

FIRST NATIONS MOOSE HUNT IN ONTARIO: A COMMUNITY'S PERSPECTIVES AND REFLECTIONS

Joseph W. LeBlanc¹, Brian E. McLaren¹, Christopher Pereira¹, Mark Bell², and Sheldon Atlookan²

¹Lakehead University, Faculty of Natural Resources Management, 955 Oliver Rd, Thunder Bay, ON, Canada P7B 5E1; ²Aroland First Nation, P.O. Box 10 Aroland, ON, Canada P0T 1B0.

ABSTRACT: Moose (*Alces alces*) hunting and other means of forest food production employed by members of First Nations communities are undertaken as part of their treaty rights in Ontario, articulated in specific nation-to-nation agreements with the Government of Canada on behalf of the British Crown. Aroland First Nation in Northwestern Ontario is party to Treaty 9 (1905), which overtly protects the community's rights to hunt throughout the unoccupied tracts of Crown land claimed as "traditional territory." Traditional use supersedes provincial authority and, as such, is not managed by provincial policy or regulation. This jurisdictional divide has presented an interesting history and many challenges for both provincial managers and First Nations land users. Strained relationships between provincial authorities and First Nations, emergent from decades of misunderstandings of jurisdictional authority, have presented difficulty in all aspects of natural resource management. In this paper, we engaged community-based researchers in an exploration of the community's perspective of the current and historical management regime. In collaboration with community members, we interpret the results, discuss implications, and provide considerations for future managers and policy makers. We also quantified the annual moose harvest by Aroland and Ginoogaming First Nations that is only estimated by provincial managers; our results show provincial calculations may underestimate total harvests by up to 40%. This error could have significant implications for future moose populations, wildlife managers, and both provincial and First Nations hunters. The potential for such errors serves to highlight our call for provincial authorities to seek and engage First Nations perspectives and participation in moose management for the benefit of the entire community.

ALCES VOL. 47: 163-174 (2011)

Key words: *Alces alces*, community perception, First Nations, forest food production, hunting, moose, management, Ontario, Treaty Rights.

Archaeological evidence and the petroglyphs of our ancestors show that the relationship between people of Ontario's First Nations and moose (*Alces alces*) is very old. It involves human use of meat, internal organs, hide, and skeleton (Timmermann and Rodgers 2005), while moose benefited from human use of fire that increased production of their forage plants. As Natcher et al. (2007) further discovered, humans used fire to influence the movement of moose during fall hunts and to ease their own movement during hunting.¹We

¹The use of the first person plural allows us to speak from an inclusive perspective. This perspective and our voice are therefore from those

find such stories of our past to be intermittent in the scientific literature, and often told from a modern perspective that suggests the relationships are no longer relevant. We are delighted by how Watson and Huntington (2008) shared their understanding of a moose hunt, and are sympathetic to the lack of understanding by ecologists and wildlife biologists they experienced in the shared story of human and moose together in the boreal forest. We, who met in Aroland First Nation of the Treaty 9 area of Ontario, Canada (Aboriginal Affairs people we see today as the community called Aroland First Nation, but broaden to include its neighbours in certain contexts.

and Northern Development Canada 2008), now wish to share with ecologists and wildlife biologists a review of our relationships with moose. We hope to illustrate that the past is part of our present situation and that the direction the future will take us depends on our acknowledging this singular story that is broader than the moose hunt itself.

Before we start, we can share what we learned about the present and future elsewhere. In Nova Scotia, Canada, the Mi'kmaq peoples of Cape Breton Island have recently worked together with the Parks Canada Agency and with provincial officials to maintain treaty rights to moose hunting (Bridgland et al. 2007). In the Canadian territories, Indigenous peoples are intimately involved in co-management and monitoring of moose (Larter 2009). In Scandinavia, Saami community representatives form part of the administrative boards that set moose quotas (Bergman and Akerberg 2006). We ask why, among these examples of respect, there is such disrespect for our relationship with moose in Ontario. We know that wildlife biologists and sport hunters typically view First Nations moose harvest with disdain (Lynch 2006). Kay (1997) even suggested that traditional hunting was unsustainable and that our ancestors kept moose populations from expanding into much of Canada, even though his perspective is solely from British Columbia. We appreciate the regional variation in the relationship between people and moose; Crichton (1981) reviewed the situation in Manitoba and concluded the same as Kay (1997), while more recent investigation in Alberta suggests that what wildlife biologists call “unregulated” harvest actually can have no detrimental effect on a moose population (Lynch 2006). Feit's (1987) review is older, but includes 2 key points to which we will return: 1) if management of sport hunting of moose and management of the forest does not acknowledge First Nations practices with respect to moose, conflict will escalate, and 2) conflicts develop when resource users do not

share a common cultural heritage.

