider breast meat is boiled as soup, dried, roasted, or aged. The innards, head, and feet of both eiders are not commonly consumed, though one resident mentioned that the innards of eider ducks are occasionally aged and then eaten. The meat is often stored in the freezer for year-round consumption. Several residents continue to use the feathers to insulate snow pants and other clothing (Ulukhaktok Interviews).

Kaglolik / Kakhaok*: Pacific Loon *(Gavia pacifica)*, *Tuullik*: Common Loon *(Gavia immer)*, *Doodlik*: Yellow Billed Loon *(Gavia adamsii)*, *Evitalik/Qaqhuaq*: Red Throated Loon *(Gavia stellata)

> …They were sad because a loon had poked and killed their son. They were going to the lake to look for loons at springtime, because they were mad at them for killing their son. The woman made her cane into a spear and said that she would walk and swim in the water to poke the loons. The man had no bow-and-arrow. The woman said that if the loon goes to her, she would poke it in the beak. While they were looking for loons, they

> saw two small loons swimming in the water. When they went to them, they started to tangle with one of them. Even when it went under water, the woman would not let go of it and she went under water with it. When she was in the water she did not reach the bottom – she only stayed on top of the water because she had a weasel and it was her good luck charm. She only walked on the water and never went down or never reached the bottom. She swam with all her clothes on and followed the baby loon all over because the other baby loon could fly a little. It flew around and waited for its mother. When the mother put her baby loon on her back, the man poked and killed the baby loon. When the mother loon lost both of her babies, she landed in the lake and the woman started to paddle toward her, because she wanted to poke it. She poked the loon in the mouth with her cane, and she killed it too. After she had killed all the loons, she never thought of her son again (Kalvak 1964: Tape 3).

Loons are only occasionally harvested in the community of Ulukhaktok. It is common for hunters to take only one or two loons between the months of June and September. Harvesting the loon is more often than not accidental; as nets set out to catch fish inevitably end up capturing loons. Hunters also report inadvertently killing loons while shooting at other waterfowl, although they indicated that there were times when they would specifically target the loon. Loons are found in the same locations as eider ducks. Many hunters reported harvesting loons within four or five miles of Ulukhaktok, Pituitak[16] (south of Ulukhaktok), Coastal Point, Prince Albert Sound, and Safety Channel (Ulukhaktok Interviews).

Described as being tougher than eider duck, loon meat is usually boiled as soup. One resident reported drying and aging the meat, while another indicated this type of preparation was unusual for this particular bird species. A young loon, "with the new feathers," is preferred, as the meat tends to be more tender. Typically the guts and liver are not eaten, although one respondent stated that he ate the stomach. In the past the beak was used to make arrowheads (Ulukhaktok Interviews).

Uluagullik: Canada Goose *(Branta canadensis)*

> A story of an old woman. She was alone with her dog. Every day she went out, when it was daylight, she saw geese flying over her and she was running out of food.… She saw geese flying over so she was on the look out while she was kneeling at the entrance of her tent. While she was on the look out she heard the geese again. When she heard the geese making noise, she made her pot ready and waited for them. The geese with young ones started to fly over the tent real close, so she picked up her pot and said, 'my pot is empty and I don't have anything – how am I going to fill it up?' While the geese were flying over some young geese started to fall because their wings went funny and they fell down. They fell down because she had held her pot up with nothing to cook. When the young geese were falling, she let her dog loose and it chased the geese. The young geese tried to get away, but the dog got one and killed it. The woman called him and he brought it to the woman. After she had cooked it, she ate until she was full and then put the rest of the meat and gravy away. She ate a little of it everyday and waited for some people to come back (Kalvak 1964: Tape 3).

The Canada goose is hunted during both the spring (May through June) and fall migration (August through September), in a variety of locations that include: Anialik Lake,[17] Hingelik Lake, Nakushin, Hinigouk (Graveyard Bay), Kaglokyoak River, Coast Point, Ulukhaktok, Safety Channel, Halahikvik, Kuuk River, Minto Bay, the west end of Diamond Jennesse Peninsula, Cape Bering, the west end of Victoria Island, and on the west end of Wollaston Peninsula. Ten to twelve geese may be harvested in a single day, with as many as fifty being taken per season (Ulukhaktok Interviews).

