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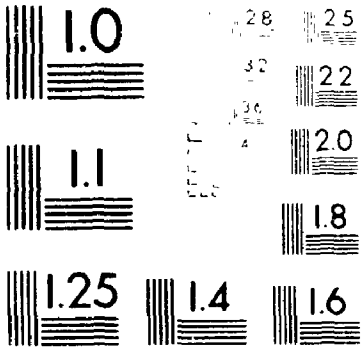

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THE COMMUNICATIVE DIFFICULTIES OF INTEGRATING TRADITIONAL ENVIRONMENTAL KNOWLEDGE THROUGH WILDLIFE AND RESOURCE CO-MANAGEMENT

Stella Spak

A thesis submitted to the
Faculty of Graduate Studies in partial
fulfilment of the requirements
for the degree of Master of Arts

Department of Sociology and Anthropology,
Carleton University,
Ottawa, Canada.

1995.

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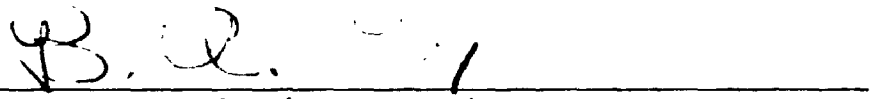
THE COMMUNICATIVE DIFFICULTIES OF INTEGRATING TRADITIONAL ENVIRONMENTAL KNOWLEDGE THROUGH WILDLIFE AND RESOURCE CO-MANAGEMENT

submitted by Stella Spak, B.A.
in partial fulfilment of the requirements for
the degree of Master of Arts



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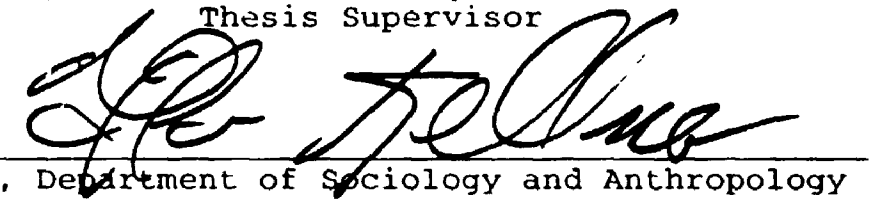

Chair, Department of Sociology and Anthropology

Carleton University
September 15, 1995

ABSTRACT

Over the last thirteen years more and more co-management boards have been established in North America. The healthy functioning of these boards is nevertheless still very much in its infancy. These boards attempt to combine systems of wildlife and resource management that grew within distinctly different cultures and were formed by distinctly different languages.

Using the Beverly and Kaminuriak Caribou Management Board as an example I am looking at the structure and functioning of such boards. To what extent is it possible for them to be based on both western science and traditional environmental knowledge?
True communication between user representatives and government representatives often does not seem to take place. The reason for this can be found in the fact that most boards seem to ignore the reality that they are bicultural and at least bilingual institutions. By solely operating in English, and by solely using the western administrative structure for their functioning, co-management boards stifle all true communication in its infancy. There is no easy solution to the intercultural communication problems of co-management boards. While much future research needs to be directed into this area, co-management boards also need to be aware of their communication problems and need to acknowledge the fact that they can not successfully function as a unilingual institution.

ACKNOWLEDGEMENTS

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Finally I wish to put out hearty thanks to everyone I know. Whether they realize it or not, they have all helped me along the way.

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1.0 INTRODUCTION

Wildlife and resource management in Northern Canada is currently going through a critical period of reassessment and change. Until recently northern resources have been exclusively managed by their respective provincial and territorial governments according to scientific models of wildlife and resource management.

The western scientific experience in the North has nevertheless only been of a very short duration and thus there is still much to be learned before a solid knowledge base of the northern environment will be established. Unfortunately, scientific wildlife management requires exact knowledge of the resource to be managed. Wildlife managers who are attempting to come up with a management plan for a certain herd of caribou need to know the exact number of animals to be managed. Since the exact knowledge of a resource is nevertheless in most cases not available, wildlife managers often have to work with all too vague estimates. Mismanagement is often the result.

Indigenous resource users, on the other hand, have lived with their resources for thousands of years. Thus they are in the possession of extensive knowledge about their environment, accumulated over many generations. Currently there is a slow awakening among the western scientific community to the importance of this knowledge. The term most commonly used in order to describe this knowledge is traditional environmental knowledge (TEK). Especially in wildlife and resource management, some realize, it is important to take advantage of this vast reservoir of knowledge. Thus one might think that consultation with resource users and the integration of their knowledge into modern wildlife resource management would result naturally. While this is attempted to some extent with (for example) resource co-management agreements, the true integration of the two systems of knowledge (western science and TEK) is nevertheless not easy to achieve. Apart from the fundamental differences in approaching knowledge and knowing taken by the two systems, the overbearing force of the western scientific paradigm, backed by the political and administrative structure of wildlife management, make the true integration of the two systems exceedingly difficult.

The political and legal developments of the last two decades have nevertheless started to change the political

and administrative structure of Northern Canada. Legislative changes brought about by land claim agreements (such as Nunavut) are starting to create scenarios in which governments have to share administrative and management responsibilities for wildlife and resources with the native users of the resource. The creation of co-management agreements are often the result of such legislative changes.

Another factor sometimes leading to the creation of co-management agreements is the need of governments to ensure further user co-operation. If there is reason to believe that resource users, who do not have a voice in the administration of the resource they live in, will no longer abide by the restrictions and regulations put forth by resource managers, the creation of co-management arrangements may be the result. This is for example the case if resource users believe harvest restrictions to be illogical or unreasonable and based on wrong assumptions about their resource and therefore threaten to disregard them.

Political shifts of power are thus, as we can realize, a rather strong force leading to the creation of co-management situations. The true wish to integrate the two systems of wildlife management in order to arrive at a

better management practice may be present. Nevertheless it may not always be the driving factor behind decisions to opt for co-management. Furthermore, to what extent is it possible for co-management agreements to arrive at true co-management, at the true integration of the two systems of wildlife management ? To which extent are co-management boards able to rid themselves of the overbearing forces of the western scientific paradigm, the western administrative and political structures within which they have to operate, and arrive at true and equal co-management ? To what degree is it possible for two completely different ways of knowing and seeing the world around us to come together under the "umbrella" of a co-management agreement ? Especially since that "umbrella" is mostly coloured by the scientific paradigm, administrative structure and language of one side ?

As Philibert points out: *"The ability to dominate derives in part from imposing one's construction of reality as the natural order of things (1990:266)."* Is it possible for indigenous members of a co-management Board to overcome this domination and influence the decisions made by co-management boards with their own knowledge, their own reality ? Or is the overbearing force of the western scientific paradigm, the western administrative structure

and language too strong to allow for their voice to be heard?

Knowledge is expressed in language and language forms reality. Thus if one has to express knowledge in a language different from the language within which this specific knowledge grew, then one is attempting to express this knowledge through a reality that is alien to the reality from which the knowledge came. Co-management situations wish to integrate knowledge that did not grow in the English language, that did not grow in the Western European concept of reality. In order to achieve this integration, co-management boards nevertheless only use the English language as the medium and reality of discussion.

Keeping this in mind it will be interesting to use a specific co-management board as an example and to analyze to what extent it is possible to arrive at this integration of knowledge with the current administrative structure. To what extent is the true integration of knowledge hindered by the intercultural communication and reality barriers existing in co-management boards ? To what extent is the inclusion of TEK hindered by having to operate in an alien and dominant reality ? These are the main points I am exploring in my thesis.

In my second chapter I will give more background on the idea of wildlife and resources co-management. A short history of this relatively new development will be given as well as an exploration of the theories behind the state system of wildlife and resource management. It will be pointed out why the state system, used in isolation, is insufficient and often leads to mismanagement. Further the issue of inter-cultural communication will be raised. In my third chapter I am providing some background on traditional environmental knowledge and how indigenous peoples see wildlife and its management. In my fourth chapter I will give an example of traditional wildlife management and explore the question to which extent TEK is actually gaining wider acceptance in and through wildlife co-management. The examination of the Beverly and Kaminuriak Caribou Management Board (fifth chapter) will serve as a practical example elaborating on this question. An exploration of the reasons leading to the creation of the Board ,as well as its structure and practical functioning will give important insight into the problems facing co-management Boards. I further point out why there is such a discrepancy in the level of communication achieved by the Board and by the newsletter Caribou News. The sixth chapter will explore how well a co-management board such as the BKCMB actually

succeeds in truly integrating traditional environmental knowledge, in truly sharing power with native users. Examples elaborating on this will also be given from the Alaskan context. In chapter seven the intercultural communication barriers existing in co-management boards will be explored as well as their role in the frequently occurring miscommunication in wildlife and resource co-management. The operational language of most co-management agreements is English. The languages, paradigms, and cultures within which local concepts of knowledge live are often very different from western concepts of reality. How can the two concepts of knowing come together in an equal manner under the language and operational concepts of one side ? Can fair co-operation arise if one side has to explain and justify its concepts in a "foreign" language and operational culture ? Do both side have the same understanding of what the terminology at the centre of the debate and decision making process stands for ? These are some of the main questions explored in this chapter. In chapter eight I am giving recommendations for future research and am exploring how the intercultural communication barriers can be overcome. I will also give some recommendations for tackling this core problem that is hindering true wildlife and resource co-management.

1.1 METHODOLOGY

I have chosen to make extensive use of the information available on the Beverly and Kaminuriak Caribou Management Board since it is one of the oldest co-management Boards in Northern Canada (established in 1982) and thus has a relatively long working history that can be examined. The review of the Boards Newsletter: "Caribou News" allows for much insight into issues of particular concern to the caribou users and administrators. Further it was possible for me to review the Minutes of the BKCMBs Board meetings which Gunter Abrahamson (the treasurer of the BKCMB) made available to me. The Kaminuriak Herd Film/Videotape project was a further source of information. In addition to these sources the literature and government documents pertaining the area have been reviewed.

The approach I have taken with which to analyze the difficulties faced by co-management agreements in the Canadian North is through the "new" discipline of intercultural communications. Intercultural communication explores the "amount of variations to be found between human discourse systems" (Scollon & Scollon, 1995) and the

communicative complications resulting thereof. As Scollon and Scollon point out:

> *Discourse analysis in professional communication is a new and rapidly developing field which integrates aspects of intercultural communication studies and applied interactional sociolinguistics... (1995:Xii).*

While it may, at first, be surprising to approach the difficulties encountered in northern wildlife and resource management through discourse analysis and intercultural communication studies, this approach is nevertheless necessary and inevitable. Northern Wildlife and resource management currently attempts to integrate two intrinsically different systems of knowing and managing our environment. Not surprisingly this integration is facing immense difficulties. Difficulties that to a great extent stem from the inability of resource managers and resource users to communicate. Thus it is important to apply what can be learned from the study of intercultural communications to the difficult situation of integrating one's knowledge in order to solve Northern problems.

2.0 THE IDEA OF WILDLIFE AND RESOURCE CO-MANAGEMENT AND THE ISSUE OF COMMUNICATION

Over the last decades an increasing number of wildlife and resource co-management agreements have been brought into existence throughout Northern Canada and Alaska. What is the reason for this new development and what are the results ? What can be understood by the term co-management ?

Co-management agreements may arise out of crisis situations concerning real or perceived species depletion and the resulting conflict between resource users and resource managers. Co-management agreements nevertheless mainly arise through the establishment of land claim agreements. This is often the case because many governments hold the position that conservation oriented statutes and regulations supersede treaty rights (Berkes in Pinkerton 1989:189). Thus the result is the need to co-ordinate wildlife and resources management. Co-management agreements attempt to bring together both sides, local users and government administrators, in the hope that they will communicate and work together. In the past local users and government administrators often blamed each other's wildlife management as the source of the problem. Local users of a

resource often believe that the government is making decisions about the specific resources, the resources they live in and need for survival, without adequate knowledge. An example of this point of view is voiced by Barnabus Peryour in the Kaminuriak Herd Film/Videotape Project:

> *We need the biologists' help combined with the Inuit's know how, we want them to use some of our knowledge maybe then they will start understanding instead of always arguing. Then maybe we will start working together" (Tape 18 Videotape Project).*

In co-management, on the other hand, users are given a voice in the decision-making process. They thus have a chance to influence regulations (including harvest quotas) which have a profound impact on their lives. Nevertheless there are generally two main reasons why governments agree to the establishment of co-management situations:

1.) The new power structure resulting from land claim agreements gives the governments no choice but to enter into a situation of resource co-management with local users.

2.) If governments have reason to believe that users will not abide by resource regulations put forth by the specific governments, then the creation of co-management might be a step to ensuring the future co-

operation of resource users.

Local users often believe western biological knowledge about their resources to be, at best, incomplete. It is difficult for local users to conceive how individuals who have only spent a few summers in contact with the resource over which they make decisions, could have much valuable knowledge about it. How can biologists know what is best for a certain species, many users wonder, if they have never had a chance to really get to know the particular species concerned ? This often leads indigenous users of a resource to mistrust the validity of, or disregard, state wildlife regulations.

What exactly is the knowledge and are the theories behind the state system of northern wildlife and resource management ? Let us examine the theoretical assumptions underlying the system of wildlife management used by the State.

Man as a predator:

Western scientists seem to assume that the relationship between man, in the Arctic and Subarctic regions, and the resources upon which he depends, is a

predator-prey relationship (M.M.R.Freeman, 1989:93).

Furthermore:

> *This essentially biological model proposes that in historic times the human predator was kept in balance with food supply in such Malthusian checks as starvation, disease and density dependant suppression of natural fertility (M.M.R.Freeman 1989:93).*

The upshot of this assumption is that man will harvest as much as he can, and will thus deplete his resource, if he is not held in check by nature. In the past, so the assumption continues, the necessary balance was maintained because man had access only to primitive technology; this did not allow harvesting to exceed certain limits. Contact with Europeans thus had to cause serious ecological imbalances, with increased sedentary populations and new "sophisticated" weaponry which made harvesting animals much easier, the result would be over harvesting (Freeman 1989:93).

