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THE USE OF TRADITIONAL KNOWLEDGE IN CREE HUNTING STRATEGIES

By Cynthia D. Pyc

Future cooperative management initiatives will involve the Little Red River Cree in the regulation of sustainable wildlife harvesting. This prompted the First Nation to conduct research into aboriginal harvest of moose. The following paper presents a portion of the traditional ecological knowledge gathered during the 1997 moose harvest survey in Garden River, Alberta. This traditional Cree community of 350 people is located in Wood Buffalo National Park, in the boreal forest of northeastern Alberta. The data collected illustrates how the Cree hunters of Garden River continue to base their seasonal moose hunting strategies on long held traditional knowledge. This information is important for future wildlife management agreements.

Key Words: Sustainable, Cooperative Management, Traditional Ecological Knowledge, Cree Hunting

Les futures initiatives d'Administration Coopérantes affecteront la Petite Rivière Rouge Cris par les règlements soutenus de la récolte des animaux sauvages. Ceci a inspiré la Première Nation a extensif dériger la recherche Aborigine de la moisson des orignaux. L'article suivant présente une portion de la Connaissance Ecologique Traditionnelle rassemblée lors de la leveé des plans de 1997 pour la moisson des orignaux à Garden River, en Alberta. Cette communauteé traditionelle d'une population de 350 Cris est situeé au Parc Nationale Bison Bois, dans la forêt du nord-est de l'Alberta. Les donneés rassemblées démontrent comment les chausseurs Cris de la Garden River, avec leurs connaissances traditionelles extensives, élaborent des stratégies saisonnières pour la chasse des orignaux. Cette information est importante pour l'administration des stratégies futures en ce qui concerne les animaux sauvages.

Introduction

Bush harvest is a term used to describe the hunting, trapping, fishing and gathering that provides an important source of food and fuel for aboriginal communities. This harvest is important to members of a community, economically as well as culturally and spiritually. Traditionally, to the Cree of the northern boreal forest, the harvest of moose every season was a cultural event, with hunters from the community making camp in the bush for several days, until the hunt was over. Today, in many northern aboriginal communities, this tradition continues. The bush harvest, of moose in particular, represents an important aspect of the community. A sustainable number of this species is required to maintain the cultural, spiritual and economic importance of moose within the community.

The importance of sustainable wildlife resources cannot be overstated. In all land claim settlements in Canada since 1975,[1] fish and wildlife conservation and use have received enormous attention. Provisions to ensure the continued supply of animal species are found in all of the settlement agreements. These provisions are seen as a reflection of recognized lifestyles and treaty rights of aboriginal peoples.

Also arising from the northern land claim settlements are new national parks.[2] These agreements contain requirements for aboriginal participation in park management as well as guarantees regarding the traditional harvest of wildlife within park boundaries. The land claim settlements, rather than National Park policy or legislation determine the role of aboriginal peoples in planning for and managing national parks. This has given rise to subtly different kinds of parks in northern and southern Canada; aboriginal people in the north, where parks are tied to land claims, play a more important role in park planning and management than their counterparts in the south. In addition, many aboriginal peoples in the south must look to old treaties and the national parks act and park policy, rather than to comprehensive land claim settlements, to protect their interests.[3]

Since the first national park was established in 1872,[4] park policy has largely been dictated by governing bodies, scientists and park managers. Recent management literature emphasizes the need to involve aboriginal peoples in protected area planning and management and to allow exploitation of natural resources for subsistence purposes.[5] Despite this acknowledgement, wildlife use and management continues to be one of the main areas of contention within the park system.