Only the meat and the feet of the Canada goose is consumed, leaving the innards, intestines, and liver to be discarded. The meat is commonly eaten either roasted, boiled, or as soup, and can be dried or frozen for later use. In the past, goose meat was commonly aged, or dried slightly and then aged,

as was the case with other waterfowl. If large quantities of geese were taken, the surplus would be dried and stored within the permafrost (Ulukhaktok Interviews).

Hunting geese is usually combined with other subsistence-related activities. One hunter reported hunting geese while preparing for the caribou harvest. Another indicated that he also does some trout fishing while hunting geese (Ulukhaktok Interviews).

Qugruk: Tundra Swan *(Cygnus columbianus)*

Unlike other waterfowl, swans are hunted infrequently, as they are fairly uncommon in the Ulukhaktok region. One resident indicated that her father would occasionally get one, while a hunter mentioned that he only harvests one every four to five years (Ulukhaktok Interviews).

Swans are hunted primarily in the spring, at the time of their migration north in May and June. However, they may also be harvested in August or the beginning of September. A shotgun is typically used when harvesting this waterfowl near Minto Inlet, on the west end of Diamond Jenness Peninsula, along the southeast end of Prince Albert Sound, near Kagloryuak River, Safety Channel, and Coast Point. Once harvested, the swan is cleaned and the meat is boiled. The wing of the swan makes an effective broom, and was commonly used in the past for this purpose (Ulukhaktok Interviews).

Kanguq: Snow Goose *(Chen caerulescens)*

The snow goose is harvested, prepared, and stored in much the same ways as the Canada goose, though it is hunted primarily during the spring migration (May and June). While it is abundant in the region, residents in the past seem to have consumed little of this species. It has only been in recent years that the snow goose has become popular to hunt. With its distinctive black-tipped wings, the snow goose is commonly hunted along the west end of Diamond Jenness Peninsula, along the south side of Minto Inlet, on Banks Island along the Kaleb River, at Ptarmigan Point, Coast Point, and Pingokyoak (Ulukhaktok Interviews).

As with the Canada goose, only the meat is eaten. It is commonly eaten as soup or roasted, and can be stored in the freezers for later use. In the past, waterfowl, such as the snow goose, would be stored in the ground below the permafrost (Ulukhaktok Interviews).

Tatilgak: Sandhill Crane *(Grus Canadensis)*

> The first time a crane had poked a young boy, when the boy was chasing it, the crane had turned around and poked him. The child's mother was so mad, and she cried so much that she cut the wings of two cranes and she let them walk. The two cranes that had killed her son were suffering because they had no wings to fly. They were getting real fat beside the ponds, they ate mice and grass and some food from the bottom of the pond in the shallow parts, because they could not dive very deep, and they got fat. When they were real fat, and their feathers looked nice, the women that had cut their wings went to them with only her ulu. They attacked her by the legs so she could no longer walk. They poked at her muscle and chewed them up, and then she couldn't walk any more. Because she could not walk any more, the two cranes were making her suffer like she had done to them, because they could not fly any more (Kalvak 1964: Tape 4).

Cranes are the first migratory bird to arrive in the Ulukhaktok area during the spring migration, and are therefore one of the first species harvested. Hunting usually begins in the early spring, towards the end of May, just outside of the community, as well as at Coast Point (Ulukhaktok Interviews).

Akilgivik: Rock Ptarmigan *(Lagopus mutus)*; *Nikhaktok*: Willow Ptarmigan *(Lagopus lagopus)*

> The ptarmigan was watching over them because the woman

> had a ptarmigan good luck charm. She had a dream about her ptarmigan. When she got up she started telling her husband, her in-laws and other relatives about the dream. She said that she had a dream about 'a ptarmigan that was sleeping with me while I was sleeping. I think something is going to happen to me. Maybe I'm going to get sick or I am going to lose my parents or maybe I will go somewhere.' She said of her dream (Kalvak 1964: Tape 12).

