Effective Consultation and Participation in Environmental Assessment and Land Use Planning: Advancing Sustainable Development in a Remote First Nations Community in Northern Ontario, Canada

by

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A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Doctor of Philosophy
in
Social and Ecological Sustainability

Waterloo, Ontario, Canada, 2016

Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

Statement of Contribution

The articles presented in this dissertation are the result of research, which I instigated. I am the first author of each article and was responsible for leading data collection activities, analysis, and preparation of the manuscripts. Below is a summary of the contributions that were made by co-authors in the development of each manuscript.

Chapter 2: Gardner, H. L., Tsuji, S. R., McCarthy, D. D., Whitelaw, G. S., & Tsuji, L. J. (2012). The Far North Act (2010) Consultative Process: A New Beginning or the Reinforcement of an Unacceptable Relationship in Northern Ontario, Canada? *The International Indigenous Policy Journal*, *3*(2), 7.

Mr. Stephen R. Tsuji assisted with archival searches used to describe the historical context of the region. Remaining co-authors (Dr. D.D. McCarthy, Dr. G.S. Whitelaw, Dr. L.J.S. Tsuji) provided ongoing support regarding the design of the framework and analysis. Review and editorial advice of the final manuscript was provided by all of the co-authors.

Chapter 3: Gardner, H.L., Kirchhoff, D., Tsuji, L.J.S. (2015) The Streamlining of the Kabinakagami River Hydroelectric Project Environmental Assessment: What is the 'duty to consult' with other impacted Aboriginal communities when the co-proponent of the project is an Aboriginal community? *The International Indigenous Policy Journal.*

Dr. Denis Kirchhoff and Dr. Leonard Tsuji provided support regarding the input that was being contributed, and assisted in some community-based activities. Review and editorial advice of the final manuscript was provided by all of the co-authors.

Chapter 4: Gardner, H.L., Kirchhoff, D., Cowan, D., Tsuji, L.J.S. (accepted) Drawing a line in the muskeg: A systematic review of Environmental Assessment information, curated and evaluated, to advance evidence-based environmental decision-making to benefit communities, policy makers and proponents in a remote area of Northern Ontario, Canada. *The International Indigenous Policy Journal*.

Dr. Denis Kirchhoff and Dr. Leonard Tsuji provided ongoing support regarding the advancement of the systematic review and editorial advice on how to represent the findings to show the comparison. Dr. Don Cowan provided ongoing support on the development and improvements to the collaborative geomatics tool. Dr. Denis Kirchhoff and Dr. Leonard Tsuji provided review and editorial advice of the final manuscript.

Holly L. Gardner

Abstract

INTRODUCTION. Environmental decision-making related to policy, often includes an overall objective that advances opportunities for sustainable development. Advancing the concept of sustainable development draws on, and influences forms of governance. The use of the term governance represents an ideological shift from the authoritative control associated with the term "government". With governance, power is distributed among actors. In practice, this implies a broader collaboration between organizations, associations, individuals and various levels of government, both formally and informally. Overall, governance structures have shifted to embody greater public engagement. The incorporation of participation and engagement in governance is attributed to outcomes that include: acceptance and support of the policy, reduced conflict, broader information resources, and social learning. The dissertation focused on the critical component of sustainable development governance, public participation, in the context of environmental assessment and related decision-making. Specifically, how participation in policy development and environmental decision-making is informed, and limited, based on existing information management capacity. Through case studies, this dissertation examined the development of land use planning policy and application of Environmental Assessments (EA), to identify barriers to, and facilitators of, the public participation process. Three research questions provided a guide to exploring this subject: **1**. What does participation look like in land use planning legislation and EA processes, with respect to case specific limitation and challenges? **2**. How can information be gathered, managed and shared to build needed capacity and meet community goals? **3.** What is an approach to information management that can serve to improve the range of available information, and overcome the existing barriers to accessing technical and academic resources, to support streaming of relevant information into the participatory process?
METHODS. Fort Albany First Nation, a remote Cree community of the western James Bay region of subarctic Ontario, Canada, was the focal community of the present study. People of this community have significant connections to the land, and the land is rich with natural resources. Thus, the Cree identify meaningful participation in decision-making related to land-and-resource planning and development, as being imperative.

Participatory action research was an overarching method employed throughout the present study. Data sources for this project included field notes, interview data, project reports and EA documents, meeting minutes, hearing and legislative transcripts, archival information, and policy documents. The approach to analyzing the data generally incorporated the development of an evaluative framework and deductive review.

RESULTS and DISCUSSION. Chapter 2. *The Far North Act (2010) Consultative Process: A New Beginning or the Reinforcement of an Unacceptable Relationship in Northern Ontario, Canada?* The consultative process with respect to consultation in the "Far North" region of Ontario was examined, from the treaty-making period (early 1900s), through to the land use planning period represented in the Far North Act (2010). The focus of the evaluation was the approach to consultation used in Ontario, to advance policy. The inadequate consultative process used in the advancement of the Far North Act (2010) was characterized by a minimum standard for consultation being used. Terms were fixed prior to the process, limiting outcomes and frustrating those attempting to engage in the process. Further, timelines were too condensed to allow for meaningful participation, and unequal power distribution was evident, resulting in a threat of future litigation. Nonetheless, meetings and workshops, as well as testimony given by community members and leadership demonstrated meaningful consideration of the proposed legislation and social learning. However, the actual participatory method used in this case, public hearings, limited the potential to realize learning outcomes. The testimonies at public hearings were largely ignored. **Chapter 3**. *The Streamlining of the Kabinakagami River Hydroelectric Project Environmental Assessment: What is the "duty to consult" with other impacted Aboriginal communities when the co-proponent of the project is an Aboriginal community?* The case involved an upstream First Nation acting as a co-proponent for a project that would potentially affect downstream First Nations communities. Evaluation of the Kabinakagami Hydro Project Class EA process revealed severe limitations to effective participation by affected communities, even though the co-proponent was a First Nation. Moreover, guiding policies based on better practices for improved participation and consultation in environmental decision-making existed, among all actors. Noteworthy was that no specific guideline to guide the participatory process when a co-proponent of a development project was a First Nation – and from

what was learnt from the case study – it cannot be assumed that First Nations will deal with other First Nations respectfully and fairly. The participatory methods used (information sessions, a meeting, and public comment) provided little opportunity for meaningful participation. Significant information was offered in the comment period, describing concerns about the consultation process and the scope of the studies underway. The response, however, demonstrated limited flexibility to adjust the process or consider changes to project design or implementation. This meant that participants in downstream First Nation communities were not streamed into the process. **Chapter 4**. *Drawing a line in the muskeg: A systematic review of Environmental Assessment information, curated and evaluated, to advance evidence-based environmental decision-making to benefit communities, policy makers and proponents in a remote area of Northern Ontario, Canada.* The collaborative-geomatics informatics tool provided a useful decision-support tool to gather relevant information, and evaluate previous EA processes carried out in the region. In this way, the decision-support tool builds capacity, all the while providing protection of intellectual property, as the tool is under First Nations control being password-protected. Typically, there are challenges to establishing a unified and consistent approach to mapping, but the informatics tool has the ability to house a range of information that is accessible, and can be flexible and usable in a variety of ways. The tool has been populated with available written and online information that are relevant to environmental decision-making needs for the Cree. The tool has been equipped and formatted with database querying "apps" developed specifically for the needs of the Cree through their input, and existing information has been synthesized and summarized to give an understanding of the state of information and information gaps present in the region. This is the beginning of an information-management system that will help the lands-and-resource group from the community to be prepared to participate in ongoing EA processes, with the added capacity to challenge the thoroughness and accuracy of information that is advanced by proponents and their consultants.

CONCLUSIONS. While sustainable development is an important objective driving both EA and land use planning activities in the region, considered broadly, the activities that have surrounded the policy and EA activities examined in this dissertation have demonstrated limited meaningful change in underlying elements needed to achieve

transformative change. A shift from "Government" to "governance", with a change in power distribution, has not occurred. Opportunities for public participation were present in each of the cases examined, but were limited to public hearings, information sessions, meetings, and public comment. Although beyond passive sharing of information, the process has not fostered ongoing dialogue or built relationships; it has been a one-way exchange rather than dialogue. Access to the process was provided, but with limited ability to ensure that contributions made by participants were reflected in the outcomes. Nonetheless, participants in the process demonstrated growing capacity to engage in decision-making despite scarce resources, limited time, administrative capacity, and information. Unfortunately, my work has revealed that while there is an awareness of, and an existing administrative policy to, support meaningful participation and consultation for environmental decision-making in the Far North region, it is not being adopted in a meaningful way to realize the benefits of participation in the process. The result is an increasingly litigious environment. Governments have shown little interest in stepping into a leadership role to invest in early relationship development, as a way to more effectively approach and ensure community support, and the long-term success of development projects. This leaves impacted communities and private companies with the task of navigating this process to advance their respective goals with little regulatory oversight or intervention.

Acknowledgements

This dissertation represents a considerable, sometimes all consuming effort. I'd like to thank the people in my life for putting up with me and accepting the sometimes-lengthy lulls in communication from me. I am really looking forward to resuming my social life and will be forever thankful for their enduring patience.

Much of this work was shaped around a kitchen table with people from northern communities coming together to share their hopes, concerns and fears they have about their community, families, their children and future generations. I'm thankful for their openness with me in trusting me with those things. I hope that the product, presented, in part here, has had a positive influence in the communities it has been meant to help and beyond.

I would like to thank Dr. Leonard Tsuji, my supervisor, for supporting my work and acting as an amazing guide and mentor over the years. He deserves an award for patience and understanding that he displayed through this process! I will be forever grateful. I'd also like to thank the members of my committee Dr. Graham Whitelaw, Dr. Daniel McCarthy, and Dr. Michael Dreschner, and for their support and guidance.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

CBLUP - Community-based land-use planning
CEAA – Canadian Environmental Assessment Act
CLFN – Constance Lake First Nation
COMAP – The Centre for Community Mapping
EA – Environmental Assessment
FAFN – Fort Albany First Nation
FN - First Nation
KFN - Kashechewan First Nation
MC – Muskegowuk Council
MNR – Ontario Ministry of Natural Resources
MOE – Ministry of Environment
MC – Muskegowuk Council (Muskegowuk Tribal Council)
MT – Muskegowuk Traditional Territory
NAN – Nishnawbe-Aski Nation
SCC – Supreme Court of Canada
TEK – Traditional ecological knowledge
TK - Traditional Knowledge
UN – United Nations
UNDRIP – United Nations Declaration on the Rights of Indigenous Peoples
UWCSG – University of Waterloo Computer Systems Group
WIDE – Web Informatics Development Environment
WJBTL – Western James Bay Transmission Line

Chapter 1

Introduction

1.0 Introduction

Decision-making is a process that involves various stages of problem solving that typically includes consideration of alternatives, awareness of uncertainty, and potential outcomes (Adger et al. 2003; Bhushan and Rai, 2004). Ideally, the policy making process should include public and private actors, bureaucrats, and stakeholders (individuals or groups) that have some level of authority, interest, and access to participate in decision-making (Adger et al. 2003). Environmental decision-making related to policy often includes an overall objective that advances opportunities for sustainable development. However, there are many challenges related to changing governance structures that are relevant and necessary in advancing sustainability in planning, policy, and programs for economic development (Kemp, Parto and Gibson, 2005; van Zeijl-Rozema et al. 2008; Hawkins and Wang, 2012).

The World Commission on Economic Development (WCED) advanced and popularized the concept of sustainable development in 1987. The organization had been wrestling with the issue of increasing environmental degradation, along with growing economic disparity in the economic boom that followed World War II (Kemp, Parto and Gibson, 2005). The WCED defined sustainable development simply as "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987:8). The implementation of policy and programs that embody that concept represents a far more complex consideration of the links between social, ecological, and economic conditions that continue to challenge governments, developers, and civil society. Scholarly research and evolving practice continue to advance this concept that in turn influences new forms of governance (Folke et al. 2005; Olsson et al. 2006; Lebel et al. 2006; Canadian Institute of Planners, 2010; Levin et al. 2013).

The use of the term governance represents an ideological shift from the authoritative control associated with the term "government", to a broader more open and deliberative approach when considering "governance" (Kempt et al. 2005). "Governance is how one gets to act, through what types of interactions (deliberation, negotiation, self-regulation or authoritative choice) and the extent to which actors adhere to the collective decision"

(Kemp et al. 2005:17). More simply, it can be described as the fabric that guides the distribution of power within societies (Lebel et al. 2006). Power is distributed among actors, including the distribution of technical and financial capacity, and the rights that they hold (Kemp et al. 2005). Over time, a theoretical understanding of governance has evolved from authoritative, top-down control, to a decentralized more deliberative approach to governance (Hawkins and Wang, 2005; van Zeijl-Rozema et al. 2008). In this practice, this implies a broader collaboration between organizations, associations, individuals and various levels of government, both formally and informally (van Zeijl-Rozema et al. 2088; Hawkins and Wang, 2012). It should be noted, however, that the government entity is likely to maintain a higher level of power over the process despite this shift; the level of authority can range depending on state involvement and public engagement (Kemp et al. 2005, see van Zeijl-Rozema et al. 2008 for more on these approaches to governance). Overall, governance structures have shifted to embody greater public engagement, diversity, flexibility, and an understanding that continuous improvement will occur over time (Kemp et al. 2005). The incorporation of participation and engagement in governance is attributed to outcomes that include: acceptance and support of the policy, reduced conflict, broader information resources, and social learning (Kemp et al. 2005; Sinclair et al. 2008; van Zeijl-Rozema et al. 2008; Hawkins and Wang, 2012).

1.1 Research Goal and Questions

Through case studies, my research examines the development of land use planning policy and application of Environmental Assessment (EA) empirically, to identify barriers to, and facilitators of, the public participation process in the context of First Nations in Ontario's Far North. Three research questions provide a guide to exploring this subject:
1. What are the characteristics of participation in land use planning legislation and EA processes in the Mushkegowuk Territory (western James Bay Region, Ontario, Canada), with a focus on limitation and challenges?
2. How can information be gathered, managed and shared to improve public participation, and build needed capacity and meet community goals?

3. What is an approach to information management that can serve to improve the range of available information, and overcome the existing barriers to accessing technical and academic resources, to support streaming of relevant information into the participatory process?

1.2 Structure of the dissertation

This dissertation is presented in the manuscript style. The work is organized in five chapters that incorporate three articles in various stages of publication. Chapter 2, "The Far North Act (2010) Consultative Process: A New Beginning or the Reinforcement of an Unacceptable Relationship in Northern Ontario, Canada?" (Gardner et al. 2012) is an evaluative piece. It examines the consultative process with respect to consultation in the "Far North" region of Ontario, from the treaty-making period, that is, Treaty 9, through to the land use planning period represented in the Far North Act (2010). The focus of the evaluation is the approach to consultation used in Ontario to advance policy. A comparison is made between earlier approaches used during treaty development, and contemporary consultation protocols developed to recognize Treaty and Aboriginal Rights, as well as current international standards. Contemporary examples of consultative standards, such as, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), are used to set the Far North Act (2010) in a broader context. The Far North Act (2010) provides an example of policy development and the direct interaction between First Nations and the Government of Ontario.

Chapter 3, "The Streamlining of the Kabinakagami River Hydroelectric Project Environmental Assessment: What is the "duty to consult" with other impacted Aboriginal communities when the co-proponent of the project is an Aboriginal community?" (Gardner et al. 2015) is a case study that examines the approach to consultation used by the proponent – taking into account the regional context, a remote area predominantly populated by First Nations people – as well as the unique perspective of the duty-to-consult process when a co-proponent of a development project is a First Nation. The case involves an upstream First Nation acting as a co-proponent for a project that will potentially affect downstream First Nations communities. The purpose of this chapter

was to examine the consultative process that was carried out as part of a Class Environmental Assessment. Contextual factors included a heightened standard for consultation via an inter-tribal agreement ─ a commitment made by the Province of Ontario towards reconciliation for past wrongs through the "Northern Rivers Agreement" ─ and guiding policy that implies a higher standard should be met as a result of limited existing development.