These changes are deemed to have occurred in Northern Canada over the last two generations. They were thought to result in the complete loss of the natural harvest control, thus making it necessary for the government to impose harvest restrictions on the local population in order to

prevent the depletion of the natural resources (Freeman, 1989:93).

Thus the state's view does not allow for, the existence of local-level, traditional wildlife and resource management strategies. In many areas of the Canadian North native populations have nearly doubled over the last twenty years. Modern-day harvesting technologies have been available for some time, and few areas have strictly-enforced state harvest quotas. (Freeman 1989:93)

According to the state's view, these facts would by now have led to the near depletion of most wildlife species in the Canadian North. Nevertheless, that is not the case. The past twenty years make a poor argument for state wildlife agencies as exclusive managers of Northern Renewable Resources. The state wildlife management system bases its knowledge on Western science and modern wildlife biology. In fact, local users claim that Western biological knowledge, the basis of State wildlife management, is incomplete, thus resulting in wrong assumptions and questionable policies. The past history of northern wildlife administration has many examples of decisions that are made by southern-based administrators "without a clue" of northern reality. One of the earlier examples would be the Northwest Game Act of

1917. The act was mainly aimed at preventing the exploitation of the northern wilderness by foreign (American) hunters and trappers. The act nevertheless also put in place an absolute ban on hunting wood buffalo, musk-oxen and elk (Cox 1995:3). Whether the wood buffalo, musk-oxen and elk were in danger of depletion was not actually known to the southern administrators. The presumed threat posed by the invasion of the area through foreign trappers and traders was also, as Cox points out (1995) mere fiction and had no congruency with northern facts. Thus the Act was passed in accordance with southern theories of the north rather than with an actual knowledge of northern conditions. The Act was based on wrong assumptions about the North. It nevertheless had significant influence on the future developments in northern wildlife and resource administration. As Cox points out:

> *...the new Act marked the first significant infringement on the hunting rights of northern natives. Others were to follow in short order: The Migratory Birds Convention Act in 1918, and the creation of the Wood Buffalo National Park in 1922. The Northwest Game Act set the precedent for these initiatives, particularly the Migratory Birds Act. The Advisory Board figured in all of this; taken together, these measures placed wide restrictions on what northern natives could hunt, and when they could hunt. Restrictions put in place by "a few theorists" who had little practical knowledge of conditions in the country*

affected, and less of the people of that country (1995:10-11).

As one can realize, there is a long history of northern mismanagement based on southern ideas and theories about the north rather than on northern reality.

Decision-making in wildlife management requires reliable knowledge about the species to be managed. Apart from information on behaviour-areas of seasonal migrations and calving grounds-managers need a more or less exact knowledge of the population size of the wildlife species to be managed. Models for optimal management are developed using the number of animals of a particular species thought to be in existence. This may give the impression of sound and precise scientific management. Nevertheless one has to be careful so as not to confuse fiction with facts, especially in regards to the management of northern wildlife species. The knowledge that government biologists possess about southern- based species may possibly allow them to come up with plausible population estimates. However, as experience has shown, this is very difficult in regards to wildlife inhabiting the north. Biologists and administrators are often southern-based and spend at best a few months, normally the summer months, in the north. Thus their exposure to and resulting practical knowledge of northern

wildlife species is limited. Their population estimates are usually based on range overflights and aerial photography, (Usher 1986). However, in specific cases, such as the population estimates of the Beverly and Kaminuriak caribou herds in the late 1970's and the early 1990's, the estimates resulting from this census method were wrong. In 1974, the population of the Beverly herd was estimated at 177,000. By the late 1970's the caribou population had presumably dropped to 94,000 which resulted in the perceived "caribou crisis" and the introduction of the caribou protection measures by the Department of Indian Affairs and Northern Development (DIAND) (Cizek 1990:7). The apparent drop in population size was blamed on over-harvesting by humans and wolves.

Nevertheless a new estimate of the Beverly herd in June of 1984 brought the population back up to 330,000 (Annual Report 1984-85:3). Since caribou only have about one calf per year, it is not biologically possible for the Beverly herd to have increased consonant with the last two estimates. We must therefore assume that at least one, if not all, of the estimates were wrong!

State management relies heavily on knowledge of the population size of the species to be managed. Since, as we

have seen, this presumed knowledge is often wrong, are not the state models of wildlife management in Northern Canada also wrong ?

In order to create the best possible administration for northern resources it is necessary to take ALL the information that can be found on northern resources management into account. Relying solely on the state system of management, and ignoring the indigenous system of wildlife management in the North, one risks the future of the northern species and the human populations dependent on them. As we have seen, the information provided by western biologists and resource managers on northern species, is not very "scientific". It is necessary to take the knowledge of the local resource users into account if one wants to come up with a well-rounded picture of the actual state the resource is in. As we shall see some co-management agreements attempt to do just that.

This integration is nevertheless not as easy as it may seem at first sight. As discussed earlier, the two types or systems of knowledge which co-management agreements attempt to combine, grew in and with two distinctly different cultural and linguistic environments. Their integration at the co-management level nevertheless has to take place in

to offer itself to this individual as food and thus it would be disrespectful of the hunter to not accept this offer. This display of disrespect, so it is believed, will eventually result in starvation for the people since the animals will decide not to come to them in the future (Caribou News; Morrow 1992).

Furthermore, native users also maintain that objects placed around the neck of a caribou, such as a radio collar, will thin out its fur on this part of the body and thus make it more susceptible to mosquitoes, black flies, deer flies and other insect pests. This will result in the weakening and eventual death of the animal. The users on the caribou range have also observed that animals such as black bear who are carrying tags on their body are becoming fearless of man and start wandering around in villages searching for food. There is a concern as to the effects of the injection used to "freeze" the animal for tagging. Could that be the reason for their unnatural behaviour ?

Another main concern dealt with in Caribou News is education. Caribou News has been used as a medium to initiate and report on events such as traditional caribou camps, held in order to teach children traditional skills and values. Caribou News is further used as vehicle by

3.0 TRADITIONAL ENVIRONMENTAL KNOWLEDGE (TEK) AND INDIGENOUS PERSPECTIVES OF WILDLIFE

Indigenous environmental knowledge, local knowledge, traditional ecological knowledge, these are all terms trying to describe knowledge that only in the past decades has been recognized by the western scientific community. The term predominantly used to describe this knowledge is TEK[1] (Traditional Environmental Knowledge). It is not easy to define what exactly TEK is and this task should not be my purpose. Nevertheless I will attempt to familiarize the reader with TEK and how it might differ from the so called "Western Knowledge" or "Western Science".

Traditional Environmental Knowledge is the knowledge that a group of people attains over generations of living in close contact with its environment, with nature. It is usually highly area-specific. Local knowledge cannot easily be transferred from one region to another. It includes a system of classification that as Douglas Nakashima (1990) shows can be exact and purposeful.

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[1] [I am familiar with the problematic that comes with the use of the term "traditional" implying old, static which is definitely not the case here, but I have decided to adopt this term so as not to be confusing.]

HOW DOES TEK DIFFER FROM WESTERN KNOWLEDGE ?

Let us contrast TEK with western knowledge. The most fundamental factor differentiating TEK from western science lies in is its approach to understanding the environmental phenomena surrounding us. TEK uses a holistic approach to understanding. It views all elements of matter as interconnected and assumes that they cannot truly be understood in isolation. As opposed to Western science, it does not believe that by studying each part in isolation one can come to the true understanding of a phenomena as a whole. One could say that TEK does not believe that a certain phenomena is simply the sum of all its disassociated parts. True knowledge only comes from studying the whole (Johnson 1992:6-8; Doubleday 1993, Wolf 1992:12-16).

TEK is mainly recorded and handed down orally, through stories, whereas Western science employs the written word. TEK is learned through observation and hands-on experience, Western science is taught and learned in a situation usually abstracted from the applied context. TEK is often based on the understanding that the elements of matter (earth, air, fire, and water) also have a life force, and that all parts of the natural world, plant animal and inanimate elements, are therefore infused with spirit. TEK does not view human

life as superior to other animate and inanimate elements, (Johnson 1992:7-8). One could further say that TEK is mainly qualitative whereas Western science is mainly quantitative. TEK is, for example, more interested in trends; does a certain population of animals seems to be increasing or decreasing ? Knowledge of the exact population size may be of secondary importance.

While it would be possible to continue this analysis of the differences between TEK and Western science, I think the most important aspects of their fundamental differences can be understood. It is not my purpose to determine which approach to understanding the world surrounding us is more appropriate. However, as Nancy Doubleday notes:

> *Perhaps the environmental crisis which so many have cast in terms of overpopulation or pollution or global change is really a crisis in the way we think ? (1993).*

In any event it is none too soon for the dominant Western science to realize that their way of approaching problems, especially environmental problems, is not the only possible solution. Perhaps it is time to go even further and ask whether Western science has a limited ability to understand, based exactly on its method of understanding ? Or as Freeman noted :

> *How good is a methodology that take the exceedingly complex whole apart and essentially destroys its components ? Is the whole really only the sum of its disassociated parts ? Can we ever come close to understanding so complex and interactive a system such as the ecosystem by studying each part in isolation, by treating it as if it were a non- living machine ?*
> *(M.R.Freeman 1992:9)*

It is time to realize that in order to sustain the environment surrounding us we have to be open to the different approaches of dealing with it. Not to do so, to only take western science as a real and valid science, would be an intellectual version of monotheism. In his study: "Application of Native Knowledge in EIA: (Environmental Impact Assessment) Inuit Eiders and Hudson Bay Oil" Douglas Nakashima argues that environmental impact assessment in Arctic regions can substantially benefit from Inuit environmental knowledge. He points out that:

> *Environmental baseline data, essential for EIA, is scant or nonexistent for much of the Arctic. Scientific understanding of Arctic ecosystems remains severely limited. .... In their search for solutions to this dilemma, EIA practitioners have overlooked a valuable source of biophysical baseline information - the traditional knowledge of native subsistence hunters (1990:1).*

Nakashima examined environmental data from the Inuit of three communities in the southeastern Hudson Bay. He chose to study data pertaining to the Hudson Bay eider since the eider's extreme vulnerability to oil pollution made it of particular interest to Arctic EIA (1990:1).

The ecological classification of plants and animals is relatively new for the Western scientific tradition. In indigenous taxonomies, such as the taxonomy of the Inuit, ecology has long been a fundamental organizing principle (Nakashima 1990:5). In the Inuktitut taxonomic system of the Belcher Islands, for example, the importance of ecological thought becomes apparent. Nakashima gives us an interesting example of this in his analysis of the Inuktitut taxonomic system of the Belcher Island: The term that comes closest to our term "animals" is *Umajuit*. This term doesn't include, humans, human body lice, and dogs since they are closely related to one another. It further excludes *qupirkuit*, aquatic and terrestrial bugs and worms. *Umajuit* are divided into six major subdivisions: *puijiit*, or those that rise to the surface, *pisutiit*, or those that walk, *timmiaq*, the large birds, *qupauak*, small birds, *iqaluit*, large fish and *irqamiutait*, being a diverse assemblage, by western taxonomic standards, of bottom-dwelling marine organisms which include not only fish, but also sculpins, clams,

mussels, gastropods, sea cucumbers, sea urchins and seaweeds, species linked by the common ecological principle of being members of the intertidal or near shore benthic community. One of these major subdivisions, *timmiaq*, the large birds, is further divided into birds that live in close contact with water and those that live in close contact with land (Nakashima 1990:5).

A genuine ecological logic becomes evident in this system of classification. It also shows the strong dichotomy of land and sea that is so important in Inuit mythology and world-view. A second look at the classification of animals reveals that they can be further divided by what they feed upon and where they nest (Nakashima 1988:115; 1990:5). Built into this classification system is Traditional Knowledge of the location and nutritional needs of certain species. Doesn't this system of classifying animals into groups of interdependent species make more practical sense than the Linnean system of classifying by "appearance" ?

This insightful study by Nakashima was, as one can easily realize, only possible by analyzing the Inuit system of classification in its own terms and within its own language. Instead of forcing the Inuit's terms, the Inuit's knowledge into English, Nakashima used and explained the

Inuktitut terminologies. Only by doing this, by using the language within which this specific knowledge grew, was it possible for him to successfully complete his study.

Further, the western approach to wildlife management seems to maintain that it is possible to "manage" wildlife. In TEK such a concept of dominance can not be found. TEK maintains that wildlife cannot be "managed" in any way, since it is, as the word signifies, "wild". All that is being managed is the human access to or impact on wildlife.

In order to regulate and control this human impact on wildlife, the indigenous system relies on a system of self-regulation and social control, often enforced throug· religion. Thus the optimal balance of the ecosystem is attained by controlling human behaviour ,the human impact on the ecosystem, not the ecosystem itself. TEK generally knows of many social mechanisms with which to regulate and control human behaviour, the human impact on the environment. One of the most commonly used is the taboo. A taboo is a law, often enforced through religion, banning specific activities.