Our broader purpose in this paper is not to claim that the moose and First Nations relationship has always been a good one; rather, it is to convey how people who hold values might be those best equipped to explain their values and plan their future actions. Sharing some of our cultural heritage is our first objective. In Timmermann and Rodgers' (2005) detailed summary of values embodied by moose, fear and uncertainty are the tone in describing moose management involving First Nations peoples, especially in Ontario. Thus, offering objective considerations on use of the land in Ontario for its forest resources, including moose, is our second objective. Who is responsible for managing natural resources and who are they managing for? All those for whom the resource is being managed should have a forum for sharing their values, and those responsible for management must be sensitive to, and incorporate those values.

OUR AREA

Our perspective focuses on Aroland First Nation, an Anishnabek community in Northern Ontario. According to the records of Nishnawbe Aski Nation (our Treaty Organization), there are 300 people living on-reserve and 400 others living off-reserve, but we feel an unaccounted number exist. We have a long history with the surrounding area, and in our traditions maintain a complexity of mutually beneficial relationships with other beings using this land as home. As a result, our community members include all humans and non-humans with whom we are interdependent.

In the past, we participated in the fur trade and made a livelihood through local production of foods that came to us naturally or from agriculture (Morrison 1986). Gradually, as development activities took up land, the opportunities to make a livelihood shifted and we were officially discouraged from participating in food production (Waisberg and Holzkamm 1993). Forestry offered new

economic opportunities that offset these losses to our economy (Driben 1985), but created a higher demand from external entities for our land's resources. Aroland First Nation No. 242 gained reserve status under the Indian Act on April 15, 1985 (Aboriginal Affairs and Northern Development Canada 2008). Reserve lands encompass 19,599 ha (75.7 square miles) and extend northwards from Highway 643 to lands along the western and northern shores of Esgnami Lake. This land is the extent upon which we have clear authority under the Indian Act.

As a signatory to Treaty 9, our community retains rights to access off-reserve resources among those parts of our territory not taken up with development. Our territory extends 1000s of square km, but this land is now developed or restricted from us in a number of ways including parks and protected areas, municipalities, mines, and mills interconnected with vast and complex networks of closed roads and private rails. Our traditional territory area includes 5 provincial Wildlife Management Units, hunted by people from Thunder Bay, Ontario, and farther away, and 4 provincial Forest Management Units that are licenced to forestry companies, most with ownership in Thunder Bay or farther away. Respective oversight of these management units is under the direction of the Ontario Ministry of Natural Resources (MNR) and the Ontario Ministry of Northern Development, Mines and Forestry (MNDMF). In all cases, the ministries are headquartered well away from the areas in which they are actively engaged in making management decisions. In addition to the "managed" portions that Ontario calls the "area of the undertaking," our traditional territory extends into Ontario's less developed "Far North."

OUR APPROACH

To start this research in December 2009, community-based researchers distributed a detailed questionnaire to potential moose

hunters who lived on-reserve at Aroland First Nation; participants could be any male or female >18 years old. In addition to the questionnaire, consultations with the Chief and Council and other hunters also occurred as these people offered their time. This second consultation was administered orally with participants and recorded in writing by the interviewer and/or the survey participant. To ensure consistency, potential problems were discussed before allowing participants to continue with the survey. Most concerns about the survey stemmed from long-standing trust issues about land use. There have been many instances over the past few decades of external interests seeking data from community members in relation to their land-use practices. Often, the information gathered was taken out of the community to be interpreted externally and it is unclear as to how the interpretation is useful to the community. To conclude the data collection process, our survey data was reviewed by the interviewer and, if necessary, conversations were continued to resolve uncertainties or discrepancies; all surveys were kept anonymous. The survey protocol was reviewed and approved by Lakehead University's Research Ethics Board (REB 113 08-09) and by Health Canada's Research Ethics Board (REB 2009-0007).