Chapter 4, "Drawing a line in the muskeg: A systematic review of Environmental Assessment information, curated and evaluated, to advance evidence-based environmental decision-making to benefit communities, policy makers and proponents in a remote area of Northern Ontario, Canada," (Gardner et al. accepted 23 February 2015) presents one application of the collaborative-geomatics informatics tool in environmental decision-making. The evaluative exercise involved "populating" the collaborative-geomatics informatics tool and using this gathered information to evaluate the comprehensiveness of previous EA processes carried out in the region. This evaluative study provides a starting point for advancing informed decision-making, identifying data gaps and future research needs, and helping to support current participatory efforts in ongoing EA processes.

Chapter 5 presents some general findings of my dissertation and implications as they pertain to Sinclair et al (2008). Lastly, some opportunities for future research are described.

1.3 General Methods

This work has been carried out with support of a long-standing research team that has been present and working with Fort Albany First Nation and other communities, within the Muskegowuk Territory for more than 25 years. Members of the research team

represent a broad range of disciplinary interests, but carry out multidisciplinary research, as is necessary when considering complex social-ecological systems. Participatory action research (PAR) was an overarching method employed throughout the present study, and much of the work has been shaped through formal and informal discussions with Chief & Council and community members, particularly those active in lands and resources planning and development.

PAR is a broad term describing various types of action research. In general, it involves a process that is cyclic in nature, from problem identification involving participants and researchers, to research initiation that draws on the capabilities of participants and researchers that leads to appropriate action. Participants and researchers then reflect on the action, what was learned, and initiate a new cycle (Kindon, Pain, and Kesby, 2007). McIntryre (2008) describes fundamental elements present in PAR activities to include: a shared promise between researchers and participants to examine an issue; individual and shared reflection to consider the issue and devise opportunities to examine it; a commitment to advance the exercise towards contributing a benefit to those who are impacted; and to building a partnership to plan and execute the investigation, and disseminate outcomes. PAR is the most appropriate method for this work, as it advances shared development that "involves examining an issue systematically from the perspective and lived experiences of community members most affected by the issue…generate knowledge to inform action" (Savin-Baden and Wimpenny, 2007: 333). Another important element that informed the general method was the way that research in Indigenous communities has contributed to the perpetuation of colonial ideologies. This was considered throughout the project to ensure that the research was respectful, representative, being collaborative work with the community (Smith, 1999). The general approach used to achieve this end included sensitivity to cultural norms, incorporation of community validation/approvals, ongoing communication, shared-benefit identification along with important ethical consideration related to privacy, and intellectual property (Smith, 1999; Louis, 2007). In addition, the final results of the study have been communicated and disseminated in culturally appropriate ways and in appropriate language (Smith, 1999).

Data sources for this project included field notes, interview data, project reports and EA documents, meeting minutes, hearing and legislative transcripts, archival information, policy documents, websites, and informal discussion. The approach to analyzing the data is described in each of the chapters, but generally incorporates the development of an evaluative framework and deductive review.

1.4 Conceptual Context

The remainder of this chapter provides conceptual context in support of the dissertation. The focus is on the critical component of sustainable development governance, public participation – and the potential for increasing public participation towards a greater realization of sustainable development – in the context of environmental assessment and related decision-making. Both criticisms and opportunities of approaches to public participation are presented, along with a conceptual framework to evaluate the public participation system. The chapter concludes with a brief overview of the contribution to knowledge that this research provides.

1.5 Participation

Public participation has been used in a variety of situations with respect to planning, and economic and policy development; over time this has led to numerous definitions that reflect the purpose and application. "Public Participation" can be broadly defined within environmental decision-making to include "organized processes adopted by elected officials, government agencies, or other public – or private sector organizations to engage the public in environmental assessment (EA), planning, decision-making, management, monitoring, and evaluation. These processes supplement traditional forms of public participation (voting, forming interest groups, demonstrating, lobbying) by directly involving the public in executive functions that, when they are conducted in government, are traditionally delegated to administrative agencies. The goal of participation is to improve the quality, legitimacy, and capacity of environmental assessments and decisions" (Stern and Dietz, 2008:1). Innes and Booher (2007) offer five main purposes of participation:

1. To provide a mechanism to glean a sense of the perspectives present in the public to inform decisions.
2. To ensure a broader set of information, including local knowledge, is considered in the decision.
3. To foster more fair and just outcomes.
4. Improve the legitimacy of decisions.
5. In many cases it is a legal requirement.

Public deliberation dates back to ancient Greece and has been a cornerstone of participatory democracy since this time (Brody, Godschalk, and Burby, 2003; Delli Carpini et al. 2004). As part of contemporary policy and program development, citizen participation in various processes has been increasingly popular since the 1950s (Irvin and Stansbury, 2004). Arnstein (1969) established the typologies of citizen participation through "the ladder of citizen participation", as a means of categorizing participation in general terms. Using the rungs of a ladder, Arnstein (1969) presented a spectrum of citizen participation with the lower rung being "manipulation", and the upper rung, "citizen control". More specifically, "non participation" occurs when some mechanism has been instituted in place of "genuine participation". Meanwhile, the middle ground is represented by "tokenism", where those typically marginalized in the process are given some access, a voice, but have no power to ensure that their contributions are represented in the outcomes. Finally, "citizen power" incorporates greater citizen presence in decision-making through involvement in partnerships, delegation of power, and majority control over outcomes (Arnstein, 1969).

In the 1980s and 1990s, public participation became more structured as the use of local knowledge became important with respect to advancing informed decision-making (Irvin and Stansbury, 2004). Further, following the WCED (1987), the concept of sustainable development became an important consideration in the decision-making process along with greater public participation (Reed, 2008). The initial enthusiasm over opportunities

for participation was tempered in the late 1990s, as a result of recognition of its limitations and failures (Reed, 2008). Attention has since turned to the consideration of better management approaches to participatory methods, in an effort to better realize the anticipated benefits (Reed, 2008).

As a whole, the consideration of the application of participatory methods to any process can be described based on the degree of stakeholder engagement, nature of participation, and driving factors that have changed over time and vary between individual processes (Hawkins and Wang, 2005). The nature of stakeholder engagement can range from passive sharing of information to "active engagement". The way communication flows within the participatory process varies; when communication is only distributed to recipients, the process is said to be passive. Alternatively, active engagement involves gathering information from stakeholders with evidence of two-way exchange of information (Rowe and Frewer, 2000; Reed, 2008). Lastly, driving factors advance the process based on identified objectives from various actors. For example, participatory processes can be planner-driven, people-centred, development-driven or driven by an overarching concept – like sustainable development – that uses sustainability indicators to guide the advancement of the objectives and process (Reed, 2008).

Citizen participation is often celebrated, as coming with a promise of better and more enduring outcomes that are more representative; while, bringing those who might otherwise be marginalized into these processes (Arnstein, 1969; Kasperson, 1977; Day, 1997; Randolph and Bauer, 1999; Irvin and Stansbury, 2004). Effective participation advances public trust, transparency, empowerment of stakeholders, and outcomes that are fairer – and consider the complexity of social and ecological systems – while advancing

opportunities for social learning (Doelle and Sinclair, 2006; Stringer et al. 2006; Stewart and Sinclair, 2007; Reed, 2008; O'Faircheallaigh, 2010; Hawkins and Wang, 2012). These benefits can also encourage advancement of development that better reflects local conditions, improves the quality of information used, better minimizes impacts, and advances development that is more widely supported by impacted communities (Day, 1997; Reed, 2008; O'Faircheallaigh, 2010). There may also be opportunities to use local resources more effectively, and when carried out early on in the processes, it can incorporate unique local conditions to minimize delays. Further along in the cycle, effective participation can encourage more representative feedback related to policy and program delivery, as well as foster more innovative and effective future programs and policy (Day, 1997).

Along with the anticipated positive outcomes, there are many examples where public participation has failed with a range of consequences. While the opportunities are present for participation in many decision-making processes, there are few ways to predict the level of interest that will translate to active citizen participation. There is growing awareness that the methods used to carry out legally required public participation – public meetings, hearings, and opportunities for comment – are ineffective (Innes and Booher, 2004). These methods fail to result in outcomes where contributors feel they have been heard, or achieve better decisions (Innes and Booher, 2004). Further, in cases where there is minimal interest there is a risk that decisions will reflect the biases of a small group (Day, 1997). Alternately, when interest is substantial, it will be difficult to ensure that the broad interests can be captured and represented (Day, 1997; Innes and Booher, 2004). The process, if done poorly, risks reinforcing existing power dynamics that serves to further marginalize people and limit the likelihood that minority groups will be represented (Davidoff, 1965; Arnstein, 1969; Innes and Booher, 2004). Further, there can be excessive demands put on stakeholders' time and energy to attend meetings and contribute, which can lead to fatigue among stakeholders. Participatory activities can also lead to delays in decision-making, especially when stakeholders are presented with non-negotiable elements (Stewart and Sinclair, 2007; Stern and Dietz, 2008; Reed, 2008; O'Faircheallaigh, 2010; Hawkins and Wang, 2012). The envisioned positive outcomes of

public participation are based on a number of unrealistic assumptions: if the opportunity for participation is included in the process, it will be properly facilitated; there will be active interest from the public, who will be prepared to participate; the public will always contribute material that is constructive and leads to improvements in project design, and produces better decisions overall (Doelle and Sinclair, 2006). Not surprisingly, failure to actually provide effective participation, in this spirit, has led to growing distrust and conflict that discourages the public from becoming involved (Doelle and Sinclair 2003, 2006; Innes and Booher, 2004).

Nonetheless, there is a strong correlation between the quality of environmental decisions and the quality of the participatory process. A number of characteristics of the process can serve to support a meaningful approach to participation. Reed (2008) offers eight best management practices that support effective participatory processes gathered from the literature:

1. Shared power, learning opportunities, and building trusting relationships are necessary and achieved by identifying the ways that stakeholder participation will serve to influence decisions and that the necessary tools needed to build necessary capacity to contribute are available.
2. Depending on the process, stakeholder participation opportunities should be identified at the earliest point possible and be considered throughout all phases of project/policy development and implementation.
3. Thorough processes for identifying stakeholders that consider the range and complexity of social and ecological systems that will be impacted by the project/policy must be carried out and some priority for those most significantly impacted to ensure their involvement is prioritized.
4. Objectives that will guide the participatory process must be identified and agreed upon by stakeholders at the earliest point possible. This is facilitated by encouraging dialogue among participants contribute to objectives that reflect their priorities which can serve to foster partnerships building and a sense of ownership.

5. Participatory methods must be selected with consideration to context, the complexity of the systems (social, economic, environmental), and awareness of the scarcity of resources, the types of participants present, and power distribution.
6. Skilled facilitation is critical and requires guidance from those with an understanding of both technical application of methods, planning with an awareness of time and resources allocations to ensure progress, and tools and an ability to encourage input by all participants despite disparities related to power, group dynamics, and conflict.
7. A balanced use of local and scientific knowledge to advance decisions that reflect complex systems.
8. Institutionalization of participatory practice is necessary to lend continuity to the organizations that support these processes and outcomes of the decisions made over time.

Understanding these characteristics of good participatory approaches helps to examine the processes that have been carried out within project and policy development that will be presented in this dissertation. Also of relevance, a conceptual framework situates the articles that form this dissertation in the broader context, in this case, combining the objective of sustainable development governance and participation, for the purposes of improving environmental decision-making.

1.6 Participation towards sustainable development: A conceptual framework.

The high degree of uncertainty that accompanies the advancement of environmental decision-making means, there is a significant need to foster innovative approaches that increase adaptive capacity and encourage shared learning opportunities. EA and other forms of environmental decision-making can complement the principles that guide sustainable development and good governance. Several elements that characterize good governance include: 1. Being aware of the complexities of systems necessitating the incorporation of a diversity of knowledge and perspectives into environmental decision-making to reflect inclusive governance. 2. Recognizing the diversity of conflict resolution

and mediation mechanisms. 3. Acknowledging that significant uncertainty requires the use of adaptive, learning-orientated processes. 4. Recognizing that innovation is needed to consider economic, social, environmental objectives related to sustainability, which requires social and individual learning (Sinclair et al. 2008).

Finally, the degree of public participation incorporated into these forms of environmental decision-making, provides an indicator of the social learning outcomes that have the potential to contribute to sustainability (Sinclair et al. 2008). In addition, openness to learning that is encouraged under a governance model, can open the door to the advancement of resilience and adaptive capacity, and contribute to sustainable development (Folke et al. 2002; Folke et al. 2005; Armitage et al. 2009).

There are four key elements of this conceptual framework: EA as the governance element; public participation as the deliberative mechanism; education and learning (e.g. formal and informal opportunities); and sustainability as a general guiding principle. Not surprisingly, as is the case with public participation, in order to achieve learning outcomes – the process requires a diversity of contributors, inclusiveness, and early involvement – with the express purpose and opportunity to identify and resolve conflicts that emerge as a result of differing views, goals, and values (Sinclair et al. 2008). As mentioned previously, sustainability indicators can be drivers for public participation, and can be used to shape EA outcomes; but requires learning over time via a feedback loop. Within Sinclair's (2008) framework, the feedback loop exists over the long term in the EA process through strategic cumulative effects assessment and monitoring. A feedback loop could also exist with repetitive involvement in EA or other environmental decision-making. A connection can be drawn between this element and institutionalization of the principles and objectives of sustainability over time.

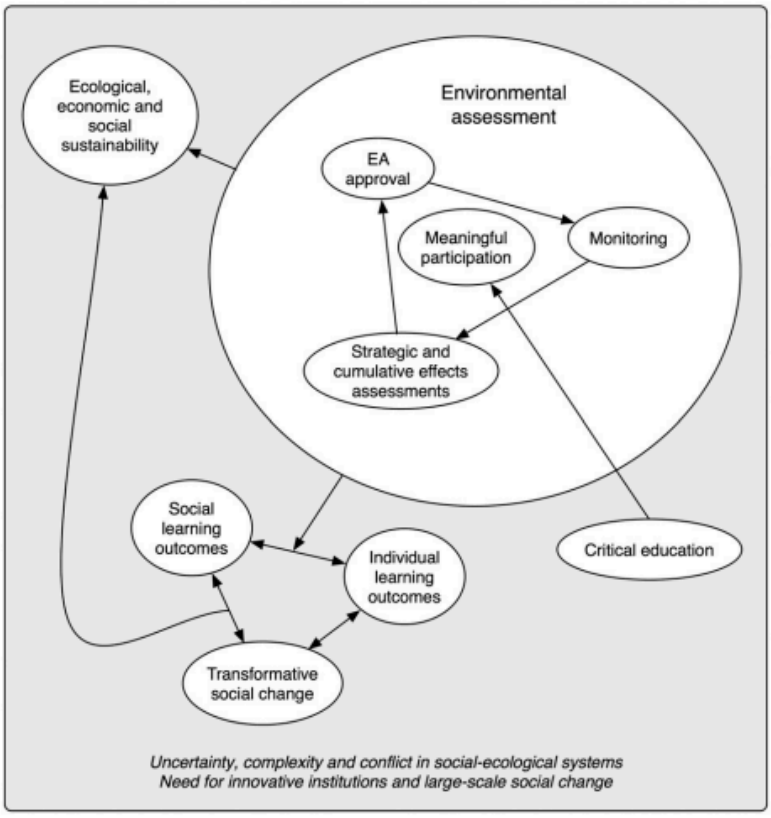

Figure 1. Conceptual framework of learning for sustainable development through EA (revised from Sinclair et al. 2008).