Fairly abundant all year round, the ptarmigan is an important food source to the residents of Ulukhaktok. This upland game bird can be hunted year round, but is usually harvested from spring through fall. Hunting begins in May and is intensive in November. Ptarmigan harvested in the fall are usually fat, and therefore, considered "good eating." During the summer months, the ptarmigan is hunted opportunistically while hunters engage in other subsistence activities. A .22 calibre rifle is often used to hunt the ptarmigan in the following areas: southern and eastern end of Prince Albert Sound, Coast Point, Holman Island, Tahioyak region, and just outside of the community (Ulukhaktok Interviews).

Ptarmigan meat is commonly eaten either roasted, sometimes dipped in aged seal oil, or boiled. As with other birds, the meat can also be frozen or dried for later use. If a hunter gets numerous ptarmigan, the birds are either shared with friends and family, or used as food for the dogs. Only the meat and some internal organs (heart and kidney) of the ptarmigan are consumed. The intestines and feet are not eaten (Ulukhaktok Interviews).

Ahangik: Long-tailed Duck *(Clangula hyemalis)*

The long-tailed duck is not commonly harvested or consumed in the community of Ulukhaktok. Hunters who do hunt this particular bird species usually do so during the months of June and July. As with other birds, the meat is typically boiled, with the resulting broth used as soup (Ulukhaktok Interviews).

Ukpik: Snowy Owl *(Nyctea scandiaca)*

While the harvesting of snowy owls has declined over the years, a number of Ulukhaktok residents continue to harvest the bird. The owl is hunted in the fall, when the birds are fat and considered the best for eating. Areas surrounding the community, Coast Point, and Prince Albert Sound are common hunting grounds. One hunter times his hunt with the rising population cycle of the snowy owl, which he estimates to be approximately every four years. The meat, which is said to taste like chicken, is boiled and eaten as soup (Ulukhaktok Interviews).

Niglignaq: Brant *(Branta bernicla)*

The brant is hunted during the spring migration, in areas surrounding the community and on Prince Albert Sound. However, as this particular bird species is fairly rare in the Ulukhaktok area, the brant is not commonly harvested. One resident mentioned that it had been many years since she had actually seen a brant. As with other birds, the meat from the brant is roasted, boiled, or made into soup (Ulukhaktok Interviews).

Eggs

The gathering of eggs is not as popular or common as it once was. Those who do engage in this subsistence activity typically collect Canada goose, king eider, and common eider eggs, which are either boiled or fried prior to eating. According to one resident, boiled eggs "taste rubbery, like seagull eggs" (Ulukhaktok Interviews).

In the past, eggs were gathered at Ramsey Island, and along the southwest coast of Prince Albert Sound. There was no preference given to the species of bird; rather, all eggs that were found were collected. When taking eggs from a nest, the gatherer would leave a few behind to encourage the bird to return to the same nesting area the following year. Eggs were eaten immediately either boiled or fried. Those that were to be stored were first boiled and then placed under ground until freeze-up (Ulukhaktok Interviews).

4.4.4. Iqaluit: *Fish*

> When the lakes still had ice, and when the rivers were flowing, the fish were running down stream, and they had made a fish weir. A man and woman were spearing fish, while their child was on land. When the rivers are still deep the children stay on land while their parents build weirs. They were getting a lot of fish after they had made the weir. They were so happy when they started to get a lot of fish without having to jig through the ice. The man and wife were so happy for the fish they had got from the deep weir that they had made for the fish that were going down the river to the ocean. That was how the people learnt to how make fish weirs (Kalvak 1964: Tape 2).

In the early 1900s fishing was the main subsistence activity during the spring months. People would gather at Lake Tahiryuak to fish and dance. This particular lake had what was called a *quunnguq* – a crack in the ice that people would fish from (Condon 1996). Men, women, and children alike, would participate in jigging for char or trout through the ice until early summer (Condon 1996; Damas 1984). During the warm summer months, corrals would be built in shallow streams that would allow for a few hundred fish to be taken. The haul would be preserved for winter by drying and then smoking the fish, or by burying them in stone caches (Condon 1996).

> When they finished hunting caribou at the end of the summer, before freeze up, they went to the rivers where the fish were heading up stream to the lakes. They caught the fish by using fish weirs. A fish weir was a corral-like area built in the lake. By using rocks, narrow corridors were constructed that lead to a large enclosed circular area. The area was divided into rooms, which were individually used by each family. In order to get the fish into the weir, the men walked towards the weir making the fish swim into it. The men and women wore hip waders made out of sealskin that kept them dry (Ulukhaktok Interviews).