Participants indicated, on a 5-point scale (0 = none to 4 = all), how many of their meals included moose in each of winter, spring, summer, and fall. They were also asked why they hunt moose and in what season, how they accessed a hunting area, how they hunted, to what extent they relied on hunting for food, and how much moose meat is shared with the immediate family and with the community. Thirty-five community members completed the survey (mean age = 44 years, range = 25-78 years). In conjunction with another "Health and Well-Being" survey that included questions on a broader range of harvested, cultivated, and purchased foods, most participants indicated their agreement with the

following on a 5-point Likert scale: 1) their physical health (1 = poor to 5 = excellent), 2) their life satisfaction (Diener et al. 1985), and 3) their connectedness with the land from the “Connectedness with Nature” scale (Mayer and Frantz 2004). They were asked to assess their beliefs about food contamination and their health: whether forest herbicides could affect one’s health if they ate moose or other forest foods, whether past mining practices in the area affected the quality of their food, whether eating local foods causes health problems and the degree to which this worried participants, and the nutritional quality of their diet and the amount of physical exercise they maintain.

In 2010 in collaboration with the neighbouring community of Ginoogaming First Nation, we conducted a second smaller survey specifically about moose hunting. Participants were asked a series of specific questions related to hunting moose; between the 2 communities, 40 individuals completed the survey. In addition to questions related to how, where, and why they hunted, respondents were asked how many moose they harvest in a year.

Survey data were entered into Microsoft Office Excel and explored using correlation analysis to identify relationships and similarities among hunters. These relationships and similarities allowed for hypotheses to be formulated in discussion with community members, based on community hunting history and their relevance to non-Aboriginal moose harvest in Ontario. To supplement the interest of community members in conveying the extent of forest resources development and the use of forest herbicides in their traditional territory, we also accessed records from annual work schedules and reports to the MNR by the companies leasing the adjacent Forest Management Units. These records included paper copies of maps showing roads, logged areas, and associated Excel reports of ground-based and aerial spraying of herbicides from 2000-2007. The data on the maps and in the reports, borrowed from the Geraldton,

Nipigon, and Thunder Bay District Offices of the MNR, were transcribed into a Geographic Information System (GIS) in ArcGIS version 9 at Lakehead University.

OUR STORY

Pre-Contact, before 1800, the present

Our relationships are founded in our community and defined by our extended families. To survive, we have always used the local environment to generate our livelihoods. Products for trade, sale, and local consumption are cultivated and harvested from within our territory. Hunted and fished meats, as well as both cultivated and gathered vegetation from the land once represented the staples of our diet. Familial territories that provided these staples were designed and cultivated to ensure enough stock for later years (Driben et al. 1997). While familial units (nuclear families) often undertook production activities independently, sharing products among extended families and the community at large was commonplace. As with many indigenous communities throughout the world (e.g., Kofinas 1993), our activities were undertaken in accordance with time-honoured systems of authority and knowledge.

Our ancestors passed on this knowledge of the land that grants us the authority to manage the resources that sustain our community. This knowledge and its authority were never given legal status in Canada under the rule of law (Herbert 2009). It is only the social relationships we hold within our community that honours the knowledge of our ancestors, ensuring it is passed to future generations. As we ethically engage in relations with non-human members (the plants and animals) of our community by hunting, fishing, cultivating, and gathering, we are undertaking activities that sustain the knowledge of our ancestors while meeting our sustenance needs. Honourably engaging in conservation activities relating to harvesting food is part of the continuance of our relationship with the past

and our ancestors.

From an anthropological perspective, the role of moose hunting in the provision of food staples in First Nations communities is a point of contention. While some (e.g., Winterhalder 1983) rely on the notion that moose populations have consistently fluctuated due to climatic and anthropogenic influences as evidence of the continued occurrence of moose in our diet, others (e.g., Rogers and Black 1976, Hamilton 2002) reference the “Fish and Hare Period” to support the notion that there were times when moose were rare to non-existent and the dietary staples came from other sources, such as walleye (*Sander vitreus*), lake whitefish (*Coregonus clupeaformis*), caribou (*Rangifer tarandus*), ruffed grouse (*Bonasa umbellus*), snowshoe hare (*Lepus americanus*), and beaver (*Castor canadensis*). Our interpretation of the lack of moose in diets during the “Fish and Hare Period” is that it resulted from a need to seek continued sustenance while easing demands on some members of our extended community and allowing time for their populations to replenish.