When applied in a resource management framework, the concept of social learning incorporates a number of different approaches to learning: individually through observation and social interaction; by "social aggregates"; through interactions with social issues; and by shared decision-making (Maarleveld and Dangbegnon, 1999). "[A] social learning perspective aims to convey the way that people learn and need to learn how to gain insight into, predict, and control the way their actions affect the natural and human domains to ensure a sustainable future" (Maarleveld and Dangbegnon, 1999:268). The concept of social learning originates from organizational learning and is defined in many ways. One definition simply describes social learning as "a process of social change in which people learn from each other in ways that can benefit wider social-ecological systems" (Reed et al. 2010:2). The use of learning loops (single, double and triple) is commonly used to demonstrate the advancement of social learning (Argyris and Schon, 1996; Romme and Van Witteloostujn, 1999; Pahl-Wostl, 2009). For example,

Pahl-Wostl (2009) describes triple loop learning as "incremental improvement of established routines" to "transforming" in the third and last loop. A simpler framework presented by Hawkins and Wang (2012) does not incorporate a feedback loop or mechanism that incorporates sustainability indicators into the evaluation. This limits the ability to gauge the continuous improvement and potential transformative effect, with use of sustainability indicators over time. Sinclair et al (2008) provides the most appropriate framework for consideration in this case.

Sinclair et al (2008) undertook an analysis of 15 EAs carried out in Canada (Manitoba and Ontario) to examine ways of better engaging the public in the process. The examination revealed that beginning in the early 1990s, techniques employed during the public engagement process were largely passive (one-way flow of information) that relied on notification requirements (Sinclair et al. 2008). These early processes limited learning opportunities. Sinclair et al (2008) described two learning loops: the first, improving the realization of goals within the existing governing structure, essentially better streaming of the groups participation into the process; and the second, considering the methods used to participate in the EA process and what was achieved that could be applied to future related decision-making mechanisms (Sinclair et al. 2008).

The consideration of this conceptual framework as a guide in this dissertation includes unique features of the socio-cultural conditions present in the case studies presented here. As the case studies involve remote First Nations, there is an added impetus for public consultation related to development within traditional territories that flows from the constitutionally embedded "duty to consult" (*Section 35(1) of the Constitution Act, 1982)*. A distinction between engagement and consultation is important here. Consultation, in the legal sense, includes various procedural elements; community leadership largely carries out legal consultation. However, the ultimate decision made with respect to an issue depends on the approach to governance that community leadership undertakes. For example, a First Nation's Band Council Resolution may be used to make a decision related to consultation and/or a community referendum can be used with various approaches to engagement with the wider community. There is no intention to

oversimplify, but consultation and engagement often include overlapping elements, such as, information sharing and exchange, transparency and accountability, and building respectful relationships. The legal "duty to consult" also involves specific triggers and requirements, which will be specified within each case study presented herein.

An additional consideration with respect to use of this framework, relates to the published literature where authors assume that social learning is occurring, as a byproduct of the participatory process (Pahl-Wostl 2006; Mostert et al. 2007; Borowski et al. 2008; Kuper et al. 2009). People have been critical of this assumption that social learning is inevitable in the process, but this does not eliminate the possibility that social learning does occur (Bull et al. 2008; Reed et al. 2010). Social learning can take place in a wide range of circumstances, such as, via social media and group activities; however, the measurement of such learning outcomes is seldom undertaken (Reed, 2008). The two learning loops described by Sinclair et al (2008) provide for reasonable consideration of the outcomes in a broad and general way; and thus, do not imply the need for a detailed quantitative measurement. The general outcome over time, with repetition of environmental-decision-making processes, is capacity building and development of trusting, cooperative, long-term relationships among participants, managers, scientists, and bureaucrats (Hanna, 1994). Applying this conceptual framework provides a means to consider public participation and engagement, in environmental decision-making moving towards sustainable development.

1.7 Positioning the research

Positioning this research in the wider academic scholarship means taking into account the unique conditions that are present in the case studies presented here, namely Fort Albany First Nation, a remote Indigenous community. Fort Albany First Nation is located in an area with rich natural resources. People of this community have significant connections to the land, and suffer from substantial social and cultural challenges that flow from being disempowered under colonial rule (Stramatopoulou, 1994; Wiessner, 2008). Thus, people of Fort Albany First Nation, as well as other Indigenous groups identify meaningful participation, in decision-making related to land-and-resource planning and

development, as most appropriate (Davis, 1993; Ellis 2005). Not surprisingly, as remote communities in northern Ontario attempt to shape development in their traditional territories, questions about the appropriate approach to participatory decision-making and sustainable development are of great significance. Indeed, there is significant scholarship in the Canadian context that suggests that participation in the EA process should be driven by sustainability, as a primary objective (George, 1999; Gibson, 2001; Doelle and Sinclair, 2006; Gibson, 2006). However, the institutionalization of sustainability indicators has been slow in Canada. In the context of many marginalized Indigenous communities, this means that they continue to be subjected to decision-making by government representatives that impact their traditional territories without substantive consideration of their concerns (Doelle and Sinclair, 2006).

This dissertation examines how participation in policy development and environmental decision-making is informed, and limited – based on existing information management capacity – and by identifying opportunities for both stakeholder engagement and consultation, via legal "duty to consult". Public participation is often described as critical to advancing effective development decision-making, while also contributing to a greater understanding of complex social, ecological systems through local and traditional knowledge (Stringer et al. 2006). Emerging research that examines the likelihood of conflict between developers and Indigenous groups – reveals that early engagement and relationship building with affected groups, carried out as part of project development and design – can have a lasting effect on both parties (Prno and Slocombe, 2012; First People's Worldwide, 2013; Davis and Franks, 2014). These early steps can serve to ease the operation of the project over time, and foster healthy community relationships, all while achieving economic objectives (Prno and Slocombe, 2012; First People's Worldwide, 2013; Davis and Franks, 2014).

Public participation is identified as critical within the EA process to advancing sustainable development (Benson, 2003; Doelle and Sinclair, 2006). Nevertheless, the processes related to environmental decision-making embedded in Federal and Provincial regulatory processes in Canada are increasingly being streamlined (Lindgren and Dunn,

2010; Kirchhoff et al. 2013) for greater efficiency, reduced expense and shorter timelines. This shift in the application of environmental assessment (EA) legislation is in stark contrast to effective participatory approaches to decision-making that have been a dominant theme in recent decades (Stewart and Sinclair, 2007; Stern and Dietz, 2008; Reed, 2008; O'Faircheallaigh, 2010; Gibson, 2012). In Ontario's northern and remote First Nation communities, the effects of this shift are felt profoundly (Kirchoff et al. 2013). As development pressure increases with growing awareness that this northern area is rich in natural resources, the opportunities in this region have been championed at several political levels, resulting in these northern communities being drawn into development decision-making at an unprecedented rate. Asserting their legal and constitutional right to be consulted – flowing from the predominantly First Nations population in the region – represents a significant challenge. Many individuals and communities lack the time, administrative capacity or information systems to effectively gather pertinent information to effectively participate and contribute (Day, 1997). There are many examples where participants fail to see the information that they offer to the process, reflected in the way that projects and policies are shaped (Doelle and Sinclair, 2003, 2006). Increasingly, opportunities to participate are limited altogether, as processes are streamlined for greater efficiency (Lindgren and Dunn, 2010). This situation is contrary to one of the main objectives that underpin participatory approaches – advancing development that reflects community goals and objectives – and results in a sense of disempowerment (Reed, 2008).

1.8 Contribution to knowledge and originality

While the benefits of public participation have been identified theoretically, very little has been done to examine the validity of claims made to support public participation in practice (Beierle, 2002; Brody 2003; Blackstock et al. 2007; Reed, 2008). This project used a collaborative and participatory approach to undertake research that emphasizes the relationship among academic disciplines, researchers, and community stakeholders. This has required ongoing collaboration with the community members, to incorporate the diverse information within the regions unique socio-cultural and natural environment.

The approach has involved multiple methods and data types, necessitating a flexible, iterative and ongoing consideration of the information ensuring that the outcomes are linked and complementary. The outcome has been an examination beyond theory – to the practice of participation – towards the advancement of sustainable development, good governance, and development of an approach to information management to support learning and capacity building for future processes.

At the community level, this work has contributed to building capacity to both inform the land use planning process and to be mobilized during future EA processes. Chapter 3 contributes to critical education (education about and education through EA) in identifying the stages of the EA where opportunities exist to participate. Chapter 3 also serves to better define the expectation for consultation particularly related to hydro development on the Albany River and its tributaries. The outcomes of this research have implications beyond the case studies to the consideration of future policy development and environmental assessment processes. In addition, preliminary evaluation of current information (Chapter 4) reveals data and knowledge gaps that can be addressed through monitoring and future research. Opportunities abound to use the collaborative-geomatics informatics tool, or other information management tools, to support individual learning and initiate a dialogue within the community and its partners to better understand, and use the knowledge that exists, and build on it.

Although theoretical literature exists that looks at participation and social learning as mechanisms to advance sustainable development (Romme and Van Witteloostujn, 1999; Maarleveld and Dangbegnon, 1999; Pahl-Wostl, 2009), three areas have limited representation in the literature. The first relates to the overarching theme of the dissertation, governance of sustainable development outside of the urban setting (Portney and Berry, 2010; Saha, 2009; Hawkins and Wang, 2012). The second relates to the lack of systematic reviews of the type and quality of information that flows in the environmental decision-making process, and the use of systematic, evidence-based, review within environmental decision application outside of the health field (Pullin et al. 2004; Pullin and Knight, 2009). The third is the limited representation in academic

literature of empirical research related to citizen engagement and participation, as compared to theoretical developments (Carpini, Cook and Jacobs, 2004; Reed, 2008). It should be noted that there is no agreement on what constitutes good participation. A significant challenge in empirical studies related to participation exists, because independent variables in case studies are so different which makes comparing methods and techniques inappropriate (Day, 1997). This dissertation is distinct in that it incorporates a consideration of those unique variables and examines the public participation process under various circumstances.

Chapter 2

The Far North Act (2010) consultative process: a new beginning or the reinforcement of an unacceptable relationship in northern Ontario, Canada?

2.0 Introduction

Recently, the Far North region[1] of northern Ontario has been recognized for its mineral rich areas and potential sites for hydro-electric development. In addition, persistent development pressure in the Far North region has led to the identification of community-based land-use planning as a potential means to ensure informed decision-making, shared benefits resulting from development and adequate protection of social, cultural and environmental conditions (Hibbard, Lane, and Rasmussen, 2008). On June 2, 2009, the Government of Ontario introduced Bill 191 (2009) for 1st reading; Bill 191 (2010, also known as *An Act with Respect to Land Use Planning and Protection in the Far North*) underwent 2nd reading on June 3, 2010. On September 23, 2010, the Province of Ontario passed Bill 191 - once Bill 191 had received royal assent (October 25, 2010) - it was referred to as the Far North Act (2010). The legislation outlines an approach which the Government of Ontario officials purport will allow First Nations of the Far North region to play a more significant role in development through community-based land-use planning (Far North Act 2010 s.5.(1)).

The purpose of this article was to examine the development of this new piece of legislation based on the "negotiation" that had taken place as part of Treaty #9 – the policy that established the relationship with the province regarding land – to determine if the process or content would serve to change that relationship in any way. Contemporary examples of consultative standards are used to set this legislation in a broader context – domestically or internationally – to illustrate the direction that these processes are taking or expected to take. This legislation provides an example of policy development and the direct interaction between FN and the Provincial government. The article begins with a

detailed background section and a presentation of what consultation means in the Canadian (and international) context. This section is followed by information on the study area, the Far North Act (2010), the Far North consultative process, research methods; results and discussion based on the primary and secondary data analyses pertinent to the research question, and finally, conclusions.

2.1 Background

In 1867, the provinces of Ontario, Quebec, New Brunswick, and Nova Scotia were united under a federated system of government, known as the Dominion of Canada (Figure 1). The country of Canada would be formed through land acquisitions - Rupert's Land and the North-Western Territory (Figure 2) - and the partitioning of these land acquisitions to create new provinces, as well as to extend the boundaries of existing provinces. In keeping with the British Crown's belief that Indians[2] held rights to land in North America, Indian lands had to be ceded or purchased (Royal Proclamation of 1763, Henry 2006). Compensation for Indian lands had to be resolved equitably through Indian consent (Cauchon and Cockburn 1867, Rupert's Land and North-Western Territory – Enactment No. 3 1870), which would require consultation and a negotiated settlement between the federal Government of Canada and said Indians. Since this time, numerous treaties have been signed between the Government of Canada and the Indian groups of Canada (INAC 2007, Figure 3). It has been over one hundred years since Treaty No. 9 was signed, and since this time (i.e., 1905) the near north region of Ontario (below the Forest Management Line/Cut Line/Far North Line, Figure 4) has been extensively developed with little consultation with First Nations groups (Rickard 1977, Royal Commission on the Northern Environment 1979).

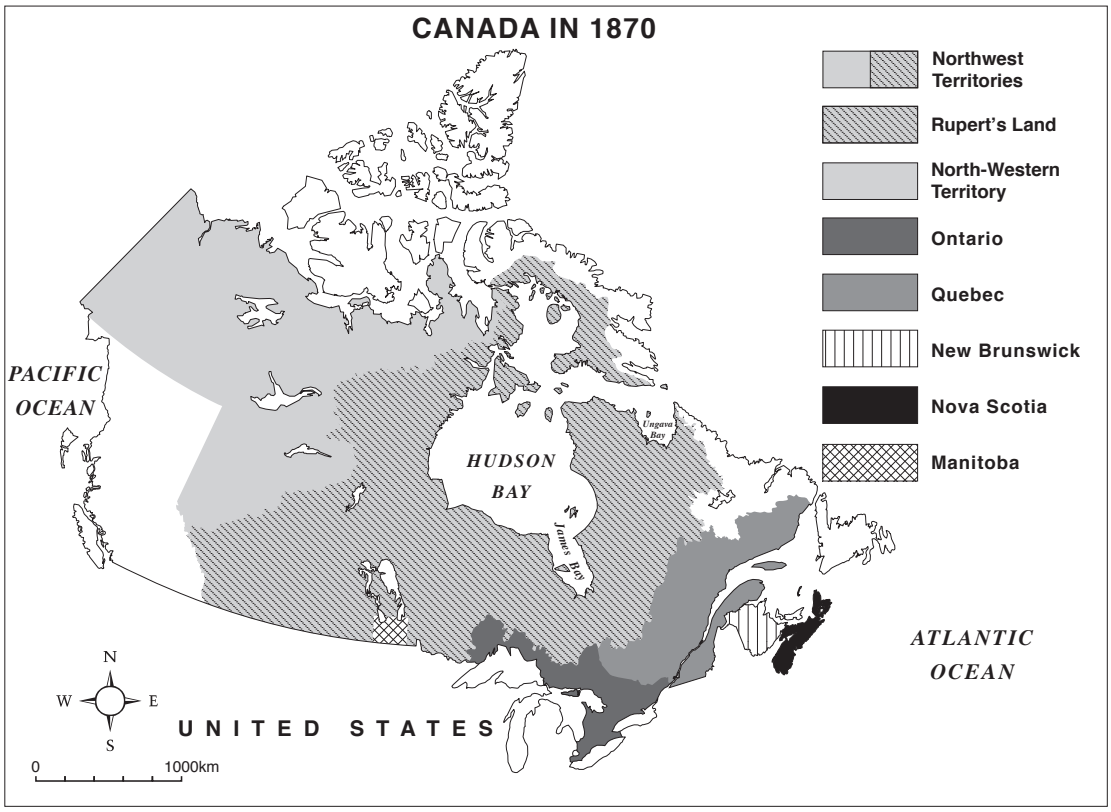

Figure 2. In 1867, Canada at Confederation only consisted of the provinces of Ontario, Quebec, New Brunswick and Nova Scotia. In 1870, Rupert's Land and the North-Western Territory were acquired by Canada, and these two territories formed the Northwest Territories. This figure is based on the maps hc1867trty_e, and hc1870trty_e (INAC, 2007).