In the early fall Arctic char would make its annual run from the ocean to the inland lakes. Char were desirable at this time of year, because they were the fattest. People would spear the fish that were trapped strategically in stone weirs, located in the rivers and streams. The fish were dried, with the majority being stored for use in the late fall or early winter. When the days began to get shorter and colder, people would head back to their wintering grounds to fish at known spawning areas of frozen lakes. People preferred to catch the male Arctic char and utilized polar bear teeth when jigging for this fish. Char fishing would continue through October, until the ice got too thick to chop through (Condon 1996).

By the middle of the century, nets had replaced fishing weirs. As char fishing was still an important subsistence activity, residents would travel to Fish Lake in late October to set nets under the ice or jig for fish through holes chopped in the ice. The majority of fish, however, were caught during the open water seasons, when nets would be set in the ocean and near the mouth of the Kuujjuak River (Condon 1996; Usher 1965). Individuals would set an average of four to five nets that were usually thirty feet by six feet (Usher 1965). During the summer they fished for char and trout by jigging for them. They would store their catch in a dug out hole in the ground that was lined with stones. After the fish had been placed in the dugout, on top of the stones, the catch was covered with more rocks. This allowed for air circulation that would dry the fish, as well as provided protection from other animals. The dry fish was good for up to a year, so they left them all summer while they headed north and inland to hunt the caribou (Ulukhaktok Interviews).

The most important fish species at this time was Arctic char. In the mid-1970s the Hunters and Trappers Association of Holman Island reported that each family in Ulukhaktok harvested approximately 300–350 pounds of Arctic char annually from Fish Lake, with the community total being approximately 5,000–6,000 pounds per year (Mackenzie Valley Pipeline Inquiry 1976; Usher 1965). Two sub-species of whitefish, the broad and the crookedback, along with the lake herring, were also common to the area at this time and were actively harvested by the people. Lake trout were also harvested in nearby lakes. Grayling and saffron cod, as well as capelin, were caught in July as they spawned near beaches (Usher 1965).

Arctic char remains the most important fish species to the people of Ulukhaktok, with lake trout also being actively harvested. Currently, landlocked char, Arctic cisco, cod, and whitefish are infrequently found in the lakes and streams on Victoria Island. Consequently, Ulukhaktok residents do not actively fish for them. Herring and sculpin are no longer caught, although it is not clear whether these trends are due to low availability or personal preference (Ulukhaktok Interviews).

Fishing generally takes place from April through to October, with most species being caught during this time frame. The exceptions are cod, which is caught year round, and whitefish, which is harvested only in October. During the spring and fall, residents of Ulukhaktok prefer to catch fish using nets or by jigging. This differs from the summer harvest, when people favour fishing using a rod-and-reel. The catch is generally prepared and consumed in a variety of ways including boiled, fried, baked, smoked, grilled, or frozen (*qwak*). Usually the entire fish, excluding the innards and the fins, is eaten (Ulukhaktok Interviews).

Char

During migration to inland lakes in August, char are harvested and then aged. Depending on personal preference, the process may or may not include the fish entrails. In the past, the aging process involved putting the char in a sealskin sack, placing it underground, and covering it with stones. The current method involves placing the char in a wooden box, which is then stored out of direct sunlight in a cool place. In order to prevent spoilage, the inside of the fish must be properly cleaned prior to aging. Spoilage from aging is determined by peeling the skin from the flesh of the fish once the aging process has been completed. If it peels off easily, the fish has spoiled and should not be eaten. Aged fish are eaten raw or frozen (Ulukhaktok Interviews).

A number of Ulukhaktok residents enjoy aged char heads. This process involves both the fish-head and the spinal column without the entrails. In the past, it was common to include the guts as well, so to improve the taste and quicken the aging process. The ingredients were placed in a sealskin sack and placed underground with stones covering them. Today, the sealskin sack has been replaced with pails, cardboard boxes, and steel mixing

bowls. The fish-heads, along with the spinal column, are placed in one of these types of containers and stored out of direct sunlight. The entrails are no longer included. In instances where the temperature becomes too high, the lid is removed so that the air can escape. The aging process is complete in approximately one to two weeks (Ulukhaktok Interviews).