Wildlife management always involves social policy making as well as wildlife and habitat

manipulation, and as a result it also always requires both biological and sociocultural knowledge. The sociocultural databases of wildlife management are especially critical when there are major threats to the wildlife, or major conflicts over wildlife resource issues among politically significant sectors of a population, or when the diverse groups of resource users or managers do not share a common cultural heritage.[6] The existing wall of distrust between aboriginal people and wildlife managers is due in part to a refusal by government scientists to recognize sociocultural data in the form of indigenous knowledge. The resulting lack of exchange between the indigenous system of management and the scientific system of management has led to a situation where they generally operate, if not in opposition, at least in ignorance of each other, with the welfare of the wildlife and fish populations upon which traditional users remain dependent, almost wholly the responsibility of scientifically based management.[7]

To counter the status quo, many First Nations have undertaken the task of documenting the traditional knowledge of their communities. The impetus for this research varies, but for the most part it is related to impending resource development within traditional territories or disagreement over scientific systems of wildlife management.

In anticipation of a future cooperative management agreement, the Moose Harvest Study was undertaken by the Little Red River Cree Nation, of northeastern Alberta, to document the past and current hunting practices of hunters within Wood Buffalo National Park. Traditional knowledge of moose, including ecological, biological and spiritual aspects was recorded. As well, opinions on current park regulations and suggestions for improved park-community relations within the context of cooperative management were also documented.

This paper presents a portion of the results of the moose harvest study. In particular, the traditional knowledge of interviewed hunters is examined and related to local Cree hunting strategies. Traditional knowledge for the purpose of this paper is defined as:

> The sum of the data and ideas acquired by a human group on its environment as a result of the group's use and occupation of a region over many generations.[8]

Background

Until this century, the Little Red River Cree people ranged across a forest base of over 70,000 square kilometres. Prior to the late 1950's, these people resided in a number of small settlements

where they followed a forest-based lifestyle and economy. Their way of life focused on hunting, trapping and fishing, but incorporated other forest resource opportunities, including logging and employment with bush saw mills. In the decades since this time, these forest peoples were relocated onto a number of Indian reserves. By 1980, most members of the Nation were residing within three small isolated communities.[9]

One of the communities currently occupied by the Little Red River Cree is Garden River, a community of approximately 350 people. Garden River is a remote northern community, connected to nearby reserves and towns by a winter road during the cold months and a bush road during the dry season. At other times, it can only be accessed by small plane and helicopter. Such remoteness has likely contributed to the continuance of traditional activities. Extensive use of the land for subsistence, cultural, spiritual and economic purposes are still a part of day to day life.

Garden River is unique for two reasons. First, the community is not a designated Indian reserve. Secondly, the community is located 11 kilometres inside the west boundary of Wood Buffalo National Park and certain families within Garden River are recognized by the park as having privileges to hunt and trap in the southwest quadrant.[10] This area of the park is collectively known as the group trapping area and encompasses over 8208 square kilometres. The group trapping area covers the entire study region as defined by hunter interviews.

Methodology

I was granted permission to conduct the study within the traditional territory of the Little Red River Cree in February of 1996. Research in Garden River was conducted from May 10 to June 17, of 1997 and again for two weeks in September of 1997.

In total, 22 interviews were conducted in Garden River with hunters ranging in age from 16 to 85 years. This sample represents approximately 41% of the potential hunters in the community. Certain hunters were described by community members as expert hunters and emphasis was placed on interviewing these people. Hunters of varying expertise and age were also included in the study in order to identify the transfer of knowledge and differing hunting practices. Four of the five identified male elders in the community were interviewed. All of the hunters surveyed were male because women rarely hunt moose themselves, although they often accompany their partners on a hunt. Information on the role of women was shared on many occasions in informal settings.

I conducted all of the interviews individually, although in some cases, a translator, who was a member of the interviewee's family was also present. During the period of study, I transcribed all of the interviews onto computer. Later analysis identified the common themes of the interviews, and highlighted interview knowledge that overlapped among participants. Confirmation of information by several interviewees reinforces the strength of the data, and common themes form the basis for research conclusions.

An important aspect of traditional knowledge is "learning through doing." During the September visit, I took part in a fall hunt near the community of Garden River. This opportunity to observe a moose hunt was extremely useful in putting the interview information into context.