How do taboos work toward maintaining a balanced ecosystem ? The taboos surrounding the collection of the

West African giant snail are a case in point: The African giant snail is

> *... highly nutritious and fat-free; it contains vitamin B complex and vitamin C as well as minerals. In its dry form its protein content is 60.1 %. Dietitians recommend it for diabetics and hypertensive patients, as well as for children with calcium deficiency (Ofori-Mensah 1992:3).*

Collection of the snail was only permitted during the day. This insured that the number of animals collected did not exceed certain limits, since the snail is a night-feeding animal; it hides under leaves during the day. If it were permitted to collect the snail during the night when it is not in hiding, over-harvesting leading to the depletion of the species would have been the likely result. Furthermore the snails could not be collected during the breeding season. The chief imposes this ban after examining sample collections of the snails to assess the stage of breeding they were in. During the duration of the ban the snails were allowed to lay their eggs which in turn were allowed to hatch and mature before the new collecting season began. Thus the production of the next generation was insured. The collection of juvenile snails was illegal while the ban was in place thus allowing them to grow mature and lay eggs to produce the next generation. Further it was illegal to

collect snails on Tuesdays, Thursdays and Fridays, as Ofori-Mensah points out:

> *These days were also the days of the river or land god, so it was taboo to go to the farm. In Akim Abuakwa (Gahna),wherever the river Birim runs, it is taboo to hunt, fish, collect snails or farm on Tuesdays because the "soul" day of the river deity is Tuesday; she is called Birim Abena. The breaking of this taboo would drive the river spirit away, the river would "die" and the land would become infertile. Snails and other animals, as well as crops, would disappear or fail, (Ofori-Mensah, 1992:3).*

As one can see, these rules were enforced by the strongest possible force, religion. Missionaries assured the local populations that these taboos were rooted in primitive beliefs and that nothing whatsoever would happen if they were broken. As a result the snails were over-collected and became extinct in some areas. One could say that the promised revenge of the gods was not an empty threat. Century-old wisdom and conservation oriented regulations of specific regions should not be easily dismissed by newcomers to the specific regions since this might result in catastrophes.

4.0 WILL TRADITIONAL ENVIRONMENTAL KNOWLEDGE GAIN WIDER ACCEPTANCE THROUGH WILDLIFE CO-MANAGEMENT ?

One could say that in Canada and Alaska there are two systems of northern wildlife management in existence: the state system based on biology and economy, and the indigenous system based on TEK. The indigenous system of wildlife management employs consensus in decision-making. It is flexible, and thus able and willing to respond to immediate conditions and changes in the resource. Land use rotation and sanctions are a common conservation practice. Gossip, ridicule and avoidance are some of the measures employed to ensure that decisions made by the group are followed through by the individuals (Usher 1986:108). Taboos enforced by religious beliefs often work to the same effect (as we have seen in the example of the African Snails).

The state management system in contrast employs an economic model of resources management. Its overall goal is the maximization of the possible economic return of a resource. As a result of this managerial approach, attention is often focused on a single resource, in some cases a single species. In this case the ecological reality, the fact that no species can and does live in isolation, the

basic concept of the interconnectedness of things, is ignored. This alone, apart from the other uncertainties concerning northern wildlife, can very easily result in mismanagement (Wheeler 1988:44).

As described earlier, co-management agreements are trying to combine the two systems of management in order to create a better system of wildlife management. Nevertheless, the true and equal combination of the two systems of wildlife management, without valuing one system over the other, seems difficult to achieve. Connell unwittingly provides a good example of this problem:

> *.... What these recent estimates suggest is that there are large gaps in the information biologists have on caribou behaviour. There is recognition that these gaps can be filled in by utilizing the body of knowledge hunters have about caribou behaviour together with scientific research ... (1983:48).*

"These gaps can be filled in" - this phrase is a good example of the mindset with which too many resources managers approach traditional knowledge. Where applicable, traditional knowledge may be allowed to "fill gaps" to serve scientific research as a crude and primitive database. If one considers insight given through TEK as a crude database to be abstracted, analyzed, and made to fit the scientific

context then one is very likely to miss the point . The holistic nature of TEK disallows this taking out of context since it violates what TEK stands for. As Doubleday points out:

> *The removal of TEK from its paradigm and its importation into another dominant world view does violence both to TEK itself as a source of knowledge, and to the communities from which it comes (Doubleday 1993:51).*

Doubleday further points out that:

> *If the dominant paradigm takes only the tools of TEK and assimilates them, we may see changes, but they will be circumscribed by the assumptions of that dominant paradigm, (Doubleday 1993:52).*

Thus western science may commit the final step of colonization in taking away and possibly misusing the knowledge of indigenous peoples. It is important that TEK is allowed to stand and be accepted without having to constantly justify itself through the eyes of western science.

Keeping this in mind it is necessary to ask the following question of northern co-management agreements: To what extent is it possible for TEK to be used within co-

management agreements without having to justify its usage through the paradigm of western science ? To what extent is TEK allowed to stand as it is, justifiable in itself ?

The answer to this question is not simple and very much depends on the individual co-management board. Co-management boards come into existence for varying reasons. They operate within differing degrees of autonomy and vary in power structure and function.

It will be helpful to analyze the history, structure and function of a specific co-management board in an attempt to come closer to answering these questions. Since the creation of co-management boards is a fairly new phenomenon it will be helpful to look at one of its earliest examples, the Beverly and Kaminuriak Caribou Management Board.

5.0 THE BEVERLY AND KAMINURIAK CARIBOU MANAGEMENT BOARD, A PRACTICAL EXAMPLE

With the establishment of the Beverly and Kaminuriak Caribou Management Board one of the earliest examples of wildlife co-management in North America was brought into existence. The Beverly and Kaminuriak Caribou Management Board was established in 1982 as a result of disagreements regarding the population numbers of the caribou herds. Due to insufficient funds, the biologists given the task of coming up with a census of the caribou population, could only afford to fly over part of the area used by the caribou. They then proceeded to compile estimates of the total population of the herds. At the basis of their calculation was the assumption that the population density of the unsurveyed parts were similar to the density of those parts that were actually surveyed. This assumption was based on the relatively short experience of scientists in the north. The final result of the survey showed that the population size was dangerously low and most likely decreasing. The indigenous user population disagreed vehemently with the census results, stating that the animal population density of part of the herd range is not

necessarily a good indicator of the rest of the herd range. In that particular year, they claimed, the caribou had moved further north than they normally do, as a result of disturbances through mining operations and biologists ! Thus the biologists, they claimed, had missed the bulk of the herds population. Nevertheless, the data and viewpoint of the biologists was used by game officials and the government as the sole point of reference for decisions to impose severe hunting quotas on Inuit and Dené residents of the area. As one can predict the Inuit and Dené were angry and frustrated with this turn of events. They felt that their historic connection with the caribou, and their profound knowledge of the animals' habits were unknown to the biologists or were simply being ignored by them and the policy and law makers in wildlife management. (Snowden, Kusagak, Macleod 1982: 1-6) The conflict came to the boiling point when an Inuit leader and member of the N.W.T. legislature reacted to the proposed new game laws. There was a general feeling that the Inuit would possibly resist the introduction of new game laws (1982:7). Many local users felt that biologists, who do not live in the North and only come up north for a few months a year, could not possibly possess much useful knowledge about the caribou; since, as they reasoned, they rarely saw caribou with their own eyes. Quite similarly many biologists did not believe that the

local people who often possessed a limited amount of formal education could have much to contribute to caribou biology.

Later, when it became evident that the caribou herds were larger by far than estimated by the biologists, it became clear that new census methods had to be found. Indigenous people who had come into contact with the work of biologists felt that the methods used by the biologists were not always correct. They were of the opinion that biologists and users should pool their knowledge in order to establish better caribou management strategies (1982:15).

Since the early 1970's an intergovernmental committee had been functioning as a policy advisory body on northern caribou. It was decided to abolish this committee and replace it with a policy advisory board that, along with senior game management personnel and other civil servants, would include representation from native groups with vital interest in northern caribou (1982:18). When the invitations to this board were extended, native leaders countered by inviting the governments to sit on a caribou advisory board which they would form. After some thought the governments agreed and thus the Beverly and Kaminuriak Caribou Management Board (BKCMB) came into being.

The BKCMB was first put into place in 1982 to serve a ten-year intergovernmental agreement. After a review of the board's success (Usher 1991), the board was granted another ten years in 1992. While the Beverly-Kaminuriak Barren Ground Caribou Management Agreement (made on the 3rd of June 1982) is in actual fact only an agreement between the responsible agencies from the N.W.T., Saskatchewan, Manitoba and Canada, it is based on an appreciation of the "special relationship" between traditional users and the herds:

> *...the continued well-being and restoration of these herds and their habitat requires co-ordinated management, goodwill and co-operation amongst the above governments and the traditional users of these caribou. AND WHEREAS the parties hereto recognize that as well as the value of the caribou to all Canadians generally, a special relationship exists between traditional users and the caribou (Beverly-Kaminuriak Barren Ground Caribou Management Agreement 1982:1).*

The objectives of the Board as stated in the agreement, are:

> *(a) to co-ordinate management of the Beverly and Kaminuriak herds in the interests of traditional users and the descendants, who are or may be residents of the range of the caribou, while recognizing the interests of all Canadians in the survival of this resource.*
>
> *(b) to establish a process of shared*

responsibility for the development of management programs between the parties here to and the traditional users of the Beverly and Kaminuriak herds.

(c) to establish communications amongst traditional users, between traditional users and the parties hereto in order to ensure coordinated caribou conservation and caribou habitat protection for the Beverly and Kaminuriak herds (1982:1).

Further in section C under" Board Responsibilities" it is stated that:

..... the Board shall have the following duties and responsibilities: 1 To develop and make recommendations to the appropriate governments and to the groups of traditional caribou users for the conservation and management of the Beverly and Kaminuriak herds of barren ground caribou and their habitat in order to restore the herds, as far as reasonably possible, to a size and quality which will sustain the requirements of traditional users (1982:1).

The territory within which the Beverly and Kaminuriak Caribou herds are to be found ranges throughout the Central-Arctic and Sub-Arctic. It extends north to the Arctic Ocean and south to Northern Saskatchewan and Manitoba. The Kaminuriak herd has its name because its females consistently return to the Kaminuriak Lake area in calving season. The Beverly herd received its name from the lake

near which the cows calved a decade ago. In recent years they seem to have moved their calving area further north (Annual Report 1983-84; Cizek 1990:4) (Also see map.)

The traditional users of the caribou are the Inuit of the South Keewatin, the Métis and Capon (Dené) of Northern Saskatchewan and the South Slave regions and the Chipewyan of Northern Manitoba (Cizek 1990:4). These groups make up the eighteen small communities that are situated around the edge of the caribou range. So far there is virtually no commercial hunting of the caribou, though this is changing (Caribou News 1987 vol. 7 no. 3). Sport hunting of the animals is still very limited and the subsistence hunting priority of the users was recognized in the agreement (Usher 1993).

5.1 THE STRUCTURE OF THE BEVERLY AND KAMINURIAK CARIBOU MANAGEMENT BOARD, DOES IT ALLOW FOR TRUE COMMUNICATION ?

The BKCMB consists of thirteen members, eight user members and five government members. One government member is appointed by each of the following ministers: The Minister of Indian Affairs and Northern Development, Canada, the Minister of the Environment, Canada, the Minister of Natural Resources, Manitoba, the Minister of Parks and Renewable Resources, Saskatchewan and the Minister of Renewable Resources,N.W.T.. Further the Minister of Renewable Resources of the N.W.T. appoints four of the user members: Two members are appointed upon the recommendation of the Keewatin Wildlife Federation from the Inuit communities of the Southern Keewatin, one member is appointed upon the recommendation of the Déne Nation from Chipewyan communities of the South Slave Region, and one member is appointed upon the recommendation of the Métis Association of the N.W.T. from the Métis communities of the South Slave Region. The Minister of Renewable Resources, Saskatchewan, appoints two of the user members from the communities of Northern Saskatchewan and the Minister of

Natural Resources, Manitoba appoints two of the user members from the communities of Northern Manitoba (Cizek 1990:4-5; Usher 1993:112) (also see figure 1).

The Board meets three times a year. It should be noted that in spite of the user majority the board is rarely split along native-non native lines. Although the BKCMB is only an advisory board with no actual management powers, it is generally thought of as a positive example of co-management (Usher 1993; Osherenko 1988; Cizek 1990).

One of the major vehicles of communication employed by the Board is the Newsletter, "Caribou News", which is sent free of charge to the user residents on the caribou range. Up until 1992 its publication was financially supported by the Department of Indian Affairs and Northern Development, and came out approximately five times a year. Due to budget restraints, DIAND had to terminate its support for Caribou News in 1992. Nevertheless, the Newsletter continues to be published on a less frequent basis (approximately twice a year), now that the costs have to be solely met by the BKCMB. The scenario or problem out of which Caribou News arose was the perceived lack of communication between government biologists and managers on the one side and the traditional users on the other side. The gap between the two

sides resulted in many misunderstandings and an atmosphere of mistrust. Thus progress to solve problems was slow (BKCMB 1986:15). Caribou News was created to work as a vehicle in bridging these gaps. It is meant as a source of information and communication for all parties involved.

Each Newsletter has sections in English and the respective native languages. Its main purpose of providing information, education and communication are generally well met. It seems to be quite liberal in allowing individuals to state their opinions and thus, as was remarked by one of the readers on the range, manages to: " have something in every issue that will make somebody mad."

One of the controversial issues that has been widely discussed in "Caribou News" is the practice of tagging animals, employed by biologists in order to learn more about their behaviour. Most biologists and behavioral scientists are of the opinion that the practice of tagging or radio-collaring caribou does not do any harm to them and is of great value to the advancement of knowledge about their migratory patterns and other behavioral information. Many indigenous users and especially elders are opposed to this practice. They believe that an animal that has come close enough to a human being to be captured or killed has decided

to offer itself to this individual as food and thus it would be disrespectful of the hunter to not accept this offer. This display of disrespect, so it is believed, will eventually result in starvation for the people since the animals will decide not to come to them in the future (Caribou News; Morrow 1992).

Furthermore, native users also maintain that objects placed around the neck of a caribou, such as a radio collar, will thin out its fur on this part of the body and thus make it more susceptible to mosquitoes, black flies, deer flies and other insect pests. This will result in the weakening and eventual death of the animal. The users on the caribou range have also observed that animals such as black bear who are carrying tags on their body are becoming fearless of man and start wandering around in villages searching for food. There is a concern as to the effects of the injection used to "freeze" the animal for tagging. Could that be the reason for their unnatural behaviour ?