The CINE study confirms that consumption of char is high, at least once a week among the households in Ulukhaktok (Kuhnlein et al. 2000).

Scientists do not make a distinction between the Arctic and landlocked char. The different colours are due to one group consuming shrimp-like orange crustaceans. The community, however, does make this distinction and therefore each will be discussed separately (Ulukhaktok Interviews).

Ivitaaruq: Arctic Char *(Salvelinus alpinus)*

The Arctic char is harvested from May through to October. In the spring, the fish migrate south, along the shoreline, where they are actively harvested with jigs or nets, and usually consumed fresh. During their fall migration, char are caught using the same methods, mainly for storage for the winter months (Ulukhaktok Interviews).

One Ulukhaktok resident remembers setting nets for Arctic char with her father. After a successful fishing excursion, they collected driftwood and prepared a fire with thin rocks placed on the flame to cook the fillets. This was the tastiest char she remembers eating (Ulukhaktok Interviews).

Currently residents of Ulukhaktok use nets, rods-and-reels,[18] winter jigging, and occasionally spears to harvest char. One respondent stated that he sets nets three or four times a day, depending on the amount of time he has and the amount of fish he requires. It is common to catch seventy to eighty fish in one net. Another fisherman stated he catches about two hundred char. One resident expressed concern about the over-harvesting of the char. He attributes this occurrence to the improved availability of harvesting equipment, which in turn increases the success of the char harvest (Ulukhaktok Interviews).

Arctic char is prepared in a variety of different ways for consumption. It is made into soup, fried, boiled, baked, smoked, grilled, frozen (*qwak*), dried, aged, or roasted. Occasionally, seal oil is used as a dip for the prepared char. Several respondents stated that they enjoy the liver, stomach,

and eggs fried with onions. Others, however, stated that the innards are not eaten. The fins of this fish, as with other fish species, are not consumed (Ulukhaktok Interviews).

For storage Arctic char is either dried or frozen,[19] or is dried and then frozen. Dried fish can be good for up to a year, though bigger fish are too oily to dry and are therefore stored in the refrigerator. One Ulukhaktok resident stores the fish he catches at Tahiryuak Lake in Halahikvik (Ulukhaktok Interviews).

Iqalukpik: Landlocked Char *(Salvelinus alpinus)*

The availability of landlocked char is limited in the lakes near Ulukhaktok, and the fish caught are often very small in size. Those who harvest this particular species do so at the same time they fish for lake trout (April through to October). Some use fly rods at the open edge of the ice, while others jig or use rods. One respondent stated that he takes about twenty fish a year. The landlocked char is fried, dried, boiled, or frozen, though according to one resident, it is not as good as ocean char. The innards are not eaten (Ulukhaktok Interviews).

Ihuuhuk: Lake Trout *(Salvelinus namaycush)*

Lake trout are caught from mid-March through to October; however, a number of residents indicated that they did not fish for them during the summer months. Common in the lakes and streams on Victoria Island, this particular fish species is harvested all over the island. In the past, the south end of Diamond Jenness Peninsula and Aniuktuk[20] were areas commonly used for fishing for trout (Ulukhaktok Interviews).

Jigging and ice fishing takes place in the spring and fall, while rods are used in the summer to catch trout. One resident reported taking a few hundred lake trout annually (Ulukhaktok Interviews).

> They would fish for char and trout in late October by jigging through the ice. The catch would be used as meals for the dogs and for themselves. They cooked the fish they were going to eat right away – the rest was frozen and eaten along the way (Ulukhaktok Interviews).

Having less fat than char, lake trout is consumed after baking, drying, boiling, frying, freezing (*qwak*), or occasionally roasting. Trout meat, however, is not aged. As with other fish, trout is stored by freezing. In the past, it was stored by being placed underground. Everything but the fins and the innards is consumed (Ulukhaktok Interviews).