Regardless of the anthropological interpretation of dietary inputs, moose have forever been an important member of our community. Indeed, our crest is anchored by the image of moose antlers. Today, moose forms an important part of our diet in fall and, to a lesser extent, in winter. Moose meat is eaten at rates (self-estimated, mean \pm standard deviation) of 1.87 ± 1.19 (winter), 1.00 ± 0.96 (spring), 1.64 ± 0.84 (summer), and 2.33 ± 1.40 (fall) meals per week. Likely the same as for our ancestors, those who consume more moose in spring (the rarest occasion) report feeling better connected to nature ($r = 0.69$, $P = 0.02$) with less food insecurity ($r = -0.58$, $P = 0.04$). Those who consume moose in winter associate themselves with having a better diet ($r = 0.59$, $P = 0.03$); those who consume moose in summer associate themselves with overall better self-rated health, ($r = 0.59$,

$P = 0.04$); those who consume moose in fall feel they maintain better weight ($r = 0.57$, $P = 0.04$) and better overall health ($r = 0.55$, $P = 0.05$) than the rest of our population. With no other foods, whether country-harvested or purchased, did as many positive correlations occur as for moose. Overall, participants from our community who indicated a larger proportion of their diet from local, country-harvested meats also indicated feeling better about their diet ($r = 0.86$, $P = 0.001$). As moose and other non-human members of our community have given their lives to sustain and enrich ours, so the knowledge of our ancestors has guided our relationships with each other, helping us ensure that all life exists in perpetuity. Slowly, however, these traditional means of governing our relationships exclusively within our own community were being displaced by new laws with foreign ideas and language.

Post-Contact through Railway Development, 1800-1874

Prior to the establishment of Canada, developments within our territory by outsiders focused on resource extraction to ship raw materials to Europe. A mercantilist dogma drove the quests for gold, furs, and forest products of Canada, exploited for wealthy monarchies, eventually in Ontario for the King or Queen of England. In this pre-treaty era, we held title over our territory, and foreign interests were mostly contained to sporadic trading posts and mines (Driben 1985), as well as the odd town settled by European immigrants. Increased inflow of settlers followed the construction of the trans-Canada railway, which spawned a concentration of activities within its vicinity. Increased external interest in wood and minerals in our territory was the stimulus to seek greater control of the land, and for us to articulate more clearly our interests and desire to protect our traditional way of life. With these often conflicting interests in mind, both parties entered into the treaty-making process.

Cession of Lands and Articulation of Rights, 1905 to present

In Treaty 9 rest the legal rights to access the same lands by two opposing parties: First Nations and the Government of Canada. On the matter of two distinct sets of rights, Treaty 9 reads as follows: “and His Majesty the King hereby agrees with the said Indian that they shall have the right to pursue their usual vocations of hunting, trapping, and fishing throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the government of the country, acting under authority of His Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.” Our new neighbours began to exercise their rights to take up tracts of land, eventually creating Ontario government acts, regulations, policies, and guidelines, such as contained in the *Municipalities Act* (2001), the *Mining Act* (1990), and the *Crown Forest Sustainability Act* (1994).

Logging, Mining, and Protected Areas versus Traditional Activities in a Regulatory Era

Following the imposition of external knowledge and management systems by new authorities, many aspects of our own time-honoured systems of authority and knowledge became disrupted. New human actors from outside our community began restructuring our territory without our input or consent. Forest Management Units, parks and protected areas, Wildlife Management Units, mineral claims, and Indian Reserves were imposed on our territory. Along with these new divisions of the land, the dialogue and decision-making on the management of extended members of our community (all plants and animals) increasingly occurred in urban centers a great distance away, often preferentially protecting the rights of sports hunters or big business. Forest managers located themselves

at District MNR offices, as well as at consultancy, constituency, and corporate offices in Thunder Bay and farther away. Technological advancements in the areas of remote sensing and GIS, along with centralization in support of corporate and government efficiency, obligated decision-makers to be away from the land for which they were responsible. Those of us most connected with the forest feel we have been disconnected from the decisions most influential to our community. The source of knowledge maintained by the healthy reciprocal relationships of the past that helped sustain this place and all living things within it was largely disrupted. Imposed jurisdictions and outside decision-making have displaced local controls. As a result, our ability to exercise traditional practices and implement the knowledge of our ancestors, which are both actions aimed at sustaining our community in perpetuity, has been greatly restricted.

Currently, our ability to undertake food production activities, even hunting, feels restricted. Undertaking many traditional activities has been reduced in stature and in terms of the time with which we are allowed to practice them, reflecting external perceptions of our culture. The time we take for traditional activities has also been reduced considerably by demands on us to compete with the new economy. Our food gathering has been now described – and self-identified – more often as undertaking recreational activity than as participating in a traditional economy. Purchased foods provide the staples of our diet today, even though they are increasingly less meaningful to our community health and well-being than our traditional foods.