Another main concern dealt with in Caribou News is education. Caribou News has been used as a medium to initiate and report on events such as traditional caribou camps, held in order to teach children traditional skills and values. Caribou News is further used as vehicle by

biologists to explain to users the scientific research they are conducting on caribou.

When the BKCMB was formed in 1982, its first task was to create a comprehensive management plan for the two herds. Since knowledge of the herds size is important for biologists in order to establish a management plan for the future, and since experience has shown in the past that census data is often faulty, the Board had to come up with a new way of counting the animals. Upon the recommendation of the Board caribou counts are now made from the analysis of photos rather than the old method of areal surveys (Usher 1991:43). Although through this method it will also only be possible to come up with a relative estimate of the actual number of animals in existence, it was felt that this method would provide for a greater degree of accuracy. The establishment of the Board also meant that finally all the agencies of the different provincial and territorial jurisdictions agreed on the same caribou census method and are thus working with the same estimates of the two herds (Usher 1991:43). In the past different estimates of the assumed herd size had been used by the individual agencies making true management of the migratory herds difficult.

The establishment of the Board also brought changes to the relationship between users of the range and the government administrators. User members no longer have the feeling that their views and knowledge are being completely ignored. It would go too far, however to claim that the TEK of the indigenous caribou users is now being actively used. Users seem to not yet have much influence in terms of contributing with their knowledge to actual caribou research. They may be an influence in directing the priority of research but the research itself is conducted according to the western scientific paradigm. Indigenous users who would like to officially contribute in this area are expected to adapt their thinking to the western scientific paradigm and have to express themselves in the dominant English language (Usher 1991:43; Cizek 1990:26). This limits the knowledge about caribou and their environment that is being obtained.

The BKCMB, as one can realize, largely ignores the issue of its actual multilingualism in its functioning. As a result of this it is difficult for the Board to arrive at true communication during its meetings. The fact that the newsletter "Caribou News" seems to be more successful in creating situations of true communication is a result of the Newsletters multilingual approach. Through its use of the

respective native languages in its publications Caribou News does not dominate the discussion with western concepts of communication and does not exclude anybody from taking part in the discussion. Thus it is more successful at communication than the Board itself.

Apart from the unresolved problem of intercultural communication, the creation of the BKCMB has allowed for the opinions and values of users to influence at least some areas. Decisions concerning resource allocation, specific harvest quotas and the commercialization of caribou allow some integration of the traditional values of the caribou users (Cizek 1990:26). User representatives from the different areas of the range also use Board meetings to exchange news and knowledge among themselves. This usually happens while the government representatives of the board deal with administrative issues (Usher 1991:43).

What are the actions taken by the Board in terms of caribou management ? How does the Board define its problems and objectives ? In order to gain more insight into these questions, it will be helpful to take a look at the "Executive Summary of the Long-Term Management Plan for the Beverly and Kaminuriak Caribou Herds." In a section entitled "The caribou users" the plan claims that:

> *The board relies heavily on the traditional knowledge of user constituents, most of whom have spent a lifetime observing the caribou in all places and all seasons, (1986:5)*

But it further claims that it is:

> *... using knowledge supplied by technical advisers and considered by managers and user together the board has been able to develop a set of principles...(1986:7).*

One can assume that the knowledge mentioned in this passage would not be local knowledge. One thus has to question the claim that: " *The Board relays heavily on the traditional knowledge of user constituents*". Nevertheless it is further mentioned under management principles that: "*Effective caribou management must be based on co-operation and communication between the traditional users (of the caribou) and the governments*". However, it remains questionable whether the "governments" are able to show true cooperation with the caribou users in regards to using their knowledge. Especially if the knowledge provided by the users does not fit into the "picture" of reality maintained by western science. It seems as if traditional knowledge incorporated into the official management of the caribou has to allow itself to be "measured", adapted, and changed in order to be

integrated into the western scientific paradigm. Further one has to question the reasons and the driving forces behind the governments' decisions to establish co-management agreements. While there is a general apprehension among the governments about the existence of TEK and the importance of utilizing its knowledge in wildlife management one also has to realize that one of the main forces driving governments towards co-management is the realization that without local user participation and cooperation, superimposed management regulations would most likely not be followed.

Before the establishment of the Board, and in the early stages of the BKCMB, most people with knowledge about caribou ecology, biologists and traditional users, were in two opposing camps each discrediting the knowledge of the other. The traditional users living on the caribou range found it difficult to believe that government biologists, who have not spent much time in actual contact with the caribou, could have any useful knowledge about them. Biologists in turn only saw the users as predators of the caribou with no formal education and especially no knowledge of the discipline of biology.

The BKCMB has forced the government representatives and the users to communicate with each other. Now each side

knows something about the knowledge possessed by the other. Nevertheless, true integration still proves to be difficult. This is in part a result of the different paradigms and cultures within which each side operates and the Board's negligence to realize that it is in actual fact a multilingual institution. Disagreement and miscommunication resulting from the cultural differences of the members of the board are frequent. Co-management agreements such as the BKCMB have to work within the administrative structure of Canadian Government institutions. The board meetings of the BKCMB for example are largely run in the administrative style to which its government representatives are accustomed. Thus user representatives have to adapt their style of communication to a format they may be uncomfortable with. (More on this problem will be mentioned later).

Nevertheless, the Board seems to recognize the value of local knowledge to a greater and greater extent. For example in the minutes of the 37th Board meeting (held January 17-19 1995 in Prince Albert), one of the issues discussed was the result of the latest caribou herd surveys. It was found that in the future it would be important to not rely exclusively on the survey numbers for an estimate of the state the caribou herds were in, but to also use other indicators such as the visual observations of hunters. As

well, it was pointed out by user representatives that the body condition of individual caribou is a good indicator of the general state of the herd. It was further suggested that local hunters should be involved in the surveys so that they can contribute their specific knowledge. It was also pointed out that one should try to find out as much as possible about the reasons the caribou herds decline when they do. It was mentioned that one should ask the elders about their knowledge pertaining to this aspect (minutes 1995:10). Leading to this discussion was the fact that the number of breeding females that were found in the calving grounds of the Beverly herd in June of 1994 indicated that the number of animals in existence was three times larger than what had been estimated in a survey conducted in 1993. Thus the herd size had remained stable since 1984. In the 1993 survey, the herd size was pegged at 87,000, drastically below the 150,000 crisis level (Caribou News 1994 Vol.14, No 1). Biologists are still trying to come up with an explanation for the different survey results. The population estimate for the Beverly herd in 1994 was 286,000 which indicates an increase since 1988 (minutes 1995:9).

Thus we can see that the government representatives on the Board are making progress in regard to the inclusion and utilization of local knowledge, often as a result of lessons

learned in the past.

As already mentioned, the Board sees itself as an agent to provide information, education and communication, as outlined in the section "Action Plans" of the Management Plan (1986:15). A closer look at some of the measures taken by the Board in the realm of education will help us in understanding the aims and goals of the Board. Section 11, of the management plan, describes the Barren Ground Caribou Schools Program:

> *Problem: Students in Elementary and High Schools often have no opportunity to learn the traditional skills of the land from their elders and receive almost no instruction in biology related specifically to caribou.*
>
> *Objective: Teach children about the barren ground caribou and the traditional users (1986:15).*

Apart from special instruction in the schools this is also done by taking children out to traditional caribou summer camps. The Caribou News Issue of April 1987 (vol.6 no.6) states that the caribou schools program has been implemented at many schools with great success. The interest of students in the program was very strong. Apart from improving the student's knowledge about the caribou the program also improved their traditional language skills.

Adult education is also part of the "Action Plans" of the management plans put forth by the Board. It is stated that there are many young adults living in caribou-using communities who lack skills in both formal education and knowledge of traditional ways (1986:18) It is suggested that sections of the schools program developed for the children also have relevance for adults, especially in areas providing instruction in caribou management. The Board has prepared a special adult education guide. This guide, as well as on-the-land instruction by experienced hunters, is meant to upgrade the skills and knowledge of young adults on the land and in school (1986:18). Nevertheless, it is not always easy to determine to what extent these educational methods really include traditional knowledge.

The management plans touch on many other issues, not all of which can be discussed here. A section on the use and preservation of caribou meat, however, mentions the enforcement of traditional storage methods.

> *Method: Bring community pressures to bear on those with poor meat handling practices... encourage elders to educate young hunters in traditional storage methods... (1986:20).*

Other main points discussed in the plan are fire management and habitat protection. Fire is a primary factor affecting caribou on the winter range. It seems that caribou will not use areas in which there were large burns that are less than 75 years old (1986:22). Proper habitat protection is an issue of great concern to the native users. Industrial activities on the range disturb the caribou. Caribou are most vulnerable, it is felt, during the calving and post-calving periods. Special operating conditions for industries were to be developed; these would be known as "caribou protection measures". These measures would control land use activities in or near critical areas between May 15th and September 15th of each year (1986:23).

The implementation of this aspect of the plan has nevertheless proven to be difficult. Industries claim not to believe in some of the arguments brought forth and are uncooperative (Caribou News 1991 vol 11, no 2). Usher notes:

> *The boards success in protecting caribou and caribou habitat from external human activity is more limited. In this respect it can only act as a lobby group; other agencies must pay the cost (either as actual budget expenditures or as development benefits foregone), and most have been largely unwilling to do so. For example, while the board has pressed for full protection of the calving grounds from industrial development, no such action is likely (Usher 1991).*

Also not much progress has been made in protecting habitat from fire. The success concerning adult and hunter education has been considerably greater but it is easier to attain this than to get the full cooperation of industries and government. This unwillingness of the government to actively take part and enforce the prevention of habitat destruction may lead to serious problems in the future. Osherenko warns that:

> *In another period of declining populations users would be unlikely to accept harvest restrictions when declines may have been triggered by the unwillingness of governments to prevent habitat destruction (Osherenko 1988:23).*

The inability or unwillingness of the governments to act on the BKCMBs advice in regards to habitat protection may be one of the biggest threats to the future of the BKCMB (Osherenko, 1988:23).

The governments of the provinces and territory like the Board since it provides them with an early warning about the concerns of the caribou users. It seems as if the governments usually view the recommendations made by the Board as good recommendations even if they cannot act on some of them. The Board itself is regarded as being:

" realistic, responsible, relatively non-political and diplomatic, but firm" (Usher, 1993:113).

The accomplishments of the Board should not be underestimated. The Board has created a situation in which the governments and its representatives must justify their policies and decisions to the users and are answerable to the results. Nevertheless, sometimes this is made more difficult by the fact that in recent years government representation has been less senior then hoped for. This may lead to the delay of decisions, since the government representatives have to check with their superiors before being able to commit themselves to more important decisions. Nevertheless the Ministers of the Territory and Provinces represented in the BKCMB seem to have discovered the political advantage of delegating difficult decisions to the Board. In this way they are able to free themselves from having to enforce policies that might make them unpopular (Usher 1993:113). Thus governments also seem to have discovered the advantages of having co-management agreements.

6.0 THE INTEGRATION OF TRADITIONAL ENVIRONMENTAL KNOWLEDGE AND THE PROBLEM OF LANGUAGE

How well does the BKCMB succeed in "sharing power with native users"? That is the title of a paper by G. Osherenko in which she claims that:

> *Native knowledge regarding caribou health, numbers, migration pattern and behaviour over the last several centuries is now integrated with techniques of biologists for gathering current data (1988:97).*

Unfortunately in actual fact it is not all that simple. As we have seen the approach to knowledge taken by western scientists and traditional users of a resource often differs fundamentally and this makes the necessary cooperation difficult.

Traditional Ecological Knowledge, it is often claimed, is heavily influenced by the cultural constructs, myths, traditions and religious values of the cultures from which the knowledge stems. In western science on the other hand, it is commonly assumed that:

> *The system of knowledge is based on a scientific accumulation, organization and integration of data, and management problems are resolved in a technical a historical and "value free" framework (Usher 1986:2).*

Thus we have a claim that the state system of wildlife management, based on biology and economy, is a value-free system of wildlife management as opposed to the value-laden system of management employed by traditional users. This assumption is often made and agreed upon without further questioning its actual reality. While it is quite true that cultural values and management practices are heavily dependent on and influenced by each other in the indigenous system of wildlife management, the same goes for the state management system to a greater extent than commonly assumed.

Western biology and economy, on which the state system of wildlife management is based, is strongly influenced by European cultural values. In relation to wildlife management, harvest restrictions and hunting quotas for specific species are in some cases strongly influenced by European cultural beliefs and myths. A good example of this would be the hunting quotas established for swans in Alaska. The swans have been part of the traditional country foods consumed by the Yupik. In spite of the fact that the animal population is quite numerous in that area and would easily

support a high harvest quota, the actual quota set is very low. There does not exist any scientific reason to explain this low harvest quota. Thus one has to look elsewhere to find an explanation for this. And surprisingly enough the answer can be found in European mythology. To the European settlers swans were pure and royal animals. Settlers associated swans with palace gardens and quite a few tales in which they had a special role - as in Lohngrin. The settlers often associated human - royal qualities with the swans such as mating for life. Thus they could not conceive how one could degrade the swan, this royal animal, to the level of being a daily source of food (Morrow & Hensel, 1992).

This attitude seems to have prevailed and slipped into today's state wildlife management. As we can see not every aspect of the so called scientific wildlife management is solely based on rational scientific thought (Morrow & Hensel, 1992). Every system of knowledge is influenced by the culture within which it was formed.

As we can see, the often attempted classification of the two systems of wildlife management into "opposing" camps, with one, the state system, being thought of as solely based on scientific information, and the other, the

indigenous system, seen as being imbedded in and strongly formed by cultural values, is an oversimplification that does not reflect reality.