Traditional Ecological Knowledge

The first time I killed a moose, I was 15 years old. I usually hunted with my father, but this time, alone, I had great joy in my success. My success was because of my father's teachings. After I shot my first moose, my parents knew I had a good sense of direction. They trusted me to go out by myself.[11]

To the Cree of Garden River, the moose is central to the traditions and culture of the community. When asked about their first moose kill, all of the hunters interviewed recalled vividly their experience. In every case, the hunter knew how old he was and where the hunt took place. In most cases, the hunter was in his early to mid teen years the first time he shot a moose. Many hunters expressed both their fears before the hunt and their pride in accomplishment felt after. The first moose kill is an important stage in the hunter's life. After this stage, the hunter is entrusted to be more on his own in the bush, and is thought capable of providing for his family. One elder described the moose kill as his first test of manhood.[12] One would expect that this connection to the moose would result in deeply embedded knowledge about the animal within the community. This expectation is supported by the information gathered in the interviews. All of the hunters interviewed, from the youngest to the oldest, recognized the importance of the moose to the survival of the people and the culture.

What makes a person a good hunter is knowing about the moose and how it lives, knowing where to find it, where it eats and where it goes.[13] Hunters interviewed over the age of 50 were

extremely knowledgeable about the ecology, seasonal movements and habits of moose. Hunters between the ages of 40 and 49 were also quite knowledgeable, but their information covered a much smaller land base. Each individual has a preferred area, or two areas, where he hunts each year. This extensive use of one or two areas over several years means that hunters have detailed knowledge about the moose population found there. Within these areas, the hunter can identify places where moose will forage, where they are found during mating season and where they will give birth to their calves. For hunters over the age of 40, knowledge of seasonal movements of moose is based on first hand, or observational, information. Hunters under 40 also hunt, but their knowledge is largely second hand. Their information is based on what their parents or grandparents have told them, rather than through direct observation.

In the fall during rutting season, the cow moose stay close to the river away from the wolves and the bull moose concentrate along the rivers. Along some rivers there are so many moose that they leave trails, like bison. After the rut, both the males and females move away from the rivers into the forest. Bull moose move over large areas after the rut and they are more difficult to find than the cow moose. At the beginning of winter, the moose are in high places in the hills. In about February, if the snow gets too deep in the hills, the moose come back to the rivers. At this time in the winter, they can be found along the rivers again. In the spring, the bull moose move away from the rivers but the cows can be found on islands near water. They give birth to their young on the islands because they are better protected from the wolves. They stay on the islands until summer. In July and August both the males and females go to the lakes and swamps to get away from the bugs. Once the bugs go away, they all head back to the rivers for the mating season.[14]

In addition to seasonal movements, hunters also described the seasonal fitness of both the bull and cow moose. In the fall, just before the rutting season starts, the bulls are fat. They stay fat throughout the rut, but after the rut, the bull moose gets skinny. By October, there is no fat on them. They stay that way all through the winter and into spring. The bulls start to gain weight again in late summer. The cows are different, they stay fat all the time, except in the spring. At this time of year [spring], all the moose are skinny.[15]

Other examples of knowledge include the ability to identify a bull or cow moose, based on tracks, as well as the approximate size of the moose and the time the track was made. The cows and bulls have different shaped hooves. The cow's hooves are close together and slightly pointy. The bull's hooves are larger and rounder and are easy to identify in snow because of how the hoof is

dragged. The hunter must also look at where the willows have been browsed nearby. You can tell if the willow was browsed today or yesterday by looking at the willow and also at the weather conditions. The willow changes in the sun where it has been eaten. If it is a very hot day, it may have been earlier that the moose was there.[16]

Hunting Strategies

The three main hunts identified correspond with the seasonal movements and fitness of moose. Hunters make choices about where and when to hunt moose based on the amount of energy required to find and transport moose in relation to the size and health of the moose harvested. By far, the most important hunting period is the fall hunt. This occurs in September and October, during the rutting season. Hunters from Garden River take part in the fall hunt more than any other, and approximately two-thirds of the total moose harvest occurs during this time. The fall hunt corresponds to a time when both male and female moose are found near bodies of water, particularly rivers, in high densities. In addition, both the male and female are "fat" at this time. During this period, less energy is expended to find moose than at all other times of the year. Hunting camps are set up along the rivers, and hunters do not need to venture far to harvest moose. Moose calling attracts males in particular, but the increased density of both males and females mean that cows are much easier to find as well. Hunters do little or no tracking at this time. All of the hunters interviewed took part in the fall hunt, except for elders who no longer hunt for themselves.