We feel that traditional products can retain their economic, social, and cultural significance and remain an important diet component. The majority (73%) responded they still rely on moose as a source of meat. Nevertheless, we see a number of factors contributing to fewer people participating in traditional activities like moose hunting. These

factors include the larger cultural shifts of the past originating with various assimilation attempts (i.e., relocation to reserves, residential school, and child services) and passive acculturation (i.e., mass media, the culture of convenience, and the application of capitalist modes of development). More importantly of late, changes to the land from newly imposed regulations and management activities have forced much farther travel to undertake traditional activities. Most of us no longer migrate seasonally to follow our sources of food, nor do we follow our families to traditional territories. Permanent relocation of our community to a reserve was a government solution to providing services, but the decision means we now concentrate our hunting activities and deplete the territory immediately around us of animals. As we travel farther for hunting and spend more money so doing, some of us are now less willing to share what we harvest: 31% of respondents said they harvest moose for their use alone. Because our perception is that this trend will continue, our community seeks remedies such as the community freezer we recently obtained for food storage to help those in times of need.

Employment in resource extraction, primarily logging, provided cash for food purchases, or gasoline to travel farther for hunting; for a time, cash alleviated the pressure to produce food by traditional means. But economic downturns in the forest industry and technological advancements that made logging more efficient also drove a reduction in employment, so the total benefit from the forest industry garnered by local peoples was reduced. New access we gained to the forest from the building of logging roads was taken from us for road closures that paid for new roads, and from bridge removals that were likely designed to restrict our road use. Silviculture that followed the new roads is now a source of great disturbance to the forest. The sequence of events employed by forest managers as means to regenerate what

they allow to be taken by loggers leaves our ecological community disrupted. The complex network of primary, secondary, and tertiary roads—regardless of whether they are closed to us—fragments the forest, even while it opens new areas to recreational hunters visiting us from the outside.

The roads of today also allow us to travel faster and farther than in the past, but we see around them that clear-cut logging removes natural forest stands. Following logging, soils are often scarified, a process that leaves permanent scars on the landscape. The furrows and trenches left by scarifiers leave an unnatural footprint on the land that managers claim is for new tree plantings; these trees come from seeds sourced outside the community. When they arrive, they are planted in a manner that optimizes the yield at maturity and ease of future harvest; spaced at ~2 m from each other in rows, these new trees experience almost no competition or other forces of natural selection. Many planting sites are later sprayed with chemical treatments (herbicides), some aimed at reducing pest populations, but most aimed at reducing competition against the newly planted trees. The competing trees and shrubs that herbicides eliminate are in many instances food for the human and non-human members of our community. We feel that outside decision-makers are prioritizing efficiency in industrial production over the production of local goods that sustain our community. We see the resulting forest as foreign and unrecognizable and we are concerned that non-human community members experience the same. Moose will not use artificially regenerating forests in the same way as naturally regenerating forests; depending on the extent and pattern of logging, the road network, and the hunting pressure, the length of time needed for moose to repopulate an area can be 15 years or more. Government scientists (e.g., Rempel et al. 1997) tell us our concerns are valid.

Our perception of change to an area heavily influences how we use it. The extent of her-

bicide spraying activities over our traditional territory in any one year is small relative to its total area. For a typical moose with home range much larger than even the largest blocks treated with herbicide, food supply is probably affected negligibly by herbicide treatments. The moose that experiences herbicides in its home range simply moves away for one or more years (Lautenschlager 1992). However, the ecological, social, and economic impacts of one year's spraying activities are not restricted to that summer. For years to follow, the conditions created by spraying are evident; some plants are removed from sprayed areas almost completely (e.g., raspberry [*Rubus idaeus*]), and others take years to return to pre-treatment levels of production (e.g., blueberries [*Viburnum angustifolium* and *V. Myrtilloides*]).

In our continual interactions with the land, we are acutely aware of the new annual disturbances because logging and the associated silvicultural activities (e.g., spraying) are concentrated along roads. Moose and our other food sources become farther from roads and more difficult to find; we retain in our memories records of previous years' silvicultural activities and we avoid harvesting food in disturbed areas. Some community members cease to use treated areas entirely, even after ecological and silvicultural processes restore disturbed areas and make them appear natural again. Though the reward is great, hunting requires significant time and economic input on the part of the hunter; 68% of responding hunters now travel >2 hours to moose hunt. Even as roads are used to access our territory, the concentrated disturbances to the forest, including extensive logging road networks, create an ever growing perception of cumulative negative impacts. People who eat more moose in winter are those most concerned that herbicides affect the food system ($r=0.60, P=0.04$). Economically, all losses of food equate to losses of local production opportunities.