The fair integration of these two systems of knowledge is, as we have seen, difficult. Resource managers often wonder how TEK might possibly contribute toward resource management. Many feel that they should be able to select those aspects of TEK which they see as "fitting nicely" into their system of wildlife management. Areas identified as possibly warranting useful information coming from traditional users are the observations made by them about the physical conditions the specific caribou are in. Observations are constantly made about the level of body fat, the condition of the fur and the individual organs and other signs indicating the health of the caribou. There also seems to be the hope that TEK might have information about indicators making it easier for wildlife managers to understand why herd populations increase or decrease.

A strong ambivalence seems to exist in regards to TEK in wildlife and resource management. On the one hand the importance of tapping into the knowledge base provided by TEK is being recognized. On the other hand the approach towards knowledge, towards understanding the world, taken by

TEK differs to such an extent from the approach taken by Western science that true communication is difficult. This situation is not made any easier by the fact that in most cases it is Western scientists and administrators who are in the position to decide which aspects of TEK are going to be used and which will not be used in the specific cases.

The BKCMB attempts to regulate this power imbalance by making the user members the majority on the Board. This nevertheless does not make up for the structural administrative and linguistic inequality to be found in the Board. True equality is made near to impossible by the structure and function of the Board. The Board is in the broader sense of the meaning a "Canadian government institution" working within the framework, policies and procedures within which such an institution has to operate. The structure of the Board meetings themselves, as can be seen in the Minutes, is dominated by the Southern Canadian idea of what constitutes a Board meeting. Attempts are made to accommodate both sides, but in the end the "Canadian" bureaucratic and administrative structure seems to present an overbearing force. Further inequalities stem from the fact that user members of the board do not receive a salary that would support time spent doing research and accumulating knowledge in regards to wildlife management

policies. User members only receive a salary covering the time they spend at and travelling to and from Board meetings. Thus being a Board member is not a profession for them. As a result the user members have to spent most of their time pursuing their individual professions and therefore do not usually have an easy access to consult the specific policies and mandates before having to come to decisions during Board meetings (Kendrick 1994:57).

As a result of these difficulties the creation of the BKCMB has in fact only largely meant that the caribou users can now influence the areas within which caribou research is to be done. The actual research itself is nevertheless still mainly carried out by "Southern" scientists according to the principles of western science. Thus true communication between the caribou users and the governments, which is said to be part of the co-management process, only happens up to a certain point.

Why is it so difficult for co-management boards to create an equal situation of true communication and understanding ? The answer to this question is not simple and can be found in many different indicators.

In the report of the "Mackenzie Valley Pipeline

Inquiry" by Justice Thomas R. Berger one can find one indirect answer to this question. An answer that was already formulated in a time preceding the creation of the BKCMB. In a section of the inquiry entitled "Social and Political Values" it is noted that:

> *Those who wonder why the feelings of the native people have not previously appeared as strongly as they do now may find their answer in the fact that the native people themselves had substantial control over the timing, the setting the procedure and the conduct of the inquiry's community hearings. The inquiry did not seek to impose any preconceived notion of how the hearings should be conducted. Its proceedings were not based upon a model or an agenda with which we, as white people, would feel comfortable. All members of each community were invited to speak. All were free to question the representatives of the pipeline companies. And the inquiry stayed in a community until everyone there who wished to say something had been heard. The native people had the opportunity to express themselves in their own languages and in their own way (1977:95-6).*

The inquiry makes a very important point here, a point that still seems to be largely ignored in modern day attempts at wildlife and resource co-management. If one truly wishes to incorporate the opinions and the knowledge of native peoples, if one truly hopes to learn from their knowledge, to gain insight into their traditional environmental

knowledge, how can one expect this to happen at meetings that are to a large extent run in a style and language with which only the board's white representatives are comfortable? Even though it was already pointed out in the Berger inquiry that true communication can only arise in settings in which both sides are allowed to work in their own way, at their own pace and with the help of their own language, these facts still seems to be ignored in most wildlife and resource co-management arrangements, including the BKCMB. Thus true communication is not achieved. A further example of this can be found in a section of the inquiry entitled "Native Leadership":

> *The traditional Dené leader...is , on the basis of his superior abilities, consensually recognized by the group to serve as organizer, pacesetter and spokesman for the group. He is not the "boss" or independent decision-maker in group matters, as the Euro -Canadian might surmise (1977:98).*

Thus the european structure of government and decision making from the top down, with a representative who is ultimately in charge of all decision making is difficult for user representatives of management boards to work with. Their conception of decision making and government does not allow for their "absolute" representation of their peoples. Thus they are put in an awkward position and it is often

difficult for them to have to arrive at certain decisions "here and now" without being able to thoroughly consult with their communities first.

A further problem is that of language. The operational language of most co-management agreements is English. The languages, paradigms and cultures within which local concepts of knowledge operate, are often very different from Western concepts of reality. Thus if one truly attempts to bring the two concepts of knowledge together in an equal manner how can one expect this to happen if one only uses the language and operational concepts of one side? How can one expect true cooperation to arise if one side of a given Board has to constantly explain, justify and validate its knowledge in a "foreign" language and operational culture?

In this aspect the conflict of language and culture is more profound than commonly assumed. Apart from having to adjust to the Southern Canadian style of discussion and conflict resolution, local representatives of a given Board are also facing the difficult task of trying to explain concepts of knowledge that grew in a different culture in a different language, in a language that often does not have the words to express exactly what it is they need to explain.

Anybody with knowledge in a language other than their own has probably experienced the problem of wanting to express a certain idea or concept and not finding the right words, the words that would come close to what it is he or she is attempting to explain. Even if one deepens one's knowledge in that new language and acquires fluency in it one will often find that the words, the concepts needed to express what one wanted to express, to come close to what it is one wishes to say, can simply not be found. This can already be the case if one attempts to translate between such closely related languages as English and German. Thus it is exceedingly more difficult if one has to express concepts that are at home in Inuktitut or Chipewyan. These languages are very different from English in their structure and in their view of the world around us.

The Sapir-Whorf Hypothesis may aid us in understanding the difficulties faced by co-management Boards. The hypothesis claims that different languages produce a different way of thinking, that the way we see the world and the way we see reality is a construct, or direct result of the language with which we learn to understand the world. Whorf argues that our perception of reality, our way of seeing and understanding the world, is based on the language within which we live. Thus there are as many different

conceptions of reality as there are languages. By learning a new, a foreign language we are automatically learning about a new and to us foreign way of seeing and understanding the world around us. We are learning to understand a different view of reality. In the same way in which areas of specific importance differ from culture to culture we can find a difference in the subtleties of language relating to that area.

The term "focal vocabulary" has been coined in order to explain these differences in language. In the same way in which areas of specific importance differ from culture to culture so does their "focal vocabulary"(Whorf 1956). One of the most commonly used examples of this natural phenomena of language would be the difference in specific terminology known for snow between for example English and Inuktitut. While most english speakers have no particular interest in differentiating between types of snow, exact knowledge of the conditions of snow to be dealt with is of great importance to the Inuit. Thus they have developed numerous different words giving an exact description of the type of snow to be encountered. As a result speakers of Inuktitut have developed the ability to take in the different variations of snow whereas most English speakers would simply see snow as being snow and

would not be open to the different variations thereof. Every culture has a heightened linguistic sensitivity for areas that are of great importance to its survival and expresses this in their languages with a highly specialized terminology. Difficulties arise if one attempts to translate these concepts from one language, from one culture to another. Often one has to make do with a vocabulary, with a terminology that does not come close enough and is to rudimentary to explain precisely what one is trying to explain. Misunderstandings may often be the result of these difficulties.

To elaborate on the heightened sensitivity for certain concepts that are created by the language in which we grow up, and to explain why it may be difficult to understand specific ideas if a specialized set of terminology does not exist in the language one is accustomed to, an example may be helpful.

Experience as a tutor of German to students whose native and only language was English, has shown me that it is extremely difficult to explain to them the German grammatical system. Especially the genderisation of nouns. In German, as opposed to English each noun may be male, female, or neutral. An example of this would be: *Der Baum,*

(the tree) *Das Haus*, (the house) and *Die Schule* (the school). As we can see the English pronoun *THE* does not differentiate or assign a gender to the three nouns. As a result the English speaker will perceive these nouns as being the same, as being neutral and without gender. In German however, "der Baum" is male, "die Schule" is female, and "das Haus" is neutral. When I was trying to explain this concept to my students they had great difficulties in understanding and remembering why a tree may be male and a school female. Quite frankly it did not make any sense whatsoever to them that, what they had always thought of as genderless nouns should now suddenly be classified into male, female, or neutral. Since my students had grown up in a language that does not differentiate nouns in this way, it was difficult for them to understand this concept. However, if I would have been explaining the same grammatical concept of German to native speakers of, for example French, the native speakers of French would not have found anything peculiar in the genderisation of nouns, since this is a common practice in their own language.

How does this phenomenon relate to the difficulties experienced if one attempts to co-ordinate wildlife and resources co-management in Northern Canada ? Admittedly, at first it is difficult to understand its relevance.

Nevertheless, if it is so difficult to translate even such a simple concept as the genderisation of nouns from one language to another, and if this difficulty already arises between languages as closely related to each other as English and German, then one should not expect the cross-cultural and cross-language communication attempted by co-management agreements to be simple. If it is so difficult to translate simple concepts of grammar from one European language to another, than how exceedingly more difficult must it be to translate intrinsically complicated concepts of knowledge ? These concepts have been developed in a specific culture with the help of a highly specialized language that was adjusted and readjusted over generations in order to best express them. The process of communicating these ideas is further complicated by the fact that the languages and realities within which the concepts expressed by TEK grew, are far from the European concept of reality expressed in European languages such as English. Thus the exact translation of these concepts from for example Inuktitut into English is often near to impossible since English does not possess the terminology needed to do so.

7.0 THE SOCIOLINGUISTIC BARRIER, CONTROL THROUGH LANGUAGE ?

> *The ability to dominate derives in part from imposing one's construction of reality as the natural order of things (Philibert 1990:266).*

This quote by Philibert summarizes the problem if one is attempting to understand why co-management agreements are only able to really "co-manage" up to a certain extent. As explained earlier, the establishment of co-management attempted to bring both sides, local resource users and government administrators, together in as equal and fair a manner as possible. In order to overcome possible imbalances of power some Boards, including the BKCMB, have created a situation in which the user representatives outnumber the government representatives. In spite of this the overbearing Southern Canadian, or rather European, administrative structure nevertheless makes true co-management difficult. As Morrow and Hensel point out:

> *...English supplies the conceptual categories - the idiom and the jargon - which are at the crux of the decision making process...Ideological differences between the systems rarely surface in such discussions, because the focus is on planning actions rather than*

> *understanding the varied justifications behind them, and because the politically powerful participants in the dialogue - the legislators, resource managers, and enforcement agencies - supply the vocabulary in which the debate will be framed... (1992:38).*

Thus a necessary requirement for user representatives of a given Board is that they are fluent in the dominant language, in English. Nevertheless, as I have already attempted to point out in the previous chapter, bilingualism alone, even if the individual were to be absolutely fluent in both respective languages, does not fully solve the communication problems of the co-management Boards. It is difficult enough to attempt the translation of concepts and ideas from the indigenous languages into English. When this translation and explanation has to take place within the bureaucratic and scientific structure within which co-management boards operate, true communication is often made near to impossible. Often, as is the case with the BKCMB, Board meetings take place in a very structured environment, following southern organizational culture. The government members of the Board generally come to the meetings with a preset agenda of issues that have to be covered during the meeting. Since most members of the Board are on a fixed schedule and can thus not afford to let the meeting go too much into overtime, the ability to step outside of the

agenda is limited. Thus there is often no time to discuss issues involving TEK.

Further, in co-management situations it is often assumed that the vocabulary at the centre of the debate and decision making process is clear and self explanatory. This is nevertheless not the case. Many terms central to the debate and decision making process, such as "wildlife management" and "census population" involve concepts which are not directly translatable between English, Chipewyan and Inuktitut (Usher 1993:116). These terms can only be loosely translated into the respective languages and are in their translation more often merely overlapping in meaning rather than congruent. The assumed congruency of terms central to a debate, where in actual fact they are merely overlapping in their assumed meaning, poses a great danger to the success of co-management. As Morrow and Hensel point out:

> *... both parties accept a common idiom in an apparently mutual effort to communicate, expressing little or no awareness that the terms of their discussion are often conflicting. The use of an unexamined common vocabulary to create a false sense of agreement among the parties is partially based on the assumption that translated or cross-cultural meanings are congruent rather than merely overlapping... (1992:39).*

This conceived or assumed congruency of terms central to the co-management process is the biggest barrier to true communication faced by co-management and similar agreements. As Gallagher points out:

> *Effective participation of native people in agency decision making requires clear communication, in both directions, across the language barrier (1992:145).*

These intercultural communication barriers prevent both sides from gaining a true understanding of the other's point of view. They prevent true insight into the reasons for the other sides actions.

While almost no research has been devoted to gaining insight into the intercultural communication barriers between indigenous peoples and the respective governments with whom they have to work, other areas of public life have had more attention in this respect. Especially in the business world, much attention has been given to intercultural communication barriers existing between Asian and North American business people. The dominant North American culture is ignoring the intercultural communication difficulties existing between one ethnic group with whom they have to operate, and focuses all its attention on communicating with another. While clear communication with

the Asian business community is perceived as being a necessity to successful business relations, the same importance to real understanding is not given to communication with the indigenous peoples of North America. Why is that so ? To be frank, the answer to this question is money ! North American business relations with Asia have been taking on great proportions of economic importance to the North American economy. Thus as a result funds have been made available to focus research attention on improving the understanding and communication between these two cultures. Clear communication with indigenous peoples on the other hand is seen as having no economic relevance. This is further enhanced by the power relationship existing between indigenous peoples and the dominant North American society. Clear communication with indigenous peoples is generally not perceived as being important since they are not seen as holding a position of power and influence over North American society and economy. Thus up until now not much research has been done to improve the understanding between indigenous peoples and the dominant society.