Angmagiak: Arctic Cisco *(Coregonus autumnalis)*

There are three different Inuniaktun words for the Arctic cisco, one of which is *Iqaluhaq*. The Arctic cisco, or *Iqauhaq*, is caught using gillnets mostly in the summertime (June, July, and August), although some fishing does occur in the spring and fall. As with the landlocked char, the availability of this fish species is limited and the fish caught tend to be very small. While not widely consumed, the Arctic cisco can be consumed either dried or frozen. Some people do not consume the innards and head, while others enjoy the entire fish. The cisco is said to make "the ocean black" (Ulukhaktok Interviews). The CINE study suggests that consumption of cisco is very low (Kuhnlein et al. 2000).

Uugak: Cod *(Gadus ogac, Arctogadus glacialis, Eleginus gracilis)*

The cod, or *Uugak*, is caught year round, though is not as frequently harvested. It is eaten mainly by the older generation. Those who continue to harvest this particular fish do so throughout the spring summer, and into the fall. The cod is consumed fried, dried, or boiled (Ulukhaktok Interviews). The CINE study suggests that, as with the cisco, the consumption of cod is also very low (Kuhnlein et al. 2000).

Kapihilik: Lake Whitefish *(Coregonus clupeaformis)*, Broad Whitefish *(Coregonus nasus)*

Although the availability of whitefish in the Ulukhaktok area is quite limited, several residents continue to harvest it. They do so by placing fishnets under the ice during the month of October. Once caught, the whitefish is consumed after it is boiled, roasted, fried, or frozen (*qwak*), though it is never aged. The head, fins, and innards are not eaten (Ulukhaktok Interviews).

Pikoaktitak*: Herring *(Clupea harengus)[21]

Although herring is no longer harvested in the community of Ulukhaktok, one resident recalled that it was caught during the summer months. Some of the catch was eaten immediately, while the rest was dried, stored away for winter in the icehouse, or used for dog food (Ulukhaktok Interviews).

Kanayugaq*: Fourhorn Sculpin *(Myoxocephalus quadricornis)

Sculpin is no longer actively harvested in the Ulukhaktok area, although there is no indication as to why this is so. In the past this fish was harvested with fishnets, primarily in the springtime. Occasionally, it was harpooned in the fall and eaten frozen (*qwak*). It was prepared by cooking, boiling, or drying the meat, and the liver was said to be the best part. In addition, scuplin was used as baby food and dog food (Ulukhaktok Interviews).

4.4.5. Plants

Plants are an important resource for the community of Ulukhaktok. In addition to providing essential nutrition to residents, they are also the primary source of food for the animals that the community relies on for subsistence. Undoubtedly, plants form the foundation of the Arctic food web.

There are a variety of plant species that thrive in the short but intense growing season typical of the Ulukhaktok area, which include lichens, roots, and fruits. Plants have historically held significance as a food source, flavouring, and medicines. The women of Ulukhaktok have traditionally been the gatherers of plants, a practice which continues today (Ulukhaktok Interviews).

Qunguliq*: Wild Rhubarb *(Oxyria digyna)

Rhubarb is usually collected during the summer months of May, June, and July on the south side of Minto Inlet and areas within and surrounding the community. This particular plant species prefers areas of high soil fertility, and is often found near animal dens, bird nesting sites, or settlements. The plant's stocks are boiled for their juices or eaten raw. Gatherers avoid collecting rhubarb close to roads or paths because the plants may potentially

be polluted by all terrain vehicle and snowmobile exhaust or human waste (Ulukhaktok Interviews).

Mahu: Eskimo Potato *(Hedysarum alpinum americanum)*

Eskimo Potato is a common legume that is easily recognized by its unscented pink flowers, bright green leaves, and 'Y' shaped stalks. Primarily gathered by women, it is commonly collected "just after the land thaws and before it freezes again" (spring through to fall). Eskimo Potato is found near the bluffs around Ulukhaktok and on the north shore of Prince Albert Sound, "in spots where the ground is soft." The plant is reported to be the sweetest just after a rainfall. Eskimo Potato is eaten either boiled or raw, often with seal oil (Ulukhaktok Interviews). Stefansson (1913) recorded that while Eskimo Potato was abundant in the regions of Prince Albert Sound, Minto Inlet and Victoria Island in general, its consumption among the Inuit of this region is relatively lower than among Inuit in Alaska. At present the consumption of Eskimo Potato is very low (Kuhnlein et al. 2000).