Current Forest and Moose Management Guidelines and Our Hunting Rights

Forest management guidelines require the collection of our "values" in the form of the *Native Values Background Report* prepared by the industrial and/or provincial forest managers. Generally, our community is notified of meetings held in the nearest provincial municipality (Greenstone, Ontario) as they relate to forest management planning; no meaningful consultation takes place in our community. For the past 5 years our community has been informed directly of only a single information session pertaining to Forest Management Plan amendments in a single Forest Management Units imposed upon our territory; few community members travel to these meetings. The bureaucracy is confusing as our hunters could be in 1 of 5 Wildlife Management Units (17, 18A, 18B, 19 or 21A) or in 1 of 4 Forest Management Units (Ogoki, Lake Nipigon, Armstrong, or Kenogami Forest). Each of these jurisdictions is managed according to directive given by government policies and guidelines. The managers responsible for these jurisdictional units must address the "recreationally focused" directive of the Government of Ontario (e.g., *Heritage Hunting and Fishing Act* 2002), as well as our constitutionally protected rights to harvest moose. Finding the balance is often politicized and the debate surrounding hunting rights has been disputed for decades among the citizens and governments of Canada. We feel we hunt under duress.

In formal debates, the majority of Canadians agree that Aboriginal people should have the right to subsistence hunting. The Supreme Court has provided clear guidance on the application of these rights, the circumstances by which they can be infringed upon, and a test by which to determine the validity of arguments for infringement. Most importantly, the Constitution Act was amended in 1982 to include Section 35, which protects aboriginal and treaty rights. Much of the problem seems

to lie in an apparent disconnection between informal public opinion and the official guidance for policy directives and management decisions. While there are many stakeholders on the land base, management initiatives seem to favour wealthy, mainly urban, sport hunters. For many in our community, hunting and fishing provides valuable economic input as well as invaluable cultural, spiritual, and recreational opportunity. In hard economic times, moose and other sources of meat from our traditional territory can be crucial to our survival (George et al. 1995). Ontario's new Moose Management Policy states that "moose management will respect Aboriginal peoples' unique perspectives, traditional knowledge and practices related to moose and the exercise of their constitutionally protected Aboriginal or treaty rights." But this guiding principle retains existing jurisdictional constructs, offering respect in lieu of seeking guidance. Respecting our values means acknowledgement of our on-going use and attempt to accommodate our perspectives. Seeking guidance means acknowledgement of our expertise and adapting practices, past to present.

Moving Toward Reconciliation

The actions of decision-makers are made possible by complex governance structures. Our inherent marginalization in these structures imposed from the outside limits the extent of our participation in decision-making. To those current architects of government policy and programs, our land is one of many jurisdictions to manage in a vast expanse of Crown forests. Originally, the British Royal Family's wealth and security was afforded by a global amalgamation of Crown lands throughout the Empire, only made possible by the treaties and land surrenders in areas previously occupied and governed by Indigenous people. Today, the Crown still exercises its rights, granted in these treaties, to build structures supporting continued development and management of land, with natural resource management au-

thority afforded to the provinces of Canada. Ontario's jurisdictions, held by the Ministries, and the policies and guidelines set by various authorities acting on behalf of Ontario or the Crown are maintained to continue foreign settlement and the extraction of resources to distant corporations. The Constitution Act (1982) was structured to support greater independence, protecting Aboriginal and Treaty Rights (Section 35), a new structure upon which to build a new relationship. But the aim of all management activities remains on facilitating extraction of resources, and sustained extraction includes accommodations for other uses as our uses are marginalized.

We prefer to think and act holistically, engaging all those using our shared lands to manage them together. Our economy emerged in this place. While the context for traditional use of the land has changed over time, many resilient elements remain. Those aspects of the economy carried forward by culture and tradition remain the backbone of our community's sustainability. Our constitutionally protected rights to access our lands and sustain our community through contextually appropriate foods are jeopardized when they do not guide development. Practices and guiding principles rooted in this place are most appropriate to our future. The new moose habitat protection afforded by the *Site and Stand Guidelines* for the *Crown Forest Sustainability Act* includes provisions for consultations sensitive to our traditions. The directive in *Ontario's Moose Management Strategy* to respect traditional values represents further potential to include our community's economy within the realm of other values. We are deeply concerned about the future of our community as more development occurs. We hope that readers understand that management of sport hunting of moose and forest management without acknowledging First Nations practices will cause conflict to escalate.