This view is nevertheless extremely shortsighted. Not only does it continue the colonial legacy of the dominant European culture but it also leads to the loss of an extremely important resource of knowledge that could help us

in better understanding our environment.

Further it is questionable whether clear communication is as unimportant to the dominant Canadian society as commonly assumed. Miscommunication often results in failed projects, projects whose success might have a significant impact on for example wildlife and resource management, or, in the long run, on the dependence of indigenous peoples on social security. In both cases the final impact on the Canadian economy should not be underestimated. Thus it is important to give intercultural communication difficulties between indigenous peoples and the dominant western society more attention and direct more research projects in this direction.

Even though the insight gained through the existing literature of intercultural communication between Asia and North America is not always easily transferrable to the communication barriers faced by co-management Boards such as the BKCMB, similarities exist and examples may help in the understanding of this problematic.

Ron Scollon and Suzanne Wong Scollon's book entitled: Intercultural Communication gives an excellent study of the frequent miscommunication between Asian and North American

business peoples. Scollon and Scollon explore t'e problem of miscommunicating when on a superficial, on a mere level of language competence, of vocabulary, understanding does not pose any difficulties. To elaborate on this Scollon and Scollon give the following example:

a) Point made by Asian speaker of English:

> *Because most of our production is done in China now, and ah, it's not really certain how the government will react in the run-up to 1997, and since I think a certain amount of caution in committing to TV advertisement is necessary because of expense. So, I suggest that we delay making our decision until after Legco makes its decision (1995:1).*

b) The same point made by western speakers of English:

> *I suggest that we delay making our decision until after Legco makes its decision. That's because I think a certain amount of caution in committing to TV advertisement is necessary because of the expense. In addition to that, most of our production is done in China now, and it's not really certain how the government will react in the run up to 1997 (1995:2).*

The Asian speaker seems to feel that the background information on which his decision is based, has to be given first, so that the reasoning behind it can be understood.

The western speaker of English on the other hand gives us his suggestion right away and then ventures into an explanation giving the background for his decision. These differences in patterns of representation lead both the Asian and the western speaker of English to focus their attention on different stages of the discourse. The western speaker will automatically assume that the information of greatest importance to the argument, will be given at the beginning. Thus he will focus his attention on this part of the discourse. The Asian speaker on the other hand will assume that he should focus his attention towards the latter part of the sentence (1995:2). Here is another example to this point made by Scollon & Scollon in a section entitled "The limits of language":

> *Mr Wong and Mr Richardson have a conversation. Mr Richardson has enjoyed this conversation and when they are ready to part he says to Mr Wong that they really should get together to have lunch sometime. Mr Wong says that he would enjoy that. After a few weeks Mr. Wong begins to feel that Mr Richardson has been rather insincere because he has not followed up his invitation to lunch with a specific time and place (1995:5).*

Again the difference in discourse patterns is the source of the problem. Since Mr Richardson made the mention of lunch at the end of their conversation, Mr Worg got the impression

that this proposed lunch must be of some importance to Mr Richardson and is thus surprised when it is not followed up by a real invitation. Mr Richardson on the other hand placed the mention of lunch at the end of his conversation with Mr Wong, since it is of little importance to him. For him it was only a way to express that he has enjoyed their conversation. It was not meant to be a specific invitation. He is very likely to have forgotten he ever mentioned lunch soon after their conversation is over (1995:5). As one can see the pure linguistic mastering of a language does not automatically bring an understanding of the subtleties and assumed meanings of that language. Thus even fluent speakers and competent bilinguals tend to bring their own cultural assumptions and speech patterns with them. It is difficult to step outside of one's first and formative language and culture even if one is fluent in another language and aware of some of the cultural differences. The greater the cultural and linguistic difference from first language to second language the more difficult it is to "read between the lines" and have the same understanding of the crucial expressions and terms that a native speaker would have. Taking this one step further, it is not even possible to safely assume that English speakers from different social and institutional backgrounds will have the same interpretation of specific terms.

How does the above described example of miscommunication relate to understanding the communicative difficulties faced by wildlife and resource co-management in Northern Canada ? As one can learn from the examples given above linguistic competence in English does not necessarily mean that a competent second language speaker of English will not be influenced in his use and his assumptions of the English language by his own language and cultural background. As we have seen in the Asian-North American Example, differing styles of representation may often lead to wrong assumptions even if on the pure linguistic level every word has been understood.

Thus when looking at co-management Boards in Northern Canada, Boards made up by government representatives and the respective local representatives, one must be aware of the extreme differences in cultural backgrounds, and, as a result of this, concepts of reality which exist at such Boards. One must be aware of the fact that these differences are going to influence the individual speech patterns and assumed meanings that will be carried by one and the same language, namely English. Apart from the extreme and obvious cultural gap between the local representatives of a given Board and the government representatives, cultural and, or

institutional difference also exist between the local representatives themselves and the government representatives coming from different departmental and institutional "cultures". Thus the potential for misinterpretation is great.

Apart from the existing difficulties in understanding and accepting each others world view, the extremely different styles of representing ones point of view, make understanding and communication at board meetings exceedingly more difficult (Morrow & Hensel, 1992).

While government representatives and scientists are used to a direct, and one could even say. confrontational style of presenting their ideas and opinions, user representatives tend to speak in a more tentative and less direct manner. Thus they (not unlike the Asian speakers of English) will use a speech pattern that sounds tentative, uncertain and even unclear or illogical to the western listener. The following practical example from Morrow and Hensel (1992) will help in clarifying this fundamental problem.

Sample 1: Kuskowim River Salmon Management Workshop Meeting. June 22, 1991-U.S. Fish and Wildlife Service Offices, Bethel, Alaska.

Context: the accuracy of the biologists' counts of king salmon is being questioned.

Joseph Lomack, Sr:

Ah, Mr. Chairman, on last week on that they had a fishing ah, in front of that Bethel all the way up to ah, Akiachuk, and he pass by,the thick on. We didn't have any tester on that, and not get the fish, we get lot of fish running. He jumped up, that's a good sign, that means thick, and not ah biology way, (but) the Eskimo biology way.

(I) Now right now on that, they get sometimes on that in the Tuluksak (River) that water is not much good on that ah, from upstream, and the Kwethluk (River) they're get upstream on that, get lots of water.

And the fish , they're going up. That best time to get when the water is - is getting high on that. The best time to going up to all the way. And (but) when it get low water, other fishermen he kill the - many of the Kis - I mean the fish. They are eat (by) black bear and brown bear, that's a

good fisherman, before it (the fish) get roe on that one, he (the bears) eat it up on that, many of them.

When it get low water, when it get low water, he (the fish) backing up on that, he don't make much roe, I'm talking about their Eskimo way. (II) Right now he get thick on that- the last week on that, and ah they're pretty good on that, know you-when it get normal way on that, we - the - the fish they're coming on that wind direction, on that you tell us about. (III) Maybe not agree, ah - ah - nobody could agree with me, I think on that. (IV) And I - I talking about their Eskimo way.

John White (Chairman): (Loud sigh, pause) Other discussion ?

As Morrow and Hensel point out, Lomack's argument may be summarized in the following manner:

I. There are clear signs of abundant fish. Local people know that there was sufficient escapement. This is based on experience, not on official counts.

II. Tuluska river weir counts are low because fish

will not ascend in low water conditions. He implies that the (sentient) fish are avoiding bear predation. On the adjacent system, where water levels are higher, fish are ascending normally. III. More fish will come when the wind changes. IV. He does not expect to be heeded. V. Chairman White does not comment. His sigh and invitation to "other discussion" seem to support Lomack's prediction that he will not be heeded (Morrow and Hensel 1992:47).

One can assume that Mr. White and his fellow non-native members of this management workshop meeting had a difficult time concentrating on and, or understanding the point Mr. Lomack was trying to make. Mr. Lomack did not open his discourse with a strong statement summarizing his main point, but rather choose to give detailed background information of why he supports a certain point of view, thus hoping to bring the factors which in his experience influence the salmon count to the attention of the Chairman. Nevertheless to the Chairman who is used to a different discourse style Mr. Lomack's tentative, explanatory and apologetic way of presenting his view most likely gave the impression that Mr. Lomack is not really certain of what he is talking about. As a result he dismisses his point and

moves on to "other discussion" instead of trying to understand what it is Mr. Lomack was attempting to bring across. Thus both Mr. Lomack and Mr. White will most likely depart from the meeting with a certain feeling of frustration. Mr. White will most likely be under the impression that not much was gained through having this meeting, since the Native representatives, so he might feel, did not really contribute with any useful information. To Mr. White it might seem as if the only thing Native representatives do is complain. Mr. Lomack on the other hand will also be frustrated with the outcome of the meeting. He will most likely feel that, as usual, the white representatives did not pay any attention to his knowledge and will thus continue to make their faulty assumptions leading to faulty management policies.

The Minutes taken during the Board meetings of the BKCMB do not allow us to gain insight into the communicative difficulties of the Board. The minutes of the meetings are normally taken by one of the government representatives in the standard western form used in such matters. Thus they do not allow room for the acknowledgment of such communication difficulties as shown above. The fact that intercultural communicative difficulties are generally ignored or rather not noticed by the BKCMB is an interesting indicator

pointing out the possible roots of their inability to achieve true co-management.

What is the ratio, or rather the frequency with which issues of concern for the individual members of the Board are discussed during its meetings ? While there are other issues receiving much attention during Board meetings, the following three seem to be of great importance to the different members of the Board. The most fundamental issue dealt with during Board meetings is of course the census of the herds. As we have seen above, this issue is nevertheless of greater importance to the government members of the Board than to local users who have not much faith in the accuracy of such numbers. An issue of great importance to user representatives (as we will also see later on) is the protection of the caribou habitat from mining and other industrial activities. The habitat protection from fire is another main issue, which, one could say, holds equal importance to all members of the Board. This division of interest is of course not absolute and overlaps do occur. Looking at the minutes of the last seven years it is possible to see to what extent each of these issues has received attention. Nineteen Board meetings took place during this period. The caribous' habitat protection from fire was on the agenda for eighteen of these meetings.

Debates about the most recent estimates of the herd sizes of the animals thought to be in existence, were part of thirteen of these meetings. Industrial activities or proposed activities and their effect in relation to the caribou was brought up during eleven of the nineteen board meetings, although often only because the Board had received propositions by industries interested in working on the caribou range. Thus one can see that there is a slight discrepancy in the amount of attention given to each of these issues. This is in part a result of the fact that the government members of the Board, as opposed to the user representatives, come to the meetings with a preset agenda of items to be covered during the meeting. Thus there is less room to cover issues of particular concern to users. This in turn stifles the process of true and free communication. Going back to the previously mentioned quote by Philibert that: "The ability to dominate derives in part from imposing one's construction of reality as the natural order of things (1990:266)" one could say that this seems to unfortunately be quite true in the case of the BKCMB.

The Kaminuriak Herd Film/Video Project of 1981-82 taken as an innovative way of conflict resolution leading to the creation of the Board, offers further interesting insight into communication, or rather the lack thereof. Since there

were conflicting points of view about the caribou and since there did not seem to be much understanding between local users and wildlife biologists, Donald Snowden, Film/Video Communications Productions were asked to come up with a proposal for a project using the Fogo Island process. Through videotape people and their differing views would be brought together and viewed in public meetings in order to facilitate understanding. In all, 33 videotapes were made with people in the Keewatin and with biologists. The analysis of these tapes reveals interesting information. The following excerpts from these tapes will give an example of the differing opinions and points of view relating to the main question or conflict. Are the herds really in decline ? On tape 28 Steve Kearney, a regional wildlife specialist with the Manitoba Government, explains why in his view the caribou are declining and nearly not to be seen in Manitoba:

> *From the pattern we see on the map in terms of the distribution of the caribou in Manitoba, how far south they have moved and from the figures we have derived as biologists from surveys, it would seem that as the population gets smaller the caribou do not move as far south each year. Theoretically, this will lead to the point that once the population has reached a limit, a lower number than at the present, the caribou will not come into Manitoba at all, they will remain totally in the Northwest Territories, and as the population continues to go down, the caribou will use a smaller area.*

In Tape 24 John Killulark gives an indirect answer to Steve Kerney's calculations. John Killulark is asked by an interviewer from his community:

Q. Do you believe what the biologists say more than what the Inuit say ?
A. I would believe them if I didn't see their mistakes, but when I see their mistakes I really can't believe them.
Q. Do you think that biologists would be more believed if they talked with people so that the people could understand them, or will they never be understood ?
A. Well, we would believe them if they showed more interest in talking with hunters and also if their mistakes and wrongdoing weren't so obvious. For example, if the biologists wouldn't only rely on their own information, but if they tried also to work with what Inuit know and use the Inuit know-how- if they did this, the studies that they do would be very convincing.
Q. So they are not working closely enough with the Inuit ?
A. They are not working with the Inuit enough, and because of that it makes it hard for me to believe what they say.
Q. Have you ever given any thought to how Inuit and Biologists might actually start working together ?
A. I have often thought about how this could best be achieved
- not just on paper but how they could communicate in a different way. For example, if the biologists are counting caribou by plane, or on land, or at crossings, they think they are learning about the population. But we Inuit believe that counting the caribou in these ways seems to scare them away, and makes them decrease in the areas in which they have counted.
Q. So they don't seem to count

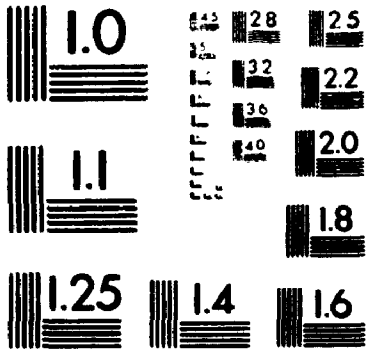
everything?
A. They don't count all the caribou for one thing, and then they count in one place and say that there were this many before and then they go back and count in the same place they counted and say there are fewer caribou. But they don't know that the caribou will not go back to where they were disturbed when they were counting them.