The second most important hunting period for the Cree of Garden River is during the winter trapping season. This is especially true for those hunters over the age of 50 whose main occupation during the winter is trapping. Only one of the interviewees under the age of 40 hunted in the winter and only half of those interviewed between the ages of 40 and 49 took part in a winter hunt. Although the winter harvest makes up most of the remainder of the seasonal harvest, it may be inappropriate to label this time as a hunt. Moose killed during the winter are usually incidental to trapping. If hunters who travel along their trapline on foot or on skidoo come across a moose they may choose to shoot. The hunter will only shoot moose along his trapline if he can transport it easily back to his cabin. If the hunter has a choice, the preference at this time of year is a cow, as the bulls are very skinny.

The third identified hunting period formerly took place in summer. This is another time of year when the energy expenditure is low in relation to the hunt result. The moose go into the water in the summer because of all the flies, and they don't move around very much so they are pretty easy to find. In the summer you don't do much hunting in the bush, you mostly hunt in the water, and wait for the moose to come to the water. When you are paddling, the moose walk along the water. You watch for tracks along the water edge and you can also tell if they have been in the water because they disturb the weeds in the water. You can see that from along ways away.[17]

The traditional summer period of hunting is now restricted due to the park-imposed closed season from May 10 to September 1. Many hunters expressed their dismay at this lost opportunity to hunt and to teach their children to hunt. The loss of this hunting period is felt to have limited their ability to transfer traditional knowledge to children who must be in school during the remainder of the year.

Spring did not appear to be of great importance to the hunters of Garden River. Most hunters stated that even before restrictions were put in place, they generally did not hunt in the spring unless they absolutely needed the meat.[18] Decreased fitness of moose was listed as one of the reasons for not hunting species in the spring.

In addition to making choices about when and where to hunt moose, Cree hunters of Garden River may also choose what type of moose to hunt. Whether or not the hunter makes these choices is dependent upon his level of skill in the hunt. Hunters who feel assured of their success are more choosy than those who are less confident. Some of the hunters interviewed chose not to hunt cows in the spring to allow the calves to grow.[19] These hunters stated that they would only kill a baby moose if they needed it to survive.[20] Bull moose are preferred if these hunters harvest in the spring. In the summer, both males and females as well as calves may be harvested. Calves are often given to elders because the meat is tender and easier to eat. This is true also if calves are found inside a cow hunted in spring. During the fall hunt, both bull and cow moose are desirable, but after the rut and throughout the winter, cow moose are preferred. Younger male and female animals between the age of two and three are also preferred because of the higher quality and tenderness of meat.[21] All of those hunters interviewed stressed that moose are only killed when they are needed. In addition, the hunter must have the means to transport the moose either to his camp or his home. If he does not, the moose is not shot.

One other important factor included in the hunting strategies of the Cree is weather. The

weather is a factor that will influence the energy expenditure of the hunter in relation to the hunting result. During the fall calling season, calm days are preferred. When there is no wind, the moose call goes farther and the moose can hear it better. This also explains why tracking is not the method of choice in the fall, since moose would hear the footsteps of the hunter from a long distance and make an easy escape.[22] At all other times of the year, and while tracking in the bush, windy days are preferred. The wind is a friend to the hunter.[23] In the late fall and winter, light falling snow is good for two reasons. As with the wind, the snow makes it harder for the moose to hear the approach of the hunter. Freshly fallen snow also makes it easier for the hunter to track the moose, as well as identify the sex and approximate size from track observation. Soft snow is preferred to snow that has crusted over. Hunters felt that it was not good to hunt on crusty snow, because they made too much noise. Only when it had snowed enough on top of the crusted snow, were hunters able to hunt again with snowshoes.[24]

Conclusions

Current park restrictions and the incorporation of modern technology have altered hunting practices to some extent. However, the Cree hunters of Garden River continue to base their hunting strategies on long held traditional knowledge. Hunters in this study clearly illustrated how their hunting practices are guided by the elements of their environment. Informed and responsive decisions are made based on long-time observation and changes in their surroundings. The strategy for hunters is to choose times of the year and environmental conditions where their opportunities for success and efficiency in the hunt are highest. The hunt during all three hunting seasons reflects this strategy.