Our community surveys taught us more about not only the economic, social, and

cultural traditions we have maintained within our community, but also about the impacts of marginalizing our use. Moose managers and forest managers need to balance consumption and conservation of resources for diverse interests. The results of our survey with moose hunters in Aroland and Ginoogaming First Nations showed the respondents were harvesting 87 moose per year. Bissett (2002) reported a total of 210 annual moose harvests recorded by the MNR in the Wildlife Management Units located within our traditional territory. As our harvests are not taken into account in the MNR record, we estimate that there is an error of approximately 40% in the moose harvest reported by the MNR in our traditional territory. As this estimate is based on data from 40 hunters in two of at least 5 First Nations sharing overlapping traditional territories, claiming 40% error is likely a conservative estimate. The effects of not accounting for our moose harvest could adversely impact the management of moose and the viability of future populations, but are we to blame?

By continuing to restrict dialogue, our uses are not accounted for and an underestimation of moose harvested is allowed to continue by the MNR. A review of the MNR moose tag allocation is currently underway and *Ontario's Moose Management Strategy* indicates that the government is committed to improving the methods used to estimate moose populations and determine harvest allocation. Therefore, it is time to incorporate our perspective into moose population estimates and management planning through a meaningful, consistent, and transparent consultation. Developing a working relationship with ours and other First Nations communities is imperative to effectively manage moose in Ontario. But to date, the MNR solicited our knowledge only as an afterthought (reviewing plans and proposed changes to legislation or policy), not as a consultation with knowledge-holders (informing process and contributing to policy

development). We agree with the conclusions of Watson and Huntington (2008) after their moose hunting trip: that the way to proliferate perspectives is not to translate or interpret knowledge, but to change the way that knowledge is represented to make different perspectives explicit when describing everyday life or scientific knowledge. We believe the incorporation of our perspective in a meaningful way will aid wildlife biologists to manage moose populations more effectively in the future. It will also ensure our use will be recognized and sustained for future generations.

Moving into the future is about weighing costs and benefits of each new step. Together we should be able to look at each period of transition in the bridging of two cultures and be ready to admit when corrections were not made, which would have kept benefits outweighing costs for all users of the land. We are aware that the dominating, jurisdictional traditions guiding current forest and wildlife management are deeply entrenched and very difficult to uproot (Caza and Neave 2000). However, the sustainability of our community is tied to the sustainability of our economy. Misrepresentation of this fact in the current management system has encouraged marginalization of our knowledge. Can we review the traditions of the past and recognize them as a part of a whole that includes new traditions and new trade possibilities?

ACKNOWLEDGEMENTS

We wish to acknowledge and thank the many respondents to our survey, who are our friends and family in Aroland First Nation, and who formed the collective views we share in this paper. We also thank Matthew Lebron, Lakehead University, for assembling forestry records from annual work schedules and reports and putting them into a useable format, including the maps that are part our story. Charlotte Bourdignon, Philip Brown, and Chris Leale, MNR, helped with accessing and interpreting these records. Peter Ra-

sevych of Ginoogaming First Nation helped to conduct surveys with moose hunters in his community. This project was funded by the First Nations Environmental Contaminants Program of Health Canada. Connie Nelson and Mirella Stroink of Lakehead University's Food Security Research Network, co-applicants to the grant awarded to Aroland First Nation by Health Canada, offered sage advice during the drafting of this study. Peggy Smith, also of Lakehead University, helped supervise Christopher Pereira in his ambition to learn more about First Nations and moose in Ontario. Finally, we thank the Chief and Council of Aroland First Nation for granting us permission on behalf of the community to tell its story.