Berries

Arctic blueberries, blackberries, and cranberries, are all commonly collected by Ulukhaktok residents during the months of August and September. Although the location of berries varies from year to year, they tend to grow in similar areas as Eskimo Potato. While women are the primary gatherers of plant resources, one male resident stated that he collected his own. Berries are eaten raw, used in baking, or made into jam (Ulukhaktok Interviews).

4.5. Discussion

The detailed human ecology of the Ulukhatokmuit reveals that relations between the biological and cultural are direct, complex, and pervasive. There is no rupture between nature and culture. Despite dramatic change in a short period of time that resulted from Euroamerican contact, disease, and

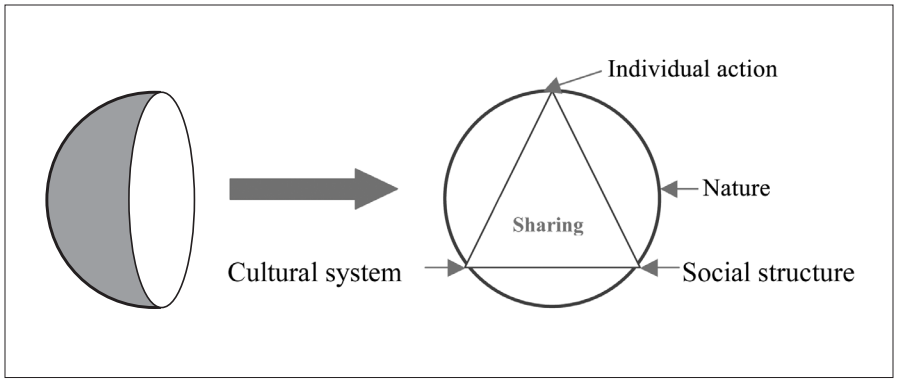

Figure 4.5: Dissection of the Human Ecology of Ulukhaktok.

penetration of the market economy, the subsistence way of life continues to sustain the Inuit of Ulukhaktok.

Sharing is at the basis of the cultural system and informs social relations in the hamlet. As the animal gives of itself, so does the hunter give of his or her harvest. It is this process of *giving* (and not taking) that is actualized in the form of sharing. Sharing provides an insight into the relationship that forms the basis of the human ecology of Ulukhaktok. Life gives unto life. The interviews indicate that sharing is omnipresent at every level, including but not limited to preferred animals such as seals, caribou, and muskoxen. Elders, family members, friends, and the community as a whole partake in the sharing.

Sharing reveals the anatomy of Inuit resilience in the face of social change. In the face of technological change, such as the introduction of the snowmobile and the gun, and in spite of social change, such as disease and the emphasis on individual accumulation through the market economy, the value of sharing, combined with the basic need for sustenance, has nourished not only bodies of the *Ulukhatokmuit* but their spirits as well. If we were to dissect the human ecology of Ulukhaktok, this case study illustrates that the *cultural system* informs the *social structure*, which is manifested in the *actions of individuals* through the value of *sharing* (see figure 4.5).

The case study illustrates (see foldout map) that the land and marine use is extensive rather than the intensive usage typical of an agro-industrial culture. Notwithstanding sedentization, Inuit human ecology retains the knowing *how* of subsistence living. With modern modifications, the aging of various types of foods, the rendering seal oil for lamps and human use, and the preparation of various types of animals and plants for human consumption indicates that indigenous knowledge remains intact because Inuit subsistence lifestyle remains in *place*. Subsistence hunting and gathering continues through a comprehensive understanding of the environment that is ongoing. The experience of being Inuit does not lie within the *Ulukhatokmuit* but in the relations between them and the surrounding ecology.

The next case study is an example of Iñupiat observations of variance in their relations of their surrounding ecology. It is an excellent illustration of how human ecological research must be alert to variance rather than relying solely upon the aggregate or average of community responses. In the human ecological study undertaken for Ulukhaktok, some community responses indicated climatic variation in their local ecology. Thus, chapter 5 examines Iñupiat knowledge of sea-ice.