Research with Cree hunters in other parts of northern Canada has shown that the strategies used by subsistence hunters were highly reliable and efficient. Aboriginal hunters would be expected to optimize the reliability of their harvests by generally hunting game when their chances of success are relatively high, in order to best assure subsistence for their families and communities.[25]

The traditional knowledge documented over the course of the study is the first of its kind to be conducted in Wood Buffalo National Park. While scientists know many of the general biological aspects of moose, specific information about the population that exists within the park is minimal. Also, very little is known about the aboriginal harvest of moose. Increasingly poor relations

between community hunters and park staff has made hunters wary of sharing any information about their hunting practices and seasonal harvest. Without formal documentation of the traditional knowledge that exists in the community, the park might be reluctant to recognize the validity of the data. My collection of this knowledge, in conjunction with the First Nation, is important to the Cree because the information can now be incorporated into the decision-making processes of cooperative management. Recognition of traditional knowledge will go a long way in improving the understanding of local issues and allowing the participation of community hunters in the development of Wood Buffalo National Park policy and management plans.

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ENDNOTES

[1] The James Bay Settlement between the Government of Canada, the Government of Quebec and the Cree and Inuit people of the James Bay territory, was the first comprehensive native land claim negotiated in Canada. The settlement was ratified in November 1975.

[2] Aulavik, Ivvavik and Vuntut National Parks were all created through northern land claims.

[3] Berg, Lawrence et al. 1993. "The Role of Aboriginal Peoples in National Park Designation, Planning, and Management in Canada." In: Parks and Protected Areas in Canada - Planning and Management. Ed. Philip Dearden and Rick Rollins, Oxford University Press, Toronto, Ontario. p. 237

[4] The world's first national park, Yellowstone, was established in March 1872 in Wyoming, U.S.A.

[5] Supra note 3. p. 226.

[6] Feit, Harvey A. 1987. "North American Native Hunting and Management of Moose Populations." Swedish Wildlife Research, Suppl. 1, 25-42

[7] Freeman, M.M.R. 1985. "Appeal to Tradition.: Different Perspectives on Arctic Wildlife Management." Eds. Brøsted et al, Native Power - The Quest for Autonomy and Nationhood of Indigenous Peoples. Universitetsforlaget As, Oslo. p. 265.

[8] Mailhot, José. 1994. 2nd ed. Traditional Ecological Knowledge. The Diversity of Knowledge Systems and Their Study. Great Whale Environmental Assessment: Background Paper No. 4, Great Whale Public Review Support Office, 50 p.

[9] Cooperative Management Phase II Action Plan. 1996. Little Red River Cree Nation and Tallcree Tribal Government. High Level, Alberta. p. 3.

[10] Wood Buffalo National Park Management Plan 1984. p. 9.

[11] First Nation Interview #21, June 1997.

[12] First Nation Interview #05, June 1997.

[13] First Nation Interview #18, June 1997.

[14] First Nation Interviews #01 and #04, June 1997.

[15] First Nation Interview #04, June 1997.

[16] First Nation Interview #17, June 1997.

[17] First Nation Interview #04, June 1997.

[18] First Nation Interview #10, June 1997.

[19] First Nation Interviews #15 and #21, June 1997.

[20] First Nation Interview #15, June 1997.

[21] First Nation Interview #01, June 1997.

[22] FN1, Personal Communication, September 1997.

[23] First Nation Interview #17, June 1997.

[24] First Nation Interview #04, June 1997.

[25] Feit Harvey. 1987. North American Native Hunting and Management of Moose Populations. Swedish Wildlife Research, Suppl 1, 1987:25-42. p. 30.