REFERENCES

- ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA. 2008. The James Bay Treaty - Treaty No. 9 (made in 1905 and 1905) and adhesions made in 1929 and 1930. <<http://www.ainc-inac.gc.ca/al/hts/tgu/pubs/t9/trty9-eng.asp>> (accessed April 2010).
- BERGMAN, M., and S. ÅKERBERG. 2006. Moose hunting, forestry, and wolves in Sweden. *Alces* 42: 13-23.
- BISSETT, A. R. 2002. 1999 and 2000 moose harvest in Ontario. Northwest Science & Information, Ontario Ministry of Natural Resources, Thunder Bay, Ontario, Canada.
- BRIDGLAND, J., T. NETTE, C. DENNIS, and D. QUANN. 2007. Moose on Cape Breton Island, Nova Scotia: 20th century demographics and emerging issues in the 21st century. *Alces* 43: 111-121.
- CAZA, C. L., and D. NEAVE. 2000. New millennium forestry and the fate of wildlife. *Forestry Chronicle* 76: 109-115.
- CRICHTON, V. F. J. 1981. The impact of Treaty Indian harvest on a Manitoba moose herd. *Alces* 17: 56-63.
- DIENER, E., R. A. EMMONS, R. J. LARSEN, and S. GRIFFIN. 1985. The satisfaction with life scale. *Journal of Personality Assessment* 49: 71-75.
- DRIBEN, P. 1985. *Aroland is Our Home: An Incomplete Victory in Applied Anthropology*. AMS Press, New York, New York, USA.
- _____, D. J. AUGER, A. N. DOOB, and R. P. AUGER. 1997. No killing ground: aboriginal law governing the killing of wildlife among the Cree and Ojibwa of Northern Ontario. *Ayaangwaamizin* 1: 108.
- FEIT, H. A. 1987. North American native hunting and management of moose populations. *Swedish Wildlife Research Supplement* 1: 25-42.
- GEORGE, P., F. BERKES, and R. PRESTON. 1995. Aboriginal harvesting in the Moose River Basin: a historical and contemporary analysis. *Canadian Review of Sociology and Anthropology* 32: 69-91.
- GOVERNMENT OF CANADA. 1982. The Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), c 11.
- HAMILTON, S. 2002. Environmental studies, environmental reconstruction, ethnography. Three articles prepared for the Encyclopedia of Historical Archaeology, E. Orser, editor. Routledge Press, London, England.
- HERBERT, R. 2009. Meaningful aboriginal consultation in Canada. A review of the First Nation, Inuit, and Métis right to consultation and accommodation on wildlife resource management and hunting as defined by Common Law. Christian Aboriginal Infrastructure Developments Corporation. <<http://caid.ca/ConsultWild2009.pdf>> (accessed April 2010).
- KAY, C. E. 1997. Aboriginal overkill and the biogeography of moose in western North America. *Alces* 33: 141-164.
- KOFINAS, G. 1993. Subsistence hunting in the global economy: contributions of northern wildlife co-management to community

- economic development. *Making Waves: A Newsletter for Community Economic Development Practitioners in Canada* 4 (3).
- LAUTENSCHLAGER, R. A. 1992. Effects of conifer release with herbicides on moose: browse production, habitat use, and residues in meat. *Alces* 28: 215-222.
- LARTER, N. C. 2009. A program to monitor moose populations in the Dehcho Region, Northwest Territories, Canada. *Alces* 45: 89-99.
- LYNCH, G. M. 2006. Does First Nation's hunting impact moose productivity in Alberta? *Alces* 42: 25-31.
- MAYER, F. S., and C. M. FRANTZ. 2004. The connectedness to nature scale: a measure of individuals' feeling in community with nature. *Journal of Environmental Psychology* 24: 503-515.
- MORRISON, J. 1986. Treaty research report, Treaty No. 9 (1905-1906). Unpublished report, Treaties and Historical Research Centre, Indian and Northern Affairs Canada, Ottawa, Canada.
- NATCHER, D. C., M. CALEF, O. HUNTINGTON, S. TRAINOR, H. P. HUNTINGTON, L. DEWILDE, S. RUPP, and F. STUART CHAPIN III. 2007. Factors contributing to the cultural and spatial variability of landscape burning by native peoples of Interior Alaska. *Ecology and Society* 12: 7. <<http://www.ecologyandsociety.org/vol12/iss1/art7/>> (accessed April 2010).
- REMPEL, R. S., P. C. ELKIE, A. R. RODGERS, and M. J. GLUCK. 1997. Timber management and natural-disturbance effects on moose habitat: landscape evaluation. *Journal of Wildlife Management* 61: 517-524.
- ROGERS, S., and M. BLACK. 1976. Subsistence strategy in the fish and hare period, northern Ontario: The Weagamow Ojibwa, 1880-1920. *Journal of Anthropological Research* 32: 1-43.
- TIMMERMANN, H. R., and A. R. RODGERS. 2005. Moose: competing and complementary values. *Alces* 41: 85-120.
- WAISBERG, L. G., and T. E. HOLZKAMM. 1993. A tendency to discourage them from cultivating: Ojibwa agriculture and Indian Affairs Administration in Northwestern Ontario. *Ethnohistory* 40: 175-211.
- WATSON, A., and O. H. HUNTINGTON. 2008. They're here - I can feel them: the epistemic spaces of indigenous and western knowledges. *Social and Cultural Geography* 9: 257-281.
- WINTERHALDER, B. 1983. History and ecology of the boreal zone in Ontario. Pages 9-54 in A. T. STEEGMANN, Jr., editor. *Boreal Forest Adaptations: The Algonkians of Northern Ontario*. Plenum Press, New York, New York, USA.