John Killulark further points out:

Q. You seem to be saying that the caribou movement has changed totally.
A. Yes, we think so. The people around Baker Lake think that the movement of caribou has changed totally. Before, we could not find any hunting places in this area around Baker Lake. There was no way we could get caribou from up here.. over here.. and over there, and now we do. But now there are a lot of caribou over here, and the caribou that were further away are roughly over here and starting to slow down. Being an Inuk, I think a lot of the caribou around here are bulls right now; and they are probably the last of the caribou that will be around this area; and then if they move that way - north- people are going to say there are no more caribou at all. ...
Q. And do you think that some day they will come back south to this area ?
A. Yes I would think that. If it was like before, if the land is not disturbed too much in the future and not ruined, then we would expect them to come. But the thing to worry about is that there is too much activity on the land, and they are being moved to much. If mining activity continues around this area for too long, the caribou won't come back.
I heard from an old man once that caribou move from one area to another, where they stay and wait until the area in which they were first is once again good for feeding.

2 of/de 2

PM-1 3½"x4" PHOTOGRAPHIC MICROCOPY TARGET
NBS 1010a ANSI/ISO #2 EQUIVALENT



PRECISION[SM] RESOLUTION TARGETS

Thus as we can see from these two tapes different opinions existed as to why the caribou had moved and whether their population size had really changed or not. The wildlife biologist blames the disappearance of the caribou from Manitoba on their (assumed) shrinking herd size; he would thus see the resolution of the problem in more drastic hunting quotas so that the herd can stabilize its size. John Killulark, on the other hand, has quite a different explanation for the caribou's disappearance from Manitoba. In his opinion the herds are not declining but merely moving their migration pattern further north; since, so he explains, they do not like to be disturbed by mining activities, herd overflights for their census, tagging at caribou crossings and other disturbances such as forest fires. He feels that if only the land were left alone the caribou would come back and everything would be fine.

The approach to communication taken in this videotape project is very interesting and insightful. By freely taping the individual opinions it becomes possible for native caribou users to state their views without the restriction of time, or the restriction of having to answer oversimplified questions that only allow for a short and direct reply. The method of using a fellow community member as interviewer seems to successfully ensure that points of

importance to users are being brought across. The interviewers and interviewees were further allowed to use their language of choice which gave them a better chance to clearly express their opinion. Compared with the example given by Morrow and Hensel this self directed approach, free from any formal restraints on communication and free from a formal setting in which the speaker may feel out of place and uncomfortable, seems to work quite well. There also seems to be a difference in the style of representation used by native speakers that is similar to Scollon's example of the style of English used by Asian speakers. John Killulark tends to make the most important points in the end of his discourse after the reasons leading to a particular statement have been pointed out.

Time has shown that Killulark was in fact correct in his predictions that the herd had merely moved further up north. Later census results of the Kaminuriak herd revealed that it had in fact only moved further north from its original areas and was not declining. Although the debate explaining the reason for this move is not yet settled, the disturbance of the land in the south seems like an accurate assessment of the problem. At the particular point in time when the films were made, (1981-82) the users' point of view, as represented for example by John Killulark, was

nevertheless not taken as a valid point, and thus the "caribou crisis" was created, enforcing strict bag limits on the local users based on the assumption that the caribou's "decline" was mainly due to their overhunting. If one would really have attempted to listen to each other and communicate with each other much grief could have been avoided.

Further sections of the tapes give differing points of view on the amount of animals that are now taken by residents of the caribou range compared to the past. On tape 29 Rich Goulden, a wildlife biologist, explains that:

> *It's only when you get into a situation where there are more animals wanted by the people than the herd can provide annually and maintain its numbers that there is a problem. And then you get into the problem of either increasing the herd in such a way that it can provide the annual number available for the people or somehow you have to ask the people to restrain themselves from taking the animals. So it's that situation I think that we are looking at now.*

Thus he claims that the main problem or reason leading to the decline of the caribou herd is overharvesting. Local users on the other hand do not agree with this theory and point out:

Q Are people hunting caribou differently today than they used to hunt in the past?
A. (Donald Suluk tape 9) Well it has changed a lot now that we don't have dogs. When we hunt the caribou we look for only fat caribou and only the good caribou, and that makes hunting very different. When we lived on the land we ate more caribou but now that we are living in houses , we just want nothing but good food and fresh food, and I think that is a very big change.
Q. Do you think that we killed more caribou when we had dogs than we do today ?
A. Well, we used to try to keep a food supply for both the dogs and ourselves, so we tried to kill any kind of animal there was. We had to catch a lot of caribou because the dogs had to eat and caribou was the only source of food.

Felix Pissuk further points out in tape 10:

We used to get caches for the winter. We would cache 50 or 60 animals. Then they would say "we have to get more fresh food", and sometimes this would mean they would cache even more. They would say it would last them the year but now you hardly ever go catch more than 20 caribou to last a year. Sometimes we go out camping and hunting caribou and catch maybe three caribou which is too much for one month of supply now. But if we had dogs as in the past, this would last only a few days.

Again, as can be seen in the earlier examples, there is a difference in the style of representing one's opinion used by white and native speakers. R. Goulden begins with his

main point and presents it in a matter of fact, "no question about it", style. D. Suluk and F. Pissuk on the other hand use a more explanatory style of presentation. They first lay out the facts that should make it clearer why they arrive at the particular opinion they hold. As already pointed out through Morrow & Hensel's and Scollon's examples, this less assertive style of representation seems to be more easily dismissed by western listeners than the more assertive style of presenting one's opinions which they are used to.

F.Pissuk and D.Suluk point out that, since the users are now taking less animals than they took in the past, they have a hard time believing that the herds are declining or if they were declining that overhunting really is the cause for this decline. As a result they have a hard time agreeing to restricted hunting quotas and believe that if the caribou are really declining, which they do not think to be true, the cause for tnis must be found elsewhere (for example in the disturbance of the land through industrial activities).

The disturbance of the land, as was already voiced by for example John Killulark on tape 24 of the videoproject (p.88), is one of the biggest issues worrying the caribou users. Concern about the impact industrial activity has on the land was also voiced by native people during the

Mackenzie Valley Pipeline Inquiry. Through the Mackenzie Valley Pipeline Inquiry there have been community hearings in which the people of the communities that would be affected by the pipeline were allowed to voice their opinions about the proposed project. In these community hearings concern of the impact the pipeline would have on wildlife and the environment was frequently voiced. During one of these hearings Pierre Tlokka explained:

> *... we got a Snare hydro right amongst, just past, right above the Rae area and then it so happened that there used to be a real good hunting ground right around this Marion Lake and then the caribou used to come right across up to the, right across the lake over here. The people used to kill all kinds of caribou, right around Fort Rae and then since they cut the transmission line, and then there is no caribou ever walk underneath the line, although its how many feet right above the air. Even that the caribou don't even cross it any more. That's how effective some lines are and those people don't give us any credit or any subsidies for what they done or spoil the land (8032-8031 Microfilm T22).*

T. Landry further points out:

> *Supposing if there were an oil spill, or the pipeline ever break, we don't know whether there's some animals like beavers that live off the land and off the lakes, if they happen to be flooded by oil over the lake, and supposing if the beaver wants to live, live off the lake, so is*

> *little ducks, and I don't think they'll ever survive. And they probably might end up being blind, I don't think you'll provide any doctors for them to fix their eyesight or something like that(8005 Microfilm T22).*

Thus as can be realized the Berger Inquiry reveals a strong concern of native peoples about the impact that industrial or any other "foreign" activity will have on their wildlife. It is further pointed out that in their experience any altering or carving up of the land will result in the disappearance of its animal population such as for example the caribou. The same claims, as we have seen above, are also made by the residents within the jurisdiction of the Beverly and Kaminuriak Caribou Management Board.

In an attempt to relate the importance that the land has for Native people to her White listeners, Louise Cesar of Fort Good Hope points out during the community hearing:

> *This land is just like our blood because we live off the animals that feed off the land. That's why we are brown. We are not like the white people. We worry about our land because we make our living off our land. The white people they live on money. That's why they worry about money (1977:94).*

The following scenario seems to, unfortunately, be the norm more often than the exception in northern wildlife and resources co-management. A co-management agreement covering a certain resource area and / or species is established, be it merely for political reasons or through the realization that both sides, government administrators and local resource users, have a valid interest in trying to arrive at decisions that are best for the resource in question. When the first meeting with the resource users is called most government representatives will bring the following attitude with them:

> *... despite the fact that the western trained biologists frequently lack even basic population data upon which to base management decisions, they frequently retain the belief that indigenous societies have neither the knowledge nor the institutional means of managing natural resources (Freeman 1985:226).*

As a result they are liable to misunderstand the purpose of these meetings. They often seem to assume that their sole responsibility at these meetings is to convince the user representatives of the validity and necessity to adhere to the results and indications of their scientific research. All too often these meetings are used as a forum to "educate" the users about the importance of "scientific"

research conducted in regard to their resource. While this is done it is often neglected to let the user representatives educate the government representatives about the importance of local traditional knowledge obtained over centuries in regards to the same resource. Thus one could say that there seems to be a semipermeable membrane at these meetings letting information flow from one side to the other but not to both sides. This semipermeable membrane could also be called the western scientific paradigm. It attempts to filter and control TEK, but it does not allow for TEK to influence its own assumptions of reality. Only a few aspects of TEK that fit nicely into the western model of management may be allowed to gain validity. Thus communication and adaptation only happens in one direction leaving the user representatives frustrated.

In spite of the prejudice towards TEK with which many wildlife biologists and government administrators come to co-management meetings, they may make a genuine attempt to understand the point of view held by local users. Unfortunately understanding is only attempted through the eyes and language of western science. It seems to be impossible for the government representatives on management Boards to step outside of their preformed conceptions of reality and attempt true understanding. Inter-cultural and

inter-language communication barriers of course all too often stifle even this attempt in its infancy.

Thus miscommunication prevails.

If true co-management of northern resources is to be achieved, management in which both systems of knowing are to be taken into consideration, then one has to attempt to overcome the inter-cultural and inter-reality, the inter-language communication barriers existing between the different sides of a co-management Board.

8.0 CAN THE INTERCULTURAL COMMUNICATION BARRIER BE OVERCOME? RECOMMENDATIONS FOR THE FUTURE AND EXAMPLES

How can the operational process of co-management situations be best influenced so as to accommodate both sides in a fair manner ?

The fundamental reasons leading to difficulties in attaining true communication and co-operation in co-management situations have been pointed out in the previous chapter. There is a general awareness regarding the existence of these difficulties . Nevertheless not much progress has yet been made in addressing these fundamental problems. Since there are still numerous outstanding land claim agreements in Northern Canada and Alaska and since many provincial governments hold the position that conservation oriented statutes supersede treaty rights, (Berkes in Pinkerton 1989:189) it is to be expected that new co-management agreements will arise through the establishment of these land claim agreements in the future. Thus progress made in understanding the intercultural communication difficulties arising through co-management

situations is of utmost importance.

The difficulties of intercultural communication experienced by North American - Asian business relationships have, as pointed out, received a great deal of attention over the last years. Some of the fundamental problems revealed in that particular discourse analysis may also be found in and applied to co-management situations. In the end the socio-cultural and historical differences existing between these two groups are nevertheless too great to simply apply the Asian examples to the situation in Northern Canada.

Since the degree to which the two systems of knowledge are integrated in co-management situations, seems to be in a direct relation to the respective board's quality of communication it is this issue that needs to receive the attention of future research. The first step in this direction is the acknowledgment of all members of the respective Boards that they are part of an inter-cultural and inter-language institution. And, as a result of this, there has to be an awareness of the sociolinguistic differences present at each Board. Without this recognition no progress toward solving the communicative problem of co-management Boards can be made.

It is not possible for me to come up with the solutions to these complex communicative and linguistic problems faced by co-management Boards. In order to arrive at solutions to these problems much future research in this area is needed. To direct future research into this area is of utmost importance if one wishes to eventually create true wildlife and resource co-management. It is nevertheless possible to come up with some suggestions that might ease the cultural confrontation experienced by co-management agreements.

First and foremost the biggest mistake often made by co-management Boards such as the BKCMB is the Board's assumption that fluent speakers of the English language will have a similar interpretation of the meaning carried by terms commonly used. As Usher points out in his evaluation of the BKCMB:

> *The use of English as a common language masks to some extent, in community meetings as well as in Board meetings themselves, the fact that the participants use significantly different versions of English (1991:23).*

Usher further points out that long-term members of the Board are generally aware of this problem. Nevertheless it is a

difficult one that requires constant attention (Usher 1991).

When entering into a new co-management agreement it would be helpful if all the members represented at this new Board would do the following exercise before their first meeting: An extensive list of the terminology most commonly used in the management process could be distributed to the newly appointed members with the request that they enter their own definitions of what these terms stand for or represent. A photocopy of the individual definitions could then be distributed to all members' so that each member is aware of the other members readings of the terms. At the first meeting it could then be attempted to co-ordinate these definitions and work out a common list acceptable to all. Further the previously compiled lists could be used as reference material in the event of disagreement so that it might be more apparent where the different members are coming from in their assumptions about the specific issues. This approach will most likely help the Board in avoiding future miscommunication at least to some extent. It will nevertheless not solve the difficulties faced by native representatives attempting to relate certain aspects of TEK to the non-native members. Here the difficulty is that many of the terms that would be needed in order to clearly explain exactly what it is they are trying to bring to the

Board's attention, do not exist in the English language. Thus they have to try and make do with the English vocabulary at their disposal. A clear translation is nevertheless often not possible. The result of this coupled with the different speech patterns often used by indigenous representatives is that the non-native members of a Board do not understand and, as could be seen in the Alaskan example, will move on to other business ignoring the comment made by the indigenous representatives. Thus it is extremely important that all members of a co-management board are made aware of the language problem and of the different speech patterns that may be used by the individual representatives. User representatives should further be allowed to speak on their own terms. Outside pressure to conform to certain lengths and formats of presentation should be removed as much as possible in order to allow user representatives to express themselves in their own terms and, if wished, in their own language.