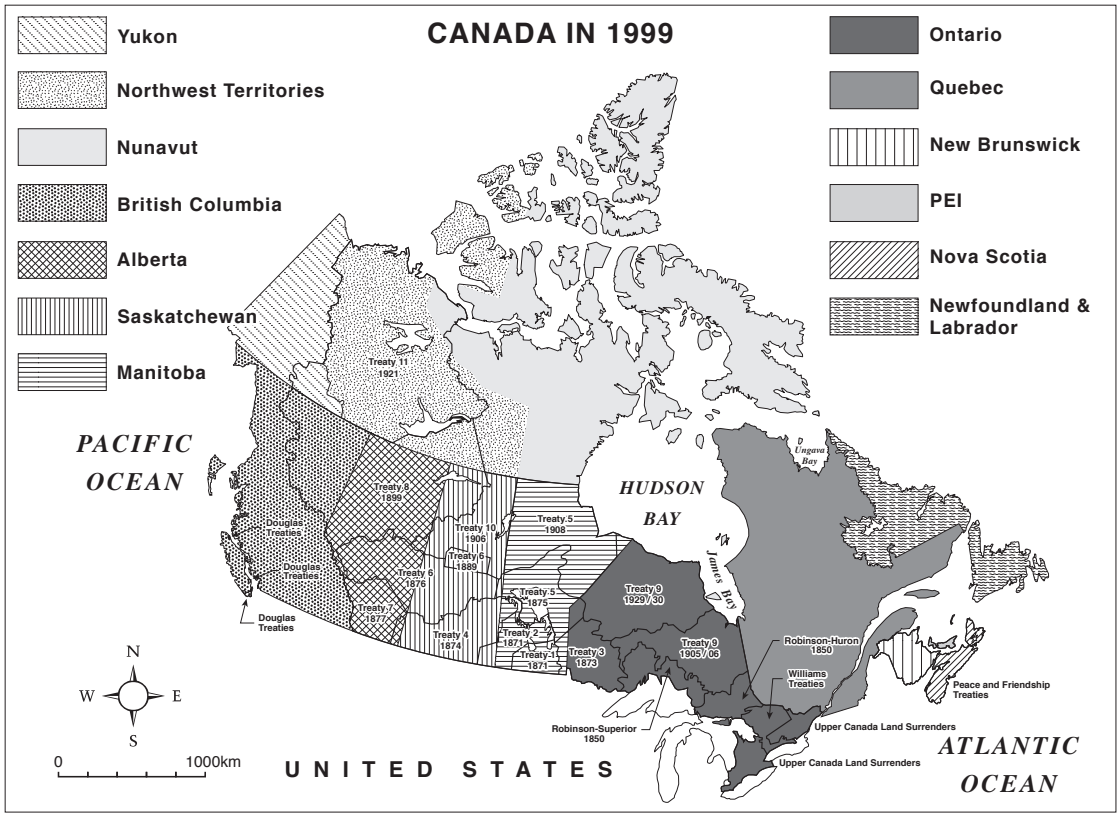

Figure 3. Canada in 1999 showing the historical treaties. This figure is based on the maps hc1999trty_e, and htoc_e (INAC, 2007).

Typically, the extinction of Indian title only acquired importance, after Indian land was recognized for its economic importance by the dominant society (Long 1978a, Titley 1986). The case of the James Bay Treaty or Treaty No. 9 (1905-06) was not atypical, in that prior to 1905, the economic potential (e.g., hydroelectrical, logging, mining, and agricultural) had been recognized, with railway construction opening up the near north region of northern Ontario to settlement and resource exploitation[3] (Long 1978b, Titley 1986, Dragland 1994, Macklem 1997). However, Treaty No. 9 was unique with respect to the numbered Treaties, in that Treaty No. 9 required the concurrence of a provincial government[4], that is, the Government of Ontario had to concur with the terms set in Treaty No. 9 (Scott et al 1905). As a result, the terms of Treaty No. 9 were fixed by the

Government of Canada and the Government of Ontario prior to the commissioners' treaty expedition into northern Ontario to garner Indian approval. Indeed, in the report of the Treaty No. 9 expedition by the treaty commissioners (Scott DC, Stewart S, MacMartin DG, 1905, 4), it is clearly stated "the terms of the treaty were fixed by the governments of the Dominion and Ontario; the commissioners were empowered to offer certain conditions, but were not allowed to alter or add to them in the event of their not being acceptable to the Indians." Thus, there was a consultative process leading to a negotiated Treaty No. 9 agreement; however, all the consultation and negotiations were between the Government of Canada and the Government of Ontario (Scott et al 1905, Long 1978a, Titley 1986, Morrison 1986). There exists no documented evidence that Indians or their representatives were consulted and/or involved in these government deliberations (Titley 1986). It is no wonder why historians (e.g., Long 1978b, Morrison 1988, Long 1989, Dragland 1994) and First Nation leaders (e.g., Louttit 2011) have asserted that there was no meaningful consultation and negotiation with respect to Treaty No. 9, as the treaty was basically a take-it or leave-it proposition (Long 1978a).

It should also be emphasized that the Indian signatories of Treaty No. 9 could not read the terms of the agreement, as the English text of Treaty No. 9 had not been translated into the Ojibway or Cree syllabics (Long 1989, 1993, Louttit 2010a). Thus, the oral translation of the terms of the Treaty No. 9 written document was crucial. As the Treaty No. 9 commissioners did not travel with translators (Scott et al. 1905), the translation of Treaty No. 9 was not consistent. When Hudson's Bay Company's employees acted as translators - as they often did as treaty signing was typically at Hudson's Bay Posts (Scott

et al. 1905) – there was a clear conflict of interest, as Indians upon signing the treaty, would spend their treaty money at the Hudson's Bay Post (Dragland 1994). Moreover, D.C. Scott, one of the Treaty No. 9 commissioners suggests that the contents of Treaty No. 9 were not properly translated and explained[5]:

> They were to make certain promises and we were to make certain promises, but our purpose and our reasons were alike unknowable. What could they grasp of the pronouncement on Indian tenure which had been delivered by the law lords of the Crown, what of the elaborate negotiations between a dominion and a province which had the treaty possible, what of the sense of traditional policy which brooded over the whole? Nothing. So there is no basis for argument. The simpler facts had to be stated, and the parental idea developed that the King is the great father of the Indians, watchful over their interest, and ever compassionate. (Scott 1947, 115)

Clearly, the Treaty No. 9 consultative and negotiation process was wanting in all respects.

Figure 4. The First Nations of the Far North region are illustrated. The First Nations and the one community (Moosonee) in the Far North - where hearings were scheduled by the Government of Ontario, but later cancelled – are bolded and in italics. The names of cities where Far North hearings were actually conducted – all were outside the Far North region - are presented graphically with all letters in capitals. The figure is based on the Far North map of the Ontario Ministry of Natural Resources (2010).

The development of community-based land-use plans in Ontario's Far North is a response to two related issues: first is the current desire of local First Nation communities to preserve their traditional territories in a way that ensures that the land and resources will support future generations; second is a government initiative to address a number of planning and management issues including orderly resource development, natural heritage protection, climate policy and improved relations with First Nations. In addition, one issue that is never specifically mentioned in the Far North Act (2010), but must be taken into account in the present context is that Ontario is no longer one of the economic engines of Canada. For the first time, in 2009 Ontario received a federal government equalization payment[6], as a "have not" province (Holden 2008), and will continue to receive equalization payments (Department of Finance Canada 2011). In other words, Ontario's economic growth and prosperity is intimately tied into developing the Far North region of northern Ontario, and there appears to be a sense of urgency tied to this development.

Two aspects of this policy development are examined in this article, one procedural and the other based on domestic and international standards. This article retrospectively explores the progression of Bill 191 from its introduction in June 2009 to October 2010 (i.e., when Bill 191 received royal assent, and became known as the Far North Act of 2010), paying particular attention to the consultative activities that occurred (or did not occur) throughout the process. The Far North consultative process is also examined in the context of guidelines put forward by various Aboriginal[7] political organizations in

Canada, and the global standard set for indigenous rights through the *United Nations [UN] Declaration on the Rights of Indigenous Peoples (2007)*[8].

2.2 Duty to consult

Duty to consult arises when an action to be carried out by the Crown will have an impact on Aboriginal or Treaty rights as affirmed in section 35 (1) of the Constitution Act (1982) [9] ….the duty to consult requires the Crown, in most cases, to make good faith efforts to negotiate an agreement specifying the rights of the parties when it seeks to engage in an action that adversely affects Aboriginal interests. (Lawrence and Macklem 2000, 252)

As stated by Mr. Justice Finch of the B.C. Court of Appeal (Supreme Court of Canada 1999, paragraph 160):

> *The Crown's duty to consult imposes on it a positive obligation to reasonably ensure that Aboriginal peoples are provided with all necessary information in a timely way so that their representatives are seriously considered and, wherever possible demonstratably integrated into the proposed plan of action…*

In addition, the degree of consultation can vary from case to case.[10]

In Canada, several Aboriginal-based consultation guidelines have been developed at the community, regional, provincial and national scales (Union of Ontario Indians 2003, The Métis National Council 2007, Meyers Norris Penny 2009, Northern Secwepemc te Quelmucw Leadership 2009). For example, The Union of Ontario Indians[11] developed a consultation guide to deal with interactions with the Ontario Ministry of Natural Resources (Union of Ontario Indians 2003).[12] In general, the guidelines describe an open process that emphasizes the rationale of the project and roles that each "stakeholder" plays in the advancement of the proposed activities. The consideration of the spirit of treaties, comprehensive land claims, and the Constitution Act of 1982 all frame the form consultation should take. The importance of full communication of all material relevant to the project is a shared characteristic. Finally, inclusion of adequate funding to facilitate participation and timelines that promote full understanding within involved communities and organizations is a shared characteristic of several guidelines (Union of Ontario Indians 2003, Métis National Council 2007, Northern Sechwepemc te Quelmucw Leadership 2009).

UN Declaration On Rights of Indigenous Peoples

Although declarations lack legal status there is an expectation that their provisions will be followed by signatories (Posey and Dutfield 1996). The UN Declaration on Rights of Indigenous Peoples (2007) includes a number of articles relevant to the consideration of interactions between indigenous groups and dominant states with respect to the present study. For example, Article 37 mentions that:

> *Indigenous peoples have the right to the recognition, observance and enforcement of treaties, agreements and other constructive arrangements concluded with State or their successors and to have States honour and respect such treaties, agreements and other constructive arrangements.*

Further, the development of state legislation having a direct bearing on the development and protection of traditional territories requires a consultative process with regards to the impacted people (UN Declaration on Rights of Indigenous Peoples 2007, Article 19):

> *States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them*

Lastly, the way that indigenous people are to participate in the decision-making process is included in the declaration (UN Declaration on Rights of Indigenous Peoples 2007, Articles 18 and 32(2)):

> *18. Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedure, as well as to maintain and develop their own indigenous decision-making institutions.*

32(2). States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

In summary, the UN Declaration on Rights of Indigenous Peoples (2007) emphasizes greater authority and control related to development, as Indigenous groups deal with social, environmental and economic challenges (Eversole 2010).

2.3 The Far North Act (2010)

In June 2009, the government of Ontario released Bill 191 for first reading. In the summer of 2009, following 1st reading of Bill 191, a series of Senate Committee hearings were held to provide an opportunity for the public and stakeholders to comment on the bill (see Table 1 for a detailed description of the process). The Far North Act (2010) applies to areas in Ontario currently regulated as public lands by the Federal and Provincial governments and excludes reserve lands[13] (Far North Act 2010, 3; Figure 3).

Four expected outcomes of the Far North Act (2010 s. 5.(1)(2)(3)(4)) are as follows:

1. *A significant role for First Nations in the planning.*

2. The protection of areas of cultural value in the Far North and the protection of ecological systems in the Far North by including 225,000 square kilometres of the Far North in an interconnected network of protected areas designated in community based land use plans.

3. The maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North.

4. Enabling sustainable economic development that benefits the First Nations.

Table 1. Chronology of events by type, location and date related to the introduction, amendment, debate, and assent of the Far North Act (2010).

Activity	Location	Date
Bill 191- 1st Reading	Ontario Legislative Assembly, Toronto, Ontario	June, 2, 2009[1]
Standing Committee Hearings	Sioux Lookout, Ontario	August 6, 2009[1]
Standing Committee Hearings	Thunder Bay, Ontario	August, 11, 2009[1]
Standing Committee Hearings	Chapleau, Ontario	August 12, 2009[1]
Standing Committee Hearings	Timmins, Ontario	August 13, 2009[1]
Clause-by-clause Reading	Ontario Legislative Assembly, Toronto, Ontario	October 19, 2009[1]
Bill 191 Official Debate	Ontario Legislative Assembly, Toronto, Ontario	May 18, 19, 2010[1]
Bill 191 – Time Allocation	Ontario Legislative Assembly, Toronto, Ontario	June 1, 2010[1]
Bill 191- 2nd Reading	Ontario Legislative Assembly, Toronto, Ontario	June, 3, 2010[1]
Standing Committee Hearings	Slate Falls First Nation, Ontario	Week of June 14, 2010 – CANCELLED[2]
Standing Committee Hearings	Webequie First Nation, Ontario	Week of June 14, 2010 – CANCELLED[2]
Standing Committee Hearings	Sandy Lake First Nation, Ontario	Week of June 14, 2010 – CANCELLED[2]

Standing Committee Hearings	Attawapiskat First Nation, Ontario	Week of June 14, 2010 – CANCELLED[2]
Standing Committee Hearings	Moosonee, Ontario (Moosonee is on the mainland, while, Moose Factory Island, the home of Moose Cree First Nation, is in the Moose River across from Moosonee)	Week of June 14, 2010 - CANCELLED[2]
Clause-by-Clause Reading	Ontario Legislative Assembly, Toronto, Ontario	September 13-15, 2010[1]
Bill 191 Official Debate	Ontario Legislative Assembly, Toronto, Ontario	September 22, 2010[1]
Bill 191 3rd Reading	Ontario Legislative Assembly, Toronto, Ontario	September 23, 2010
Royal Assent	Ontario Legislative Assembly, Toronto, Ontario	October 25, 2010

1. Ontario Legilsative Assembly , n.d
2. Legislative Assembly of Ontario, September 13, 2010 p.G-99

The Far North Land Use Plan[ning] process is designed to include a terms of reference to be prepared by each community with an interest in participating (Far North Act 2010 s. 9(1)). Once approved by the community through a Band Council Resolution[14] (Far North Act 2010 s. 9(14)(b)), the Minister of Natural Resources approves and designates a planning area (Far North Act 2010 s. 9.(4)(a)(b)(c)). Each plan must include a determination of the land-use designations, approved activities within each designation, and at least one protected area throughout the planning area. The designation of the protected area(s) must also include a description of the type of protected area as "prescribed" in regulations (Far North Act 2010 s. 9(9)(c)(d)). The Ontario Minister of Natural Resources also examines the plan to ensure that the four objectives of the Act (listed above) have been included. Once satisfied the Minister approves the plan (Far North Act 2010 s.9 (16)).

2.4 Methods

Primary data analysis was employed. Primary sources included the following: verbatim transcripts of the Standing Committee on General Government; and the verbatim transcripts of the Ontario Legislative debate on the subject of the Far North Act (2010) in the weeks prior to 3rd reading and ultimately Royal Assent of the Act. Secondary data in the form of documents, reports, media releases, correspondence, Power Point presentations, and policy documents created by the Nishnawbe Aski Nation (NAN), Muskegowuk Tribal Council, and its member communities were also analyzed to represent the ongoing discourse among participants.

Ontario's "Far North" area is represented politically by the NAN, which represents 49 communities that fall under Treaties 5 and 9. The NAN membership includes a number of independent bands, the Independent First Nations Alliance, Keewaytinook Okimakanak, Mattawa First Nations, Shibogama First Nation Council, Wabun Tribal Council, Windigo First Nations Council, and Muskegowuk Tribal Council (NAN 2010a). It should be noted that we limited our analyses to First Nations signatories of Treaty No. 9 (e.g., Mushkegowuk Tribal Council, also known as Mushkegowuk Council), as Treaty No. 9 is the only numbered treaty that had a provincial government (Ontario) as a signatory, which is of particular importance in this case, as the Province of Ontario passed the Far North Act (2010).

The framework we used to guide our evaluation of the Far North Act (2010) consultative process - to determine whether this piece of legislation marked a new beginning or the reinforcement of an unacceptable relationship in northern Ontario, Canada – were taken

directly from The James Bay Treaty - Treaty No. 9 (1905-1906) and from scholarly interpretations of the Treaty No. 9 consultative and negotiation process (Table 2). Data were coded and analyzed based on a deductive approach by the primary author, and validated by one other author. Data coding and analysis were performed manually.

Table 2. The framework derived from Treaty No. 9 (and scholarly interpretations of the process) used to inform our evaluation, on whether the governmental consultative process with First Nations of the Mushkegowuk Territory, has improved over the 100 years since the signing of Treaty No. 9 in 1905-1906.

1.	**Community Consultation and Accommodation** P 21 "Signed at [location] on the [date], by His Majesty's commissioners and the chiefs and headmen in the presence of the undersigned witnesses, after having been first interpreted and explained." (The James Bay Treaty – Treaty No. 9 1905-1906, 21) The Treaty No. 9 Commissioners made "community" visits, but in reality, these excursions were to Hudson's Bay Company trading posts. As the text of Treaty No. 9 was in the English language, and the Indian groups could not read or write English, there have been questions raised whether the terms of the treaty were actually or accurately translated.
2.	**Fixed Terms of Agreement** "THIS AGREEMENT made on the third day of July, in the year of Our Lord, 1905, between…the government of Canada of the one part…[and] the government of Ontario on the other part…The government of the province of Ontario hereby gives consent and upon the following conditions concurs in the terms proposed to be entered into, made and agreed by the said treaty…And the government of Ontario, subject to the conditions, aforesaid, further concurs…(Agreement Between the Dominion of Canada and the Province of Ontario July 3, 1905, 25-27) The terms of Treaty No. 9 were fixed prior to negotiations with the Indian groups residing in the area covered in Treaty No. 9, so there was no chance for true consultation and negotiation, as there was nothing to negotiate.
3.	**Taken up Clause** "And His Majesty the King hereby agrees with the said Indians 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 the 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." (The James Bay Treaty – Treaty No. 9 1905-1906, 20) The terms of Treaty No. 9 were not immutable in that land could be "taken up" for the greater good of Canada, but treaty rights became entrenched when the Constitution of Canada was repatriated in 1982[9].

2.5 Results and Discussion

This section is divided into the three themes identified in the framework: community consultation and accommodation, fixed terms of the agreement, and taken up clause. The relevant information to consider and excerpts from Senate Committee Hearings that discuss the theme is presented. Finally, the information is analyzed compared to existing domestic and international standards.

Community Consultation and Accommodation

In 2007, the Province of Ontario and NAN signed a Letter of Political Agreement establishing "Oski-Machiitawin" (or New Beginnings, formerly known as "The Northern Table") to create a forum to discuss a number of issues flowing from development pressure within Treaties No. 5 and 9 traditional lands (NAN 2010b). The mandate of the group was to discuss the implementation of the Provincial Parks and Conservation Reserves Act in the territory, create an Ontario Ministry of Natural Resources' resource development protocol, and to discuss the approach to land-use planning that would integrate traditional and conventional activities in the region (Ontario Ministry of Aboriginal Affairs 2007). The overarching goal of the forum from a First Nations' perspective was to initiate a bilateral consultative process between the Province of Ontario and NAN with respect to First Nations traditional land, and to discuss and negotiate development and protection protocol (NAN 2010b).

Activities leading towards community-based land use planning were also concurrently taking place within NAN's member tribal councils. For example, in 2008, in response to growing development pressure, the Mushkegowuk Tribal Council passed three Band Council Resolutions[15]: Mining Activities in Muskegowuk First Nations Homeland (Mushkegowuk Council 2008a); Resource Development Activities in Muskegowuk First Nations (Mushkegowuk Council 2008b), and Mapping and Land-Use Planning (Mushkegowuk Council 2008c). The resolutions outlined criteria for future development in the Mushkegowuk Territory: First Nation consent was required; a land-use plan needed to be completed and approved in the area under consideration; and all necessary regulatory requirements had to be fulfilled and agreed upon by each party. In addition, current and future projects would require the development of impact benefit agreements[16]. The Mushkegowuk Council in outlining this strategic plan also requested that the Province of Ontario fund both mapping and the development of community-based land-use plans.

Thus, the NAN chiefs felt betrayed by the Province of Ontario, and viewed the 2009 announcement of Bill 191 to have occurred despite the contributions of recommendations and concerns voiced through the forum provided by Oski-Machiitawin (NAN, July 22, 2009).

> *NAN has been at the table for two years working on a framework agreement that MNR [Ontario Ministry of Natural Resources] claimed would guide the legislation. We didn't agree on the [the exact]*

> *framework due to lack of time, and when we saw the legislation, it was clearly not guided by the framework [issues discussed].* (NAN, Grand Chief Stan Beardy, Legislative Assembly of Ontario, August 12, 2009, G-952)

In this climate of distrust, First Nations of the region demanded that as Bill 191 moved forward, it must include adequate community consultation (NAN, June 3, 2009). In response, the Government of Ontario described the greater opportunity for consultation that would occur throughout the development of this legislation, beginning with Standing Committee hearings following 1st reading:

> *[A]n unusual but not totally unique process, but we usually as a legislature do not conduct public hearings after first reading.* (Michael Brown, MPP Algoma-Manitoulin**,** Legislative Assembly of Ontario, August 12, 2009, 960)

Mr. Brown further added:

> *[T]his consultation is the consultation before the consultation, in other words, because after second reading it is common practice to have a set of public hearings on Bill 191. We understand the important ramifications of this bill and we want to, as much as possible, get that right.* (Legislative Assembly of Ontario, August 12, 2009, G-936)

The NAN delegation appeared before the Standing Committee on August 12, 2009 (Table 2), under protest, because the hearing date fell during the NAN elections which occur every three years. Frank Beardy, Grand Chief of NAN, expressed on behalf of NAN leadership a hope that this scheduling conflict was a result of a clerical error, rather than an attempt to disrespect or undermine the First Nation political process (Legislative Assembly of Ontario, August 12, 2009, 952).

The NAN delegation used the opportunity to outline the expected approach to consultation in the region:

> *[F]or the government to meet their legal obligation to consult with our people, they have to consult with our individual communities in the north. That is the position that we've come forward with, and we expect that consultation to take place with our individual communities.* (Grand Chief Frank Beardy of NAN, Legislative Assembly of Ontario, August 12, 2009, G-957)

> *Ontario has attempted to have discussions by bringing people together in urban centres [see Figure 3] thereby calling it consultation…We feel we have not been fully consulted, as we have put forward to the Premier [of Ontario] and to the various ministers right from day one – and that is for discussions to take place right in the community.* (Grand Chief Stan

Louttit of Mushkegowuk Tribal Council, Legislative Assembly of Ontario, August 13, 2009, G-985)

Following the first clause-by-clause reading of Bill 191, the bill was then debated on May 18-19, 2010, in the Ontario Legislative Assembly (Table 2). The Government of Ontario's position remained the same, as it had been following the introduction of the bill:

> *The government is working hard on this bill, as has been stated this afternoon during debate. There's been a lot of consultation. My understanding is that this bill went out right after first reading, which is rather unique for this place, and will no doubt go out for more consultation after second reading. I think that's only helpful to all concerned: the opposition, the government and especially those people who would be affected by this bill…First Nations people need to be consulted, and will be consulted and listened to.* (Pat Hoy, MPP Chatam-Kent-Essex, Legislative Assembly of Ontario, May 19, 2010, 1703)

On June 1, 2010, the Legislative Assembly of Ontario passed a motion allocating four days in the week of June 14, 2010, for hearings to be carried out in Slate Falls First Nation, Webequie First Nation, Sandy Lake First Nation, Attawapiskat First Nation and Moosonee (across from Moose Cree First Nation), and scheduled the final clause-by-clause reading to be held September 13 and 15th, 2010 (Table 2). These community

consultations were scheduled despite being informed that the Mushkegowuk and Mattawa Tribal Councils would be holding their general assembly in Chapleau Ontario, during that period of time (Legislative Assembly of Ontario, June 1, 2010, 1834). Alternately, the First Nation leadership suggested that a day before or a day after the NAN General Assembly - scheduled for June 8 and 9 in Sandy Lake, Ontario - would be a more appropriate date for community consultation. This suggestion was not considered in discussions in the public record (Legislative Assembly of Ontario, June 1, 2010, 1835).

Bill 191 passed second reading on June 3, 2010 (Table 2). The community-based meetings in the First Nations (and Moosonee) of the Far North region were not rescheduled, but cancelled (Table 2). Thus, on September 23, 2010, the bill was advanced for third and final reading without community-based consultation in the First Nations that were to be impacted by the legislation. The government outlined its position following the failure to undertake formal community-based consultation as follows:

> *After second reading of the bill, plans were made to travel again, only this time to Slate Falls [First Nation], Sandy Lake [First Nation], Attawapiskat [First Nation], Moosonee [community across from Moose Cree First nation] and Webequie [First Nation]. Unfortunately, we learned shortly after the House rose that these First Nations were not able to host standing committee hearings on the dates set out by the Legislature. At first, I was disappointed by the news, but soon I saw this setback as a golden opportunity to personally visit more communities in*

> *the Far North and to engage community leaders on their own terms [no other communities were visited; Table 2], without time constraints, to carry out these in-depth discussions.* (Ms. Jeffrey, Ontario Minister of Natural Resources, Legislative Assembly of Ontario, September 22, 2010, 2214)

The process outlined here shows a willingness by the Province of Ontario to undertake consultation as long as it follows an approach that is designed and carried out by the Province. The Province of Ontario clearly considers the opportunity to participate in public hearings, as representing adequate consultation. In fact, all venues for consultation were outside of the region to be affected (Figure 3). It should be noted that even the Treaty No. 9 commissioners made "community"[17] visits and they had to travel by canoe to the communities (Scott et al. 1905).

In the limited opportunity provided for First Nations to participate (public hearings) in the consultative process for Bill 191, the expected form that effective consultation should take was clearly communicated. First, that consultation would occur in communities that would be affected; and second, that adequate time be provided to ensure that community members could be adequately informed and prepared to participate. These requests are consistent with the type of requirements that have been outlined in consultation guidelines across Canada (Union of Ontario Indians, 2003; Métis National Council, 2007; Northern Secwepemc te Quelmucw Leadership 2009). The unwillingness to allow additional time to accommodate adequate consultation has meant that "free, prior, and

informed consent before adopting and implementing legislation or administrative measures…"(UN Declaration on Rights of Indigenous Peoples 2007, Article 19) has not been carried out in this process, contrary to the UN Declaration on Rights of Indigenous Peoples (2007).

2.6 Fixed Terms of Agreement

> *My team listened to First Nation leaders, elders and youths from every corner of the Far North. They spoke of their fears and the dreams they had for their communities, and we used these discussions to guide the way that we crafted the amendments to this bill.*
>
> *I'm proud to say that as a result of this outreach with First Nation communities, resource development stakeholders and environmental organizations, our government presented 43 amendments for the committee's consideration. These amendments, I believe, make Bill 191 a stronger, more inclusive piece of legislation.* (Ms. Jeffrey, Minister of Natural Resources, Legislative Assembly of Ontario, September 22, 2010, 2214)

Despite great efforts by First Nations members to contribute throughout the consultative process, and contrary to the Minister of Natural Resources' assertion above, inclusion of recommendations provided by First Nations groups is difficult to identify in the Far

North Act (2010). To the point, there was concern voiced with the way First Nations' recommendations were treated:

> *At the end of the day, if the acts go through, will things that have been most commonly heard and the various positions put forward by people, not only us as leaders- will it be heard and will it change things? Or is there, as we feel a lot of times, some preconceived notion by Ontario that in fact these things are already there; they're drafted by your technicians and you're going through this process for public perception …So, I have concerns…if, in fact, we are heard and there are legitimate changes based on our cries for help and input, then we will be satisfied, but right now I have questions.* (Chief Stan Louttit of Muskegowuk Tribal Council, Legislative Assembly of Ontario, August 13, 2009, G-985)

Nevertheless, final amendments to Bill 191 included the addition of "joint bodies"; this amendment at first glance appears to reflect an effort to incorporate greater participation of First Nation representatives into the process at the regional level (Far North Act 2010. s.7.1(a)(b)):

> *Any First Nation having one or more reserves in the Far North and any First Nation with whom the Minister has agreed to work to prepare terms of reference under subsection 9(2) may indicate an interest to the Minister to initiate discussions with respect to establishing a joint body to,*

(a) advise on the development, implementation and coordination of land use planning in the Far North in accordance with this Act; and

(b) perform the other advisory functions to which the [Ontario] Minister [of Natural Resources] and the First Nations participate in the discussion agree.

The "joint body" as described can advance recommendations to the Minister of Natural Resources regarding land use strategies and policy statements, and introduces a funding framework to support land use planning and processes to approach dispute resolution within the planning process (Far North Act 2010 s. 7(4)). The "joint body" is to be composed of equal First Nation and Government of Ontario representation. This amendment aligns well with the requirements of the UN Declaration on Rights of Indigenous Peoples (2007, Article 18) that outlines the "right to participate in decision-making in matters which would affect them, through representatives chosen by themselves in accordance with their own procedure…" However, the Government of Ontario retains ultimate decision-making powers related to amendments, policy documents, and in particular, exemption orders (see the Taken up Clause section). The Government of Ontario's ability to override community-based land use plans to permit a variety of development is contrary to the UN Declaration on Rights of Indigenous Peoples (2007). Article 32 (2) stipulates "that states shall consult and cooperate in good faith… through their own representative institutions in order to obtain their free, prior, and informed consent…particularly in connection with development, utilization or

exploitation of minerals, water or other resources" (UN Declaration on Rights of Indigenous Peoples 2007, Article 32(2)).

Following the assent of the Far North Act (2010), the feelings relating to the degree that recommendations were incorporated into the legislation were expressed in a statement by the Deputy Grand Chief of NAN, Mike Metatawabin:

> *The passing of Bill 191 today indeed shows how little regard the McGuinty Government [Government of Ontario] gives to the concerns of First Nations and other Northern Ontarians when it comes to decision-making. It is a disappointing day for all of us who spent tireless hours opposing Bill 191 as our opposition was obviously ignored. As we have stated time and time again, NAN First Nations and Tribal Councils do not and will not recognize this legislation on our homelands. We will continue to uphold our Aboriginal and Treaty rights and jurisdiction over our land. The real fight is just beginning.* (NAN, September 23, 2010)

In summary, the Far North Act (2010) was not informed by First Nations recommendations, and even though "joint bodies" were added as an amendment to the act, the "joint body" could be neutered by ministerial power. In present day Ontario, Canada, it would be politically unwise to push through a bill with no amendments, especially a bill as controversial as Bill 191; thus, it was expected that amendments would be made. Taking into account that amendments were made to Bill 191, any amendments made was

merely lip service, in that the Government of Ontario could push through any type of development. Although the terms of Bill 191 were not fixed - as with the terms of Treaty No. 9 – from one viewpoint, the terms need not be fixed in the Far North Act (2010), as the legislation accorded power to the Government of Ontario to do as it sees fits, for the greater good of Ontarians.

2.7 Taken Up Clause

As briefly mentioned above, the Far North Act (2010) gives ultimate power to the Government of Ontario to describe, amend and overrule the planning process through exemption orders, and final decisions related to land use strategies:

> *Exemption Orders (12 (4)):*
> *A person may undertake a development described in subsection (1) (opening a mine, commercial timber harvest, oil and gas exploration, construction expansion of electrical generation facilities, associated infrastructure, all weather transportation infrastructure, other infrastructure, or any other activity that is prescribed) if the Lieutenant Governor [of Ontario] in Council, after taking into account the objectives set out in section 5, by order determines that the development is in the social and economic interests of Ontario.*

The similarity between the taken up clause of Treaty No. 9 (Table 1) and Exemption Orders of the Far North Act (2010) is undeniable: both agreements allow the government

("the government of the country" in the case of Treaty No. 9 [The James Bay Treaty – Treaty No. 9 1905-1906, 20], and "the Lieutenant Governor in Council" [Far North Act 2010, Exemption Orders (12(4))]) to override terms of the document in question, when in the best interest of the general public (i.e., non-Native people). Although Treaty No. 9 is not as explicit as the Exemption Orders (12(4)) of the Far North Act (2010), the Government of Canada's position on this issue was clearly articulated by Frank Oliver, Minister of the Interior and Superintendent General of Indian Affairs, when queried about the integrity of Indian lands:

> *When pressed in March 1906 by Opposition leader Robert Borden on the question of large 'unused' reserves [i.e., treaty lands] which were hindering development in the prairie provinces. Oliver responded sympathetically. He conceded that, while Indians rights ought to be protected, they should not be allowed to interfere with those of whites – 'and if it becomes a question between the Indians and the whites, the interests of the whites will have to be provided for.'* (Titley 1986, 20-21):

A point that has been missed in all the discussions of the Far North Act (2010) is that only "the government of the country" (i.e., the Government of Canada not the Government of Ontario[18]) has the authority to interfere with "hunting, trapping and fishing" with respect development and the "taken up" clause of Treaty No. 9 (The James Bay Treaty – Treaty No. 9 1905-1906, 20; Table 1). Moreover,

> *Section 35(1) of the Constitution Act, 1982, recognizes and affirms existing treaty rights of the Aboriginal peoples living in the area covered by Treaty 9. According to the Sparrow decision, such rights can be infringed only by legislative enactments and regulations which meet certain justificatory standards. Accordingly, governments and third parties cannot undertake economic development in the area which would infringe treaty rights without specific legislative authority to do so. Such legislation would have to be federal due to the fact that treaty rights are shielded from provincial legislation by section 88 of the Indian Act. Moreover, such legislative initiatives would only be valid if it passed the justifactory test established by the Court in Sparrow and Badger… this test would have to prove that the particular proposal for economic development at issue is a valid legislative objective, and that there are no other viable alternatives for meeting that objective without infringing treaty rights. If other alternatives exist, the party in question must pursue them first so that treaty rights are given the priority to which they are entitled under the Constitution.* (Macklem 1997, 132)

Nevertheless, the Government of Ontario's position on Bill 191, prior to its passing, narrowly defined their intent to include only the activities directly associated with community-based land use planning:

> *I would like to take some time today to set the record straight about what Bill 191 will and will not do. First and foremost, Bill 191 is about land*

> *use planning in the Far North. The subject matter of the bill is not about First Nations' jurisdiction over the land, nor does the bill address treaty interpretation. These issues are substantial in nature and are clearly part of a much larger conversation outside the scope of this bill and would more properly require the involvement of the federal government.*
> Minister of Natural Resources, Linda Jeffrey (Legislative Assembly of Ontario, September 22 2010, 2215)

Clearly, Minister Jeffrey is erroneous in her assessment - as the Far North Act (2010) will impact Treaty No. 9 traditional pursuits – hunting, trapping and fishing (among other things) are a constitutionally entrenched right. These issues should have been addressed concurrently, not sequentially, as any development that could impact treaty rights should have been addressed prior to the passing of Bill 191.

2.8 Treaty Context Perspective

The discourse that surrounds First Nations' opposition to the Far North Act (2010) relates to its potential impacts on treaty and indigenous rights, and a lack of acknowledgement of jurisdictional responsibility related to traditional territories. The Far North Act (2010) includes a clause that provides for a "joint planning process" between the province and First Nations. The objective is to carry out community-based land use planning based on "environmental, social and economic objectives for the people of Ontario" and ensure that it "is done in a manner consistent with the recognition and affirmation of existing

aboriginal and treaty rights in Section 35 of the Constitution Act, 1982, including the duty to consult" (Far North Act 2010 s.1(a),(b),(c)).

In contrast to the Government of Ontario's official position, as voiced by Minster Jeffrey in the Taken up Clause section, First Nation representatives believe that historical and contemporary policy documents should be used to inform the process. In the view of NAN leadership, historic documents (treaties) and the UN Declaration on the Rights of Indigenous People (2007) form the basis of consideration related to Bill 191:

> *The reality is, many of us are actually coming at this from a totally different perspective—it's like we're speaking two different languages—on the indigenous viewpoint on development and how we should be seeing the future. There is a great opportunity for you [Government of Ontario] to actually lead the world and show that you understand that by becoming familiar with that piece of legislation [UN Declaration on the Rights of Indigenous People], by indicating that you're willing to recognize that there are, in fact, human rights that are being violated here and you are concerned about that. It's a dialogue and principle that I'm sure you probably haven't even heard before this committee... the key point is, we have that right to choose. In the course of developing this document, the Far North Act, I've seen no initiative to actually be engaged with our communities, to say, "What is it that you're interested in?" I see this more as an imposition, a continuation of a higher power at work, if you will,*

> *telling us that this is the way it has to be. "Never mind your human rights, never mind your historical rights; we're not interested in that": That's what you're saying by producing this kind of document and expecting us to participate, meaning that you haven't actually spent any time to even develop an approach that achieves free, prior and informed consent.*
> (Chief Randy Kapashesit, MoCreebec Council, August 12, 2009, 957)

Treaties form the cornerstone of the relationship between First Nations and the government, especially in the case of Treaty No. 9, where both the Province and the Federal governments were signatories of the agreement. An exercise that outlines the way traditional territories will be developed and preserved requires a consideration of the treaties, policy documents and case law[19] that has defined and characterized Aboriginal rights. However, in this case, the Province of Ontario presents a position that considers historic agreements, like treaties, to be outside of the scope of this exercise. This position is at odds with the Canadian Constitution Act (1982) and the UN Declaration on the Rights of Indigenous People (UN Declaration on the Rights of Indigenous People 2007, Article 37). By failing to consider the interpretation of the treaty, the Province of Ontario cannot have effectively ensured that the treaties have been adhered to nor the rights of Aboriginal peoples respected.

2.9 Conclusions

The purpose of this paper was to examine the development of this new piece of legislation based on the "negotiation" that had taken place as part of Treaty #9 – the policy that established the relationship with the province regarding land – to determine if the process or content would serve to change that relationship in any way. Contemporary examples of consultative standards are used to set this legislation in a broader context – domestically or internationally – to illustrate the direction that these processes are taking or expected to take. This legislation provides an example of policy development and the direct interaction between FN and the Provincial government.

The lack of adequate consultation with First Nations people with respect to the Far North Act (2010) has contributed to ongoing opposition to the legislation as a whole. The expected form of consultation described by First Nations' representatives throughout the consultative process represents a minimum standard when compared to national and international protocols, and yet the Province of Ontario failed to meet that standard. The requirements to consult is further limited, within the legislation, through the exemption order that provides the Government of Ontario the power to override community-based land use plans and permit development with no mention of the consultation that would typically be required.

According to the Government of Ontario, the creation of the Far North Act (2010) was to mark the beginning of a new and improved relationship with First Nations of northern Ontario. The passing of this piece of legislation was not a new beginning, but rather the continuation of an unacceptable relationship. Even though more than 100 years have

passed since Treaty No. 9 (1905-1906) was signed, there has been little improvement in the relationship between the Government of Ontario and the First Nations of northern Ontario. The similarities between the Treaty No. 9 (1905-1906) and the Far North Act (2010) consultative and negotiation process is striking: inadequate community consultation and accommodation; the terms of both agreements were essentially fixed (although some amendments were made to the Far North Act (2010)); and clauses were built into both agreements whereby First Nations rights to a traditional lifestyle (e.g., hunting and fishing) could be compromised for the greater good of Canadians, as a whole.

Indeed, the frustration of First Nations leaders with the consultation and negotiation process is understandable. Grand Chief Stan Beardy of NAN clearly indicated the position of his people on the then proposed Far North legislation during the Province of Ontario's Standing Committee meeting on Bill 191:

> *As it is with this committee's process, so it is with these pieces of legislation-a fiasco, an utter failure, an opportunity lost, a promise broken. The plan from the start, as directed by the Premier [leader of the Government of Ontario], was that this would be a true partnership, a new relationship, creating a land-use planning law that would put First Nations in the driver's seat on a government-to-government basis. We keep repeating this context to you because it is fundamentally important. It is the key to everything that has gone wrong…what did we get instead? The same old thing, the old*

relationship; not a partnership but a wardship (Legislative Assembly of Ontario, 12 Aug. 2009, 952).

Adding further, Grand Chief Louttitt (2010b, 2) of Mushkegowuk Tribal Council states:

At every Omushkego Mamohitowin [gathering], in recent times and as well as at Chiefs meetings, the matter of resource development in our territories is almost always a topic of discussion…Bill 191, the Far North Act…Unless, things change between the period of writing of this report and this week, we will have a law that basically will have government largely control OUR lands and will largely dictate the manner in which our territory is developed. As well, there is very little in the Act that will respect the Omuhshkego [Cree] and our unique status as treaty people. At a recent meeting of NAN Chiefs, the Chiefs were united in their opposition to this bill…I say we develop our own laws, we stand by them, we stand in unity and we ignore this law and we do things our way. Does this sound impossible? I don't think so. It will mean strategizing, using our Treaty as the tool to create the vision and implementing in unity, our collective rights in our territories. Nation building, creating Laws, being United, speaking with one voice, helping one another; these are all elements of a strong Cree Nation.

Unfortunately, when the consultation and negotiation process fails, the only recourse is litigation (Lawrence and Macklem 2000) and/or civil disobedience. This outcome has far reaching implications on potential social and economic outcomes for communities,

bureaucrats, and developers alike (Prno and Slocombe, 2012; First People's Worldwide, 2013; Davis and Franks, 2014)

Notes

1. Ontario's Far North region covers ~43% of the province and is home to a number of First Nations (Office of the Premier 2008).

2 Historically, the term "Indian" was inappropriately used to designate the first people inhabiting North America, as European explorers first believed that they had landed in India. In Canada, First Nations or Native is now used to designate people once designated "Indian". The term Indian is used throughout the paper, to designate First Nations groups when appropriate (e.g., when the term was used in historical documents).

3 Petitions made by Indian leaders in northern Ontario did indicate that some Indian groups desired to enter into treaty with the Government of Canada to protect their traditional way of life (i.e., living off the land), as railway construction (and other development activities), as well as an increase in non-Indian hunting and trapping negatively impacted their way of life (Long 1978a, b; Macklem 1997). However, the main reason in the words of the commissioners of Treaty No. 9: "Increasing settlement, activity in mining and railway construction in that large section of the province of Ontario north of the height of land and south of the Albany river rendered it advisable to extinguish the Indian title." (Scott et al 1905, 3)

4 The Agreement Between the Dominion of Canada and the Province of Ontario (July 3, 1905, 26) set forth: "And whereas, by the agreement made the 16th day of April, 1894…entered into between the government of the Dominion of Canada… and the government of the province of Ontario….in pursuance of the statute[s] of Canada…[and] Ontario [both] passed [in 1891]…[similarly entitled] 'An Act for the settlement of certain questions between the governments of Canada and Ontario respecting Indian lands,' and by the sixth clause of the said agreement [of 1894] it is provided, 'That any future treaties with the Indians in respect of territory in Ontario to which they have not before the passing of the said statutes surrendered their claim aforesaid, shall be deemed to require the concurrence of the government of Ontario."

5 It should be noted that even when clergy acted as translators, such as, Adhesion to Treaty No. 9, 1929-1930, in Winisk (Cain and Awrey 1930), there is some evidence that "its [Adhesions to Treaty No. 9] meaning was not made clear or comprehended…" (Bird 2005, Note 1).

6 Equalization payments are part of a Government of Canada transfer payment program that compensates poorer ("have-not") provinces "for their relatively weak tax bases or resource endowments, equalization works to ensure that all Canadians have access to a

reasonably similar level of provincial government services at reasonably similar levels of taxation regardless of where in the country they live." (Holden 2008, 1). Equalization payments are entirely financed from federal government revenues (Holden 2008) and given unconditionally, to be spent according to provincial priorities (Department of Finance Canada 2011).

7 The term Aboriginal is used in Canada to refer to First Nations (also known as Indians), Inuit, and Métis groups. The terms Indigenous will also be used throughout this article, and refers to all groups who are original to an area and currently live within a dominant state.

8 In 1982, the United Nations (UN) Working Group on Indigenous Populations was established and mandated to create a minimum standard of rights to contribute to the improvement with respect to issues (e.g., discrimination, exploitation, marginalization and exploitation) impacting Indigenous people worldwide (UN 2006, 2007). The first draft of the Declaration on the Rights of Indigenous Peoples was introduced in 1993 (UN 2007). After extensive negotiation and revision the UN Declaration on Rights of Indigenous Peoples was adopted by the General Assembly on 13 September 2007. Initially, Canada, the United States, Australia and New Zealand opposed the declaration based on concerns with several articles related to indigenous rights and governmental obligations (INAC 2010). On 12 November 2010, Canada reversed its position and endorsed this non-binding agreement (CBC 2010). Although the original declaration hadn't been revised to address existing concerns, the Canadian government identified flexibility in the way Canada interpreted the agreement to better align with its obligations under the Canadian Constitution (INAC 2009).

9 The Constitution of Canada was repatriated in 1982, so that the British Crown would no longer hold legal power to amend the Constitution of Canada (Feldstein 2001). In addition, the repatriation of the Constitution of Canada, entrenched Indian treaty rights, in that "Section 35(1) [of the Constitution of Canada] recognizes and affirms the treaty rights 'of the Aboriginal peoples,' not the treaty rights of the Crown. In other words, treaty rights of the Aboriginal peoples are constitutionalized, while the treaty rights of the Crown are not. The Sparrow decision held that because Aboriginal rights are constitutional, they take priority over other rights which are not constitutional." (Macklem 1997, 31)

10 The Union of Ontario Indians, incorporated in 1949, advocates for 40 First Nations throughout Ontario with a combined population of approximately 55,000 people (Union of Ontario Indians 2008).

11 Reserve lands were typically created during the treaty making process and were for exclusive use by Indian signatories. Indian Reserve lands are now known as First Nations, and are under the jurisdiction of the Government of Canada.

12 Band Council Resolutions are typically passed by a Band Council – the locally-elected First Nations' government – and are enforceable laws on the First Nation passing the resolution.

13. When Band Council Resolutions are made by Tribal Councils (regional First Nations organizations), the resolutions are not enforceable at the community level.

14 Impact benefit agreements are private agreements between proponents of resource development and affected groups. The impact benefit agreements offer monetary and/or other forms of compensation to affected groups in compensation for development. Essentially, impact benefit agreements are a form of mitigation - within the context of the environment impact assessment process in Canada – as not all effects of development can be mitigated, so a mechanism is needed to deal with these environmental effects.

15 The Treaty No. 9 commissioners had to visit each community – which was in reality a Hudson's Bay Company trading post as the First Nation people were nomadic at this time with no permanent community – to obtain signatures on the treaty document.

16 "The term 'the government' obviously refers to only one body. Had the words used been '*a* government' then the meaning would have been different. Furthermore, I have not been directed to any authority, historical or otherwise, where any Province after Confederation was referred to as a 'country'. In 1905 the only *Government of the country* was the federal Government and this distinction between federal and provincial authorities was well known to all (including the Indians). Indeed, the very fact that the federal Government was referred to in two other non-identical terms confirms my view that the drafters of the treaty were not very careful with the technical terms used throughout the document. If the makers of the treaty intended to delegate authority to regulate the Indian hunting and fishing rights to the Government of the Province of Ontario, they would have specifically said so. I note, for example, that in the Agreement between the provincial and federal Government (to which the treaty specifically referred), there was no hesitation in using the term 'the government of the province of Ontario' when referring to that body (Ontario District Court, March 9, 1978, (383) 435, Bernstein D.C.J., *Regina v Batisse*)

17 For example, Supreme Court of Canada (S.C.C.), 1990, *Demgamuukw v. British Columbia*, and Supreme Court of Canada (S.C.C.), 1997, Reason for Judgement in *Delgamuukw v. British Columbia.*

Chapter 3

The Streamlining of the Kabinakagami River Hydroelectric Project Environmental Assessment: What is the "duty to consult" with other impacted Aboriginal communities when the co-proponent of the project is an Aboriginal community?

3.0 Introduction

In Canada, the Aboriginal[1] population is 1,172,785 nationally with the largest number of Aboriginal people distributed between Ontario and the Prairie Provinces. In Ontario, 2% of the population is Aboriginal with the majority of people of Aboriginal decent concentrated in the north (Statistics Canada, 2006). Inequalities between Canada's Aboriginal and non-Aboriginal communities in incomes, educational outcomes, and various other social and economic determinants of health have been reported as substantial (Blackstock, 2011). Increasingly in Canada, to address these glaring inequalities, Aboriginal organizations have been advancing economic development as a road forward to enhance employment opportunities and establish greater control within their traditional territories; the end goal is self-determination and equity (Anderson, 1997). However, a dilemma exists in that economic development must be balanced with the deep connection Aboriginal people have with the environment and their stewardship responsibilities. The tension that exists in many Aboriginal communities between economic development and preservation of traditional lands for the continued practice of traditional activities is a significant concern. Thus, the "duty to consult" has been an important mechanism by which these concerns are identified and addressed (when possible) prior to development.

As Aboriginal rights and treaty rights[2] were affirmed in the repatriated Canadian Constitution Act (1982) section 35(1)[3] - and have since been the subject of many Canadian provincial and federal court cases[4] to establish the extent of these rights - the case law that has followed has served to define the meaning of these rights and is

embodied in the "duty to consult". As stated by Lawrence and Macklem (2000: 252), "The nature and scope of the duty of consultation will vary with the circumstances… the Crown, in most cases, [is required] to make good faith efforts to negotiate an agreement specifying rights of the parties when it seeks to engage in an action that adversely affects Aboriginal interests" or in other words the "duty to consult" is triggered when an action would infringe on Aboriginal and/or treaty rights. More specifically, thresholds conditions have been identified that are "based on a knowledge element, a contemplated Crown conduct element, and an adverse effect element. The knowledge element is met when the Crown has actual or constructive knowledge of a potential Aboriginal rights or title claim or of an Aboriginal claim under a treaty. The contemplated Crown conduct element is typically met when the Crown is considering an administrative decision of some kind. The adverse effect element is met when the decision could adversely affect Aboriginal title, an Aboriginal right, or a treaty right, with an implicit requirement that the adverse effect be genuine and not wholly speculative" (Newman, 2014:39). In addition, depending on the severity of infringement, the process can require consent from Aboriginal groups impacted by a proposed policy or project (NAN, 2007; Prno and Slocombe, 2012). While the doctrine is relevant in defining terms and conditions that inform consultative process, the approach is not limited to the legally prescribed elements and considers the development of the relationship moving forward. The expectation is that the consultative process be meaningful, transparent and reflect efforts to reduce the impact on Aboriginal and/or treaty rights with important emphasis on going beyond the legal doctrine towards reconciliation (Newman, 2014).

In addition, while the Crown is responsible for its own actions that may affect Aboriginal interests, they are also legally responsible for the actions of third parties if they affect Aboriginal interest (Newman, 2009). Procedural elements of the "duty to consult" can be delegated to third parties - common practice in environmental impact assessments/environmental assessments (EAs) - although ultimately the legal responsibility remains with the Crown. Additional concerns are related to what constitutes consultation; for instance, when First Nations community members engage in discussions with project proponents, they are often surprised when that "discussion" is reported as consultation in EA documents. To help avoid this type of outcome, clear-and-explicitly-defined roles in the consultation process need to be identified with the government carrying out the consultation process (Newman, 2009). However, this is not always the most cost-effective approach and proponents are apprehensive of anything that would make the cost of the project prohibitive (Newman, 2009). Thus, the "duty to consult" continues to be shaped by these types of issues - but what is clear - is that it is necessary that all parties show a willingness to participate in a meaningful way in the consultation activities. Lastly, it should be emphasized that the "duty to consult" framework has been built upon case law where historically, the proponent of the project has been a non-Aboriginal organization and the people to be consulted, Aboriginal.

In 2008, a partnership was created between Constance Lake First Nation and Northland Power Incorporated to develop the Kabinakagami River run-of-river hydroelectric project. The Kabinakagami River is located in northern Ontario, Canada (Figure 5). The river is a tributary of the Albany River, a major river system in the Mushkegowuk Territory

(Figure 4), and one of the livelihood aquatic highways of the Mushkegowuk Cree. The Mushkegowuk (or Omushkego) Cree that inhabit the coastal region of the western James Bay region of the Mushkegowuk Territory occupy four First Nations (i.e., Moose Factory, Fort Albany, Kashechewan, and Attawapiskat) and one town (Moosonee) (Figure 6). The project has proceeded through the feasibility, and Class EA process under the Ontario Environmental Assessment Act (2010). While the project has advanced through the required permitting stages, environmental report/screening, there have been significant challenges with respect to the consultative process (or lack thereof) employed with respect to First Nations communities downriver of the proposed hydroelectric development (i.e., closer to James Bay, on the Albany River), scoping inadequacies, and restrictive timelines. This case provides a unique situation in that Constance Lake First Nation is both the proponent of the new project and subject to the impacts of the development, which begs the question: What is the "duty to consult" with other potentially impacted Aboriginal communities when the proponent of a project is an Aboriginal community? The aim of this article is to describe the consultative process that was carried out in a case where a high level of consultation was expected and compare it to the expectations for consultation that are shared between the FN and Provincial government to highlight shortcomings in the process in practice.

The first part of this article will present the context of the case study (i.e., Canadian Environmental Regulation, Hydroelectric Development in Canada, and Historical Hydroelectric Development in the Mushkegowuk Territory). This section will be followed by a brief description of the study area, First Nation governance structure, and

consultation expectations; the Kabinakagami River Hydroelectric Project case study; research methods used including the evaluative framework, and primary and secondary data sources. Finally, the results and discussion section situates the analysis in the context of the legal and ethical "duty to consult" for this particular case study whereby a First Nation community is the co-proponent of the project. The paper concludes with recommendations on how to improve outcomes for future projects based on this case.

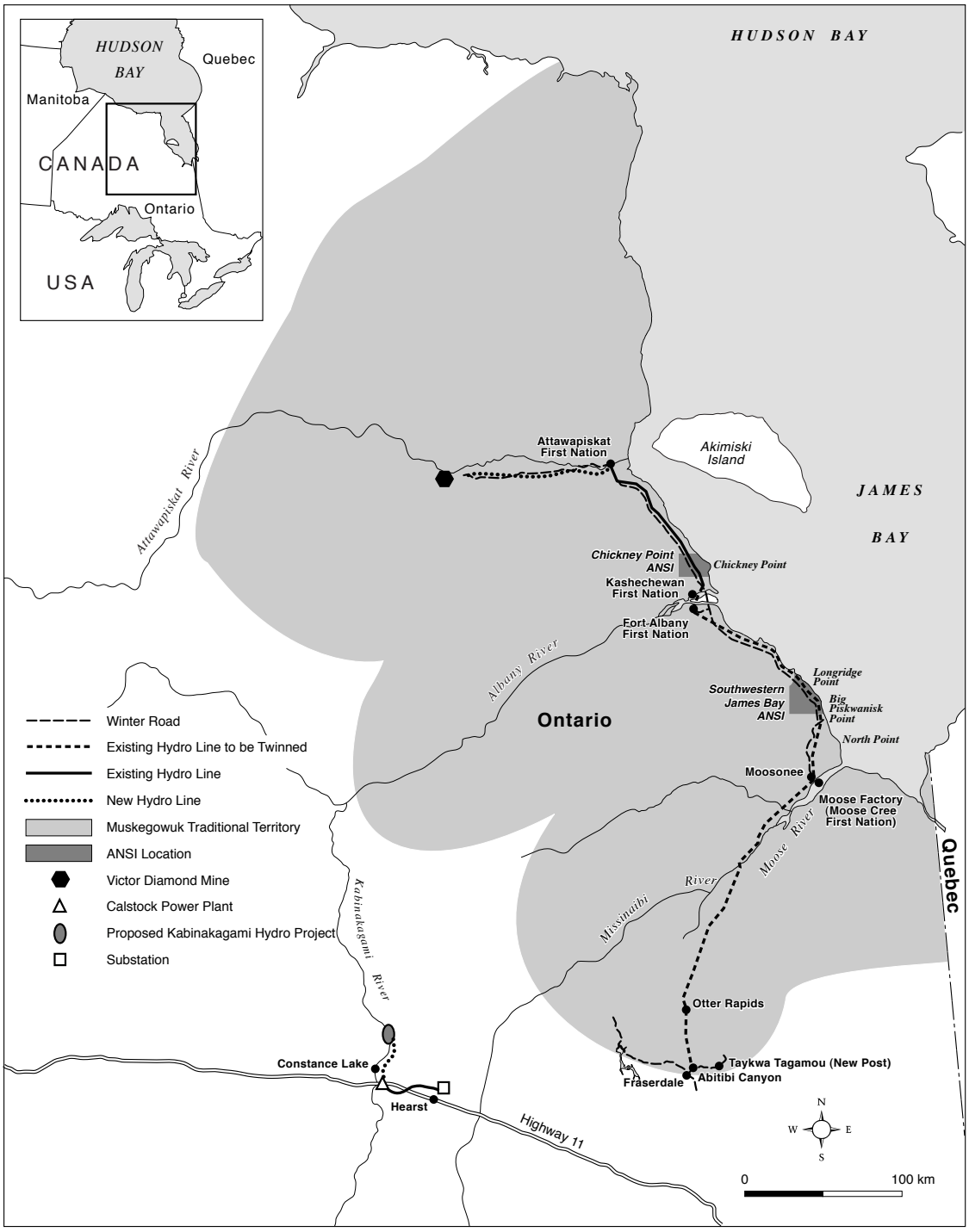

Figure 5. Shows the Mushkegowuk Traditional Territory, existing development and infrastructure (winter road, DeBeers Diamond Mine) as well as the proposed Kabinakagami River Hydro Project components.

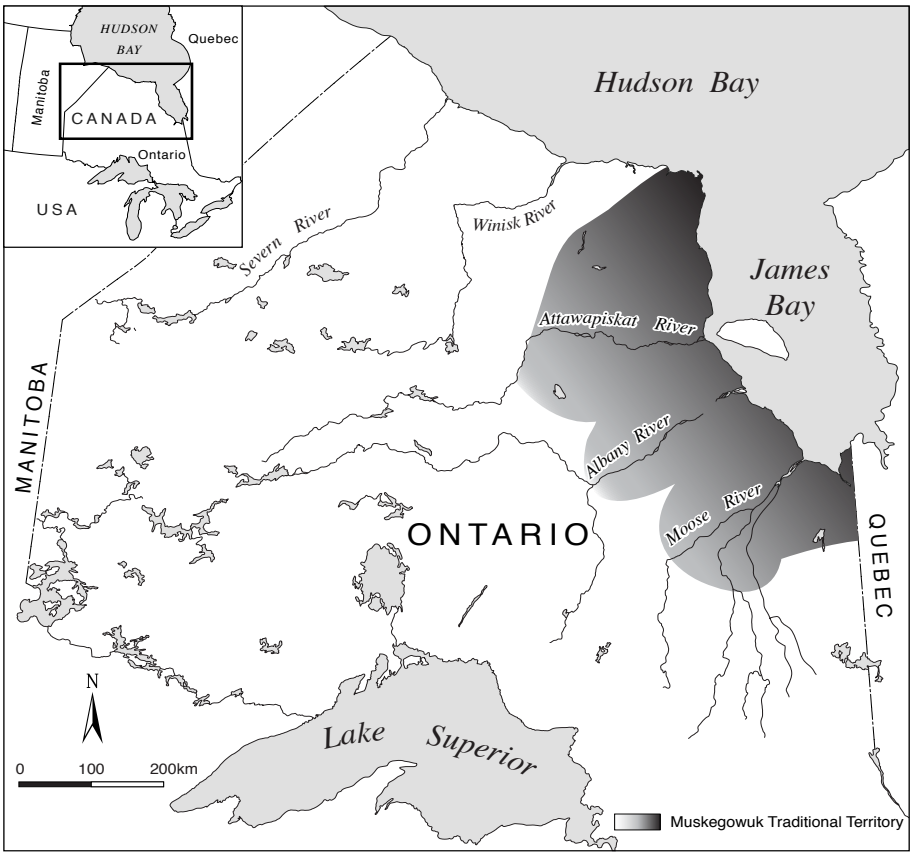

Figure 6. Map showing northern Ontario, Canada with grey shaded area indicating approximate area of the Muskegowuk Traditional Territory (revised from Gardner et al. 2012)

3.1 The Context

Canadian Environmental Regulation

The federated system of governance employed in Canada divides the responsibility for administering and enforcing laws and statutes between the Government of Canada (the federal government) and the provincial governments, as detailed in the British North American Act (BNA) of 1867. Nonetheless, certain areas of jurisdiction are shared between the Government of Canada and the provincial governments, as these areas of jurisdiction were specified as being shared between the two levels of government or were

not mentioned in the BNA 1867. One of these shared areas of responsibility is for the environment, since the environment was not mentioned in the BNA 1867 -. Thus, in Canada, EA legislation exists at both the federal and provincial levels and can either be harmonized or reviewed on an ad hoc basis. Ontario has two types of EAs: individual EAs and "streamlined" Class EAs (reviewed in McEachren et al. 2011). Class EAs are used for projects that are routinely carried out, with predictable and minimal, easily managed environmental impacts (McEachren et al. 2011). There are 11 "parent" Class EAs for different kinds of projects; each parent Class EA acts as a framework for conducting a specific type of Class EA. In the present case, the parent Class EA is for waterpower projects. Satisfying the requirements outlined in the Class EA clears the way for the relevant approvals and permitting.

In Canada, much of the environmental regulation associated with the planning, development and operation of hydroelectricity has, until recently, been realized through the Canadian Environmental Assessment Act (CEAA) (Fortin, 2002). The first CEAA was enacted in 1995 (CEAA, 1992). It has since been a part of the planning, development and operation of a range of projects throughout the country including: oil and gas, hydroelectric power, mining and exploration, and agricultural developments. The requirements of the legislation have led to the emergence of new partnerships and shared ownerships among industry, government and community stakeholders (Fortin, 2002). However, proponents became concerned with the stringent requirements, expanding timelines, and capital requirements for EA; likewise, community and stakeholder groups have been concerned about their ability to participate meaningfully in the EA process

(Kirchhoff et al. 2013). Significant changes to the CEAA were enacted in 2012 through two omnibus bills[5], C-38 and C-45 (Kirchhoff and Tsuji 2014). Many of the changes were meant to streamline the process by reducing the number of projects that required an EA and limiting the timeline to complete an EA to 365 days (Gibson, 2012; Kirchhoff et al. 2013; Kirchhoff and Tsuji 2014). Historically, the Navigable Waters Protection Act protected waterways and served as a trigger for federal involvement in the EA process, but this changed with the passing of bills C-38 and C-45 (Kirchhoff and Tsuji 2014). The number of waterways that were subject to federal protection was significantly reduced from 40, 000 lakes and more than 2 million rivers to only approximately 100 lakes and coastlines and 62 rivers (Aboucher and Vince, 2012; Kirchhoff et al. 2013). Two very important issues emerged from these changes in Canadian environmental legislation with respect to Aboriginal people and hydroelectric development – Aboriginal peoples' opportunities to consider, review, and contribute to the EA process were severely limited due to the reduced EA timeline, and the cutting of funding to Aboriginal organizations through the passing of other legislation at the federal level (Kirchhoff et al 2013; Kirchhoff and Tsuji 2014) – and very few of proposed hydroelectric projects would trigger federal government involvement (Kirchhoff and Tsuji 2014).

Hydroelectric Development in Canada

Canada's natural resource-based economy has meant that much of the large-scale development that supports economic growth begins in northern, remote and sparsely populated regions of the country. Because these areas are remote, development brings with it a whole suite of infrastructure needs to service these operations. As such, many of

the hydroelectric projects in Canada are located in remote areas inhabited by Aboriginal groups (Fortin, 2002), and paves the way for future natural resource development and/or power distant communities.

Hydroelectric generation harnesses flowing or falling water. Water movement is used to turn turbines; the greater the volume and/or height the water falls, the more energy is produced. Projects differ in scale, capacity, and technology. Canada has a long history of hydroelectric production that began in 1881 at Chaudière Falls, Ontario and Quebec, Canada. Further, future hydroelectric development to facilitate development of a region was often provided for in treaties, such as, Treaty No. 9 or hydroelectric power generation was the actual reason for a treaty (i.e., the James Bay Treaty 1976). Today more than 70,000 MW of hydroelectric power has been developed in 475 generating plants. The top producers are the provinces of Quebec, British Columbia, Manitoba, Newfoundland and Labrador, and Ontario. Globally, Canada ranks second, only behind China for hydropower production with 355 TWh/year (Canadian Hydropower Association (CHA), 2008).

Hydroelectric development is often touted as a green energy source - being considered a renewable energy resource, with relatively low operational and maintenance costs over a long service life – while, offering competitive prices, jobs and economic growth opportunities (CHA, 2008). Indeed, hydroelectric development in Ontario has often been identified as an effective means of supporting growth of the economy in a sustainable way, establishing a long-term revenue stream through the sale of surplus electricity to

surrounding markets (CHA, 2008; Krupa, 2012a). Nevertheless, hydroelectric development also has well-established impacts including: habitat and landscape destruction; environmental mercury contamination that detrimentally impacts food systems; and increased greenhouse gas emissions (Rosenberg, Bodaly and Usher, 1995; Rosenberg et al. 1997). This is why the decision-making process related to the establishment of these projects is often described as inadequate (Paterson and Sears, 1993). Thus, contemporary approaches to hydroelectric energy production must consider advanced approaches that may more effectively realize the goal of sustainable development, leading to more effective policy frameworks that ensure the social and environmental impacts of hydroelectric development are weighed effectively. The decision must be balanced and the early activities of the impact assessment, such as, the scoping exercise and "alternatives to" and "alternative means"[6] must be informed through public participation, and take into consideration past developments and "established scientific practice", with an awareness of the long-term costs and benefits of the project (Klimpt et al. 2002:1309).

Many of the hydroelectric projects that have been or will be developed in Canada are located in areas that are mainly populated by Aboriginal people, who in theory should reap the benefits of anticipated employment opportunities and spin-off activities, but bear all the impacts on their social and cultural way of life (Fortin, 2001). This is why over-the-years, many different approaches to hydroelectric development have been advanced in hopes of improving the process, to ensure that Aboriginal perspectives are well represented and considered (Fortin, 2001). Various partnership and revenue-sharing

agreement schemes have been developed. The proposed Gull Rapids, Notigi, and Gull Rapids hydroelectric project in Manitoba, have prioritized collaboration with local Aboriginal communities and undertaken discussions to better understand social and environmental impacts to ensure that benefits of these projects are shared between proponent and impacted communities (Fortin, 2002). Further, the Wisichawayasihk Cree and Manitoba Hydro have established the Wuskowatim Power Limited Partnership, a benefit sharing agreement that includes business development, other job opportunities, and dividends to be paid to the community (CHA, 2008).

Historical Hydroelectric Development in the Mushkegowuk Territory

The watershed to the south of the Albany River is the Moose River watershed (Figure 5). The Moose River is home to the Lower Mattagami River Hydroelectric Complex that includes four generating plants: Smoky Falls (built in 1931), Little Long (1963), Harmon (1965), and Kipling (1966). These facilities are operated by Ontario Power Generation and are within the Mushkegowuk Territory. This complex has recently been redeveloped to achieve greater efficiency. The redevelopment was bound by the requirements outlined in the "Northern Rivers Agreement", an obligation made by the Government of Ontario with respect to hydroelectric development on northern Ontario rivers. The agreement required that any consideration of extension of this project be carried out through a co-planning process between the Government of Ontario and First Nations affected by the project[7]. Any future governments are bound to this commitment in consideration of future hydroelectric development. The agreement also required the initiation of negotiations between Ontario Hydro (created by the Government of Ontario)

and First Nations to reconcile past grievances over the initial development (letter dated May 20, 1993, from the Ministry of Environment and Energy).

Potential hydroelectric development has been identified throughout the Province of Ontario and includes several high yielding sites throughout the Mushkegowuk Territory. Two sites, Hat Island and Chard River have been identified along the Albany River to have the potential to produce 490MW and 370MW, respectively (OPA, 2007). These two sites are considered to be the only feasible sites within the policy constraint area as a result of the "Northern Rivers Commitment". The sites remain feasible because they have economic potential, could be designed to operate with minimal flooding, and would require minimal additional infrastructure as a result of proximity to the Moose River Complex. However, development of these sites would require a discussion with First Nations if the projects were to advance. (Ontario Water Association (OWA), 2007)

There have been three diversions of the Albany River. The Lake St. Joseph diversion built in 1935 redirects water from the Albany River watershed into Lac Seul. The volume of water is estimated to be 80 m3/s (Lake of the Woods Control Board, 2002; George, 2007). In 1939 the Long Lake diversion was completed. This project diverted the flow of the Kenogami River, a tributary of the Albany River, from north to south through Long Lake to empty into Lake Superior (Day et al. 1982). The Ogoki River, another tributary of the Albany River, was diverted to flow south to Lake Nipigon and then into the Great Lakes basin. The volume of water diverted has been estimated to be 112.267386m3/s; this diversion became operational in 1943 (Day et al. 1982). The

development of this project resulted in the inundation of pristine lands up to 40 ft above the natural levels (Day et al. 1982). Among the rivers in Ontario recently evaluated for hydroelectric development, the Albany River has one of the greatest projected potentials of about 2300 MW (OWA, 2005).

Study Area and Case Background

The First Nations

The Omushkego Cree have occupied the Mushkegowuk Territory of southwestern Hudson Bay and western James Bay for millennia (Figure 5 and 6). The Omushkego Cree signed Treaty No. 9 in 1905-1906, and the adhesions to Treaty No. 9, in 1929-1930. This region has a population of approximately 10,000 Omushkego Cree. Locally-elected Chiefs and Councils govern individual First Nations communities, with terms of office being determined at the community-level. The communities in the region have road access only during the winter months via an ice-and-snow road, and rely on air transport for the rest of the year; while the river is used throughout the ice-free season for travel.

The community that we are focusing on is Fort Albany First Nation, located on Sinclair Island in the Albany River. The community has a population of approximately 950. Kashechewan First Nation is located just north of Fort Albany, on the north shore of the Albany River (Figure 5). Both communities maintain a traditional lifestyle that depends on the Albany River and tributaries as their "highways" for traditional pursuits, and the lifeblood of their communities.

As mentioned previously, First Nations are governed at the local level by elected Chiefs and Councils. Tribal councils are formed by several regional First Nations and represent regional interests; while, supra-regional First Nation organizations are formed when several tribal councils come together. There are also provincial-level First Nations organizations (e.g., Chiefs of Ontario) composed of these supra-regional First Nations organization, and the Assembly of First Nations represents national interests for most First Nation organizations. All of these bodies have a role in advocating for First Nation people - contributing to policy development, and representing First Nations' positions at various levels of government - and providing support and leadership among member communities. Of relevance to the present case study is one regional First Nations organization, the Mushkegowuk Tribal Council or simply Mushkegowuk Council, and one supra-regional governing body, Nishnawbe Aski Nation (NAN). Each organization has a well-defined consultation policy that serves to identify the expectations and guiding principles for the "duty to consult" process.

Mushkegowuk Tribal Council/Mushkegowuk Council

Muskegowuk Council represents the Cree communities in the western James Bay region including: the coastal communities of Attawapiskat, Kashechewan, Fort Albany, and Moose Cree; and the inland communities of Chapleau, Missinabie, and Taykwa Tagamou Nation (formerly New Post First Nation). Mushkegowuk Council's main purpose is to provide support to member communities through a collective governance structure (Muskegowuk Council, 2012).

In 2007, the Mushkegowuk Council Chiefs endorsed "The Mushkegowuk Resource Development Protocol" with the purpose of outlining the process to identify, track, and evaluate proposed development in their traditional territory. The need for such a protocol was identified by the Council in 1996, and resulted in the passing of several Tribal Council Resolutions (Mushkegowuk Assembly Resolution 1996-08-07, 2002-09-38, 2003-09-10; Mushkegowuk Council, 2009). The protocol has since been amended and also affirmed in 2009 (Mushkegowuk Council, 2009). The principles of the protocol include key points, such as, development activities have to be consistent with the continuation of cultural traditions, values and laws aligned with Aboriginal and treaty rights. Further, accountability for the range of potential impacts on social, economic, environmental systems must be built into the development process along with an effective communication system of all those involved. Figure 6 shows the cycle for receipt, review and decision-making as supported by the Mushkegowuk Council protocol. The protocol was designed to reflect the holistic worldview of the Mushkegowuk people with the intention of establishing an agreed upon and consistent process throughout their traditional territory (Mushkegowuk Council, 2009; Figure 7). The protocol considers and incorporates varying levels of complexity of projects as they may arise - based on different scenarios - and provides a centralized application process through Mushkegowuk Council. This process is meant to allow the facilitation and coordination of technical and other resources at the regional level, allowing for the enactment of regional decisions and the monitoring of the projects. The project review is a collaborative process under this protocol including a regional working group made up of Mushkegowuk Council's Lands and Resources staff, and representatives from impacted

communities. Finally, the proponent has the responsibility to cover the costs associated with the application (Mushkegowuk Council, 2009).

Since 2009, additional resolutions have been passed by Mushkegowuk Council to support the protocol in light of ongoing and emerging issues. Of relevance to the Kabinakagami River Hydroelectric Project is the issue of development impacts extending into the Mushkegowuk Territory even though the development may be situated outside the boundaries of the Mushkegowuk Territory. The Mushkegowuk Council Resolution entitled Unity Concerning Resource Development identified key issues important for the advancement of development in the Mushkegowuk Territory, such as, benefits and revenue sharing, and the need to develop a process whereby unity could be achieved with groups outside the traditional territory of Mushkegowuk Council (BCR, # 2010-09-15).

A critical first step to advance inter-jurisdictional cooperation was established through the "Joint Declaration of the Mushkegowuk First Nations and Matawa First Nations"[8], which highlights the interconnectedness of the two groups based on familial relations, shared historical agreements, and shared environment. Priorities were affirmed, such as: the push for observance of the promises outlined in Treaty No. 9; the continued enjoyment of traditional activities; and the advancement of free, prior, and informed consent with respect to development including the sharing of information and strategies to achieve the shared goals of the people (Mushkegowuk Council, 2011).

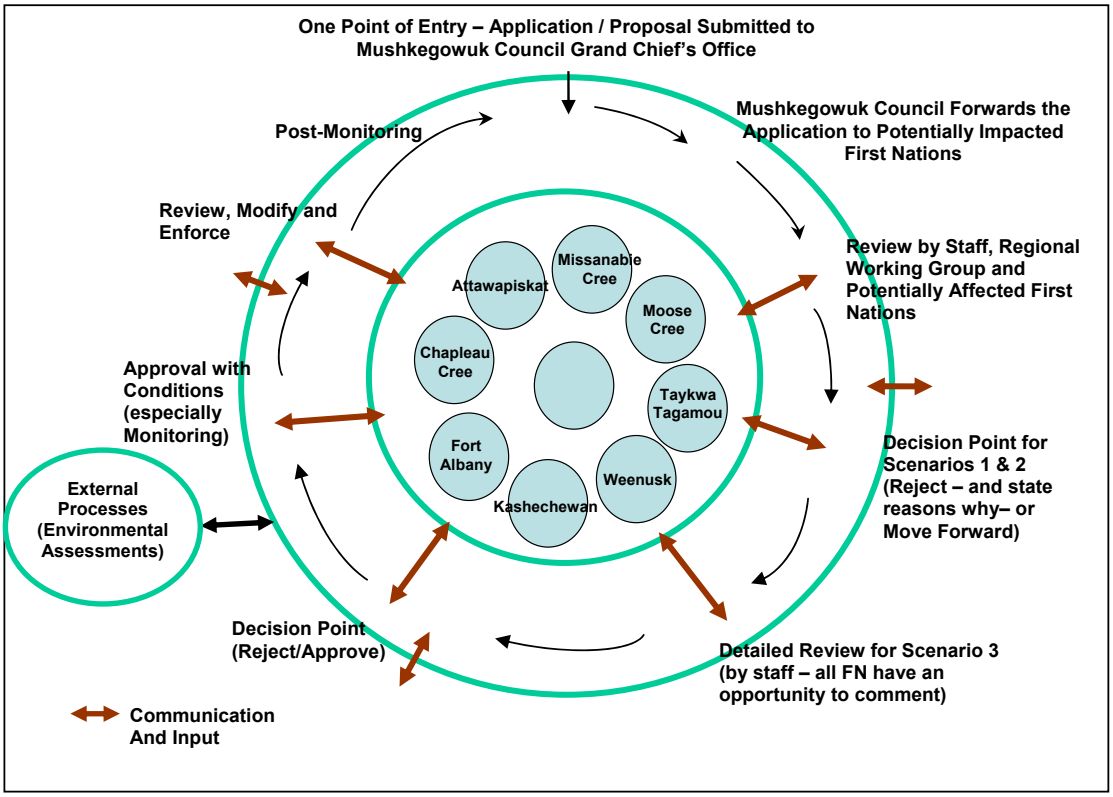

Figure 7. The Resource Development Protocol framework of the Mushkegowuk Tribal Council (Mushkegowuk Council, 2009:3)

Nishnawbe Aski Nation

Nishnawbe Aski Nation is a supra-regional organization established in 1973, representing 49 First Nations communities