Reports such as the Interim Report on Inuktitut Terminology and Concepts Related to Renewable Resources (Arlooktoo & Tilden, 1994) are of great importance in improving understanding. This report is taking a very interesting approach to interpreting the relevant terminology. Instead of simply translating the vocabulary

concerned, the specific terms are first defined in their English meaning. Then they are translated into Inuktitut and finally the Inuktitut term is translated back into English. An example (from page 5) of this would be : ANIMAL One of the lower animals as distinguished from human beings. NIRJUTIT, UUMAJUT and then the back translation of the Inuktitut term into English, Animal: living thing (also see Chapter 3 page 24 of this thesis). Thus, more than just giving the reader the approximate translation of the term, the reader will also find out about the possible discrepancies and differences in the definition and understanding of a particular term between Inuktitut and English. Handbooks such as the one mentioned above have been long overdue and are of great importance in aiding communication in arrangements such as the co-management Boards.

A further aspect hindering the more extensive integration of TEK into the knowledge base from which management decisions regarding northern wildlife are made, is the practical exclusion of elders from being members of a co-management Board. Why are not more elders, elders who are in possession of the most extensive accumulation of TEK present in their communities, members of co-management Boards ? The answer to this question is unfortunately quite

simple. The operational language of co-management Boards is always English. Thus, in order to qualify as a Board member a high level of fluency in this language is required. This requirement nevertheless affectively bans most elders from becoming board members since their fluency in English is in most cases far less than the English language competence acquired by younger individuals who have attended government schools. As a result board representatives are in most cases not representatives of the older generation, the generation that still has the strongest grip on TEK.

For the inclusion of aspects of traditional knowledge into the co-management process it would be of great benefit if elders could be permanently present at board meetings. In order to ensure this, Board meetings would nevertheless have to abandon their unilingual approach and include the respective native languages into their operational process. This in turn would of course require the constant presence of qualified interpreters who would expect payment for their services. Further, since the work that needs to be done by these interpreters is not a simple task, special training for individuals who seem promising in fulfilling this role is needed. As pointed out by Gallagher:

> *To improve translation there is a need for translators who are more qualified*

> *and for improved translation of concepts and terms. ..... when translating about land management the translator must have special training. As with other professions the jargon of land management is difficult, with everyday words taking on new meaning. Casual use of technical terms can lead to major errors. In addition it is necessary that translators be able to translate in both directions... (1992:148).*

Gallagher further points out that it would be useful to hold "terminology workshops" in which it should be attempted to both, translate English terms into the respective native languages, and attempt to come up with the closest possible translation of Native concepts into English (1992:148).

Thus with the help of communities, cultural institutes and native language centres of universities, it might be possible to develop some of the intercultural communication skills that are so much in need if true communication and cooperation is to occur in wildlife and resource co-management. Much further research in this area is nevertheless needed.

If the constant use of more than one language would be a part of co-management boards the budget of most co-management Boards would need to be extended so that they could afford these new expenses. Of course in a time of

federal and provincial budget cuts and restraints this is not very likely to happen. Nevertheless it seems as if such measures are necessary if the more extensive inclusion of TEK into wildlife and resources co-management is to be achieved.

9.0 CONCLUSION

The integration of the two systems of wildlife management, the creation of true co-management is, as we can realize, not an easy task to achieve. The integration of the two systems is nevertheless necessary if progress in wildlife and resources management is to be made. Sole dependence on information and knowledge provided by the state system of wildlife management will inevitably result in mismanagement since decision making would be based on inadequate knowledge. Thus it is of utmost importance to include the local knowledge of traditional resource users into the resource management process. Unfortunately the approach taken by most attempts at co-management can be described in the following manner: The filing system is provided by the western system of wildlife management while some of the files are possibly allowed to have input stemming from local concepts of knowledge. The traditional knowledge used in wildlife management has to, it seems, first be translated, changed and adapted to the scientific system of wildlife management since western terms of wildlife management seem to be the only means of communication accepted in most co-management agreements.

Thus the greatest barrier to true communication, to the true integration of western science and traditional environmental knowledge can be found in the inability of Western science to step outside its own paradigm. One cannot truly understand somebody else's system of thought if one is not ready to first free oneself from one's own assumptions of reality. Thus the inability of biologists and government administrators to step outside of the strong "religion " of Western science makes the necessary integration of the two systems of knowledge extremely difficult.

If we truly wish to integrate traditional environmental knowledge into the wildlife and resources management process, if we truly wish to gain the insight provided by local users, how can one expect to do this by first forcing the local representatives to adapt to our own system of thought ? How can one expect to gain true insight into somebody else's world view if one forces him to only use the tools that created one's own world view and system of thought? If one wishes to gain from somebody else's difference then one has to allow their difference to stand as it is. Otherwise we will only arrive at our own picture of these differences but will never be able to view the original "picture" itself.

It seems as if indigenous peoples wishing to contribute to and influence wildlife and resource management decisions are caught in a "catch-22" situation. In order to make themselves understood at management meetings they have to be fluent in the English language and adopt the English terminology used in wildlife management. Exactly by doing this, however, they lose the ability, the framework needed to successfully communicate ideas rooted in traditional environmental knowledge, rooted in their differentness.

If it is really attempted to keep the indigenous languages and systems of knowledge alive, is this not best achieved by allowing their use in modern day arrangements such as wildlife co-management ? If we truly wish to gain insight into the environmental wisdom of indigenous peoples, is it not best to allow them to speak for themselves, instead of forcing our own discourse and administrative system onto indigenous users and then lament their inability to make their different points of view understood ?

Perhaps we should at least listen instead of simply forcing TEK to adapt and conform. If we would truly listen instead of attempting to assimilate, progress could be made on a much larger scale.

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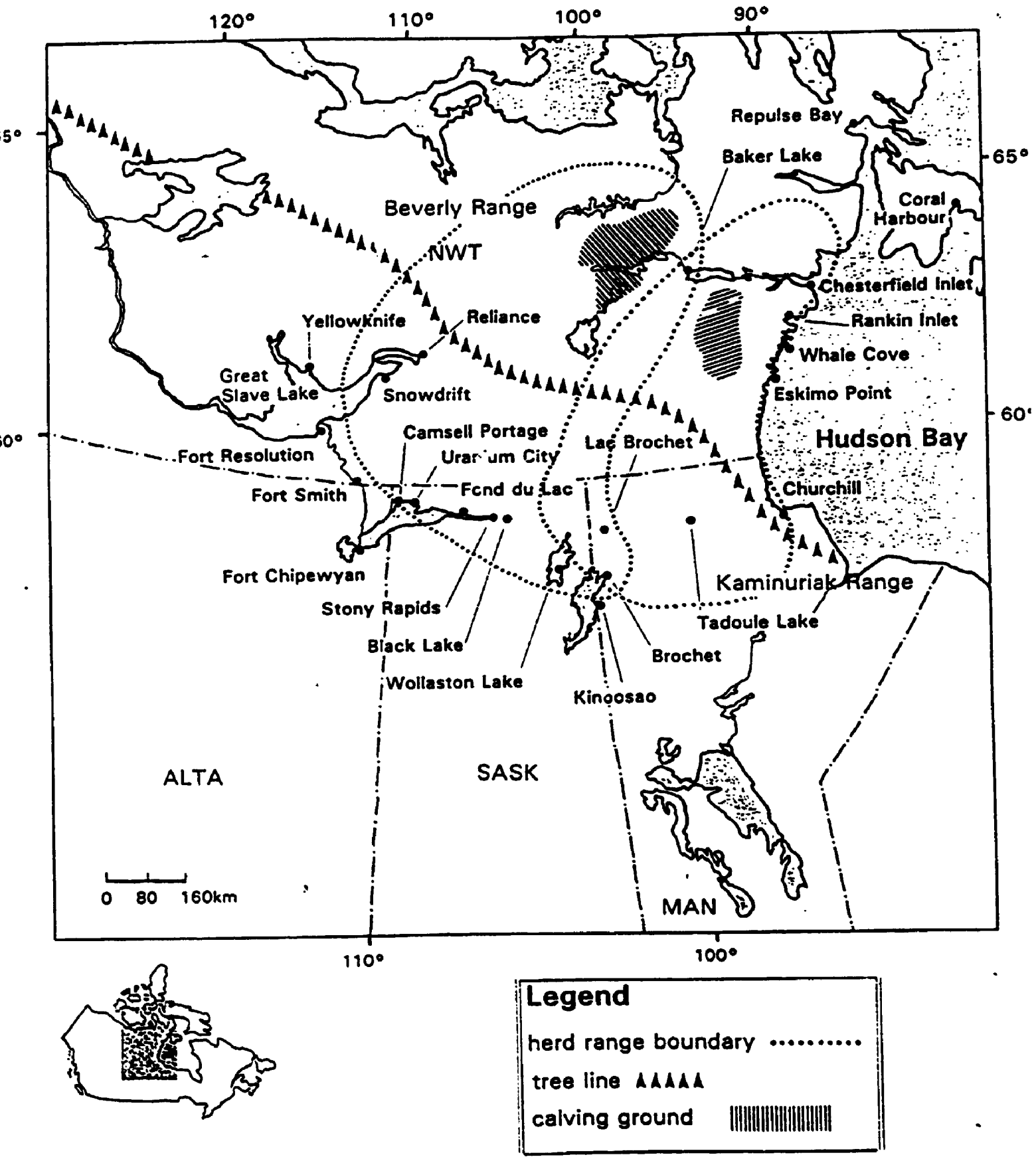
APPENDIX

Map 1

Graph 2

Beverly-Kaminuriak Ranges and Caribou-using Communities



Legend

herd range boundary .....

tree line ^^^^^

calving ground

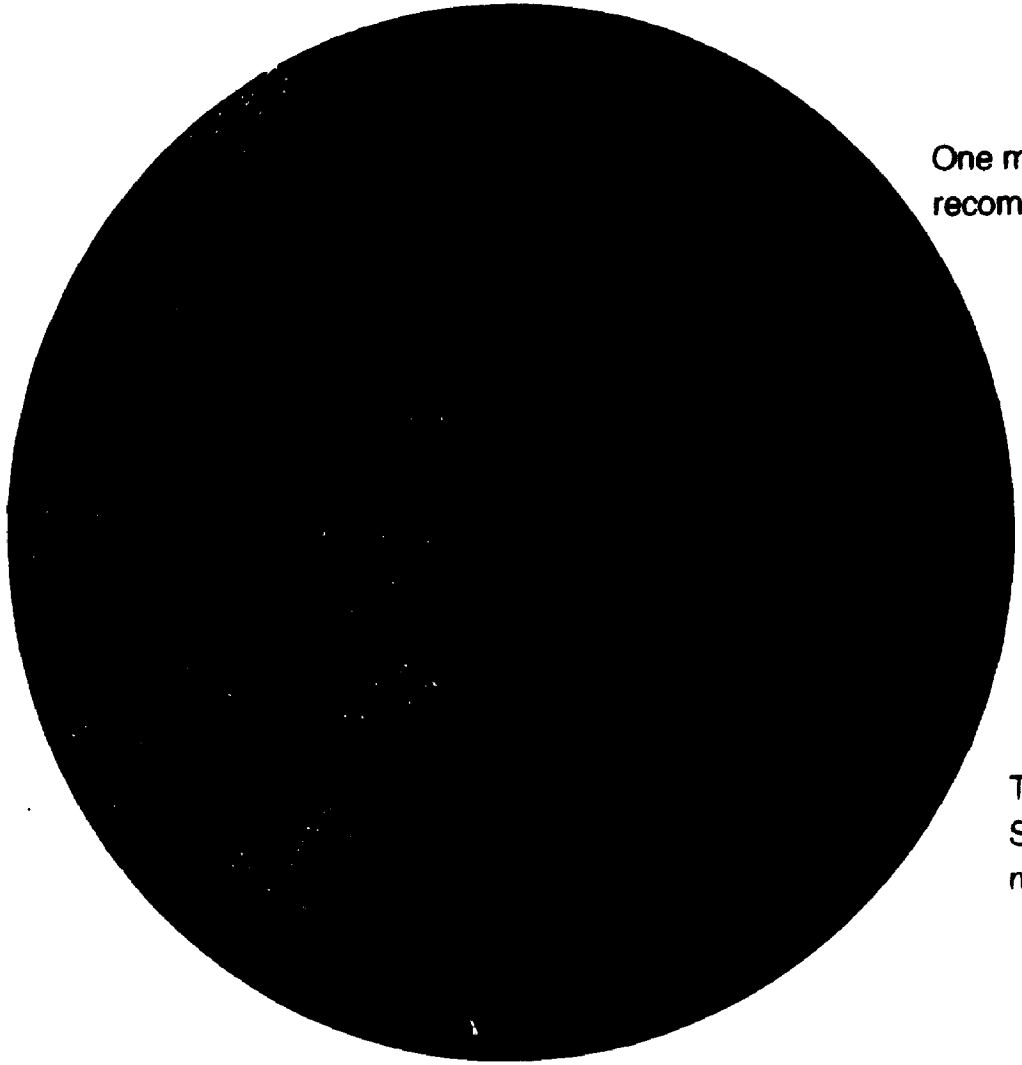
The Structure of the BQCMB

Two members are appointed upon the recommendation of the Keewatin Wildlife Federation.

The Minister of Renewable Resources, N.W.T., appoints four of the user members.

One member is appointed upon the recommendation of the Dene Nation.

One Government member is appointed by each of the represented Ministers.



One member is appointed upon the recommendation of the Metis Association of the N.W.T

The Minister of Renewable Resources Saskatchewan appoints two of the user members

Government Members

User Members

Jurisdiction

The user members must be residents of the communities on the caribou range.

The Minister of Natural Resources Manitoba appoints two of the user members

END

04-06-96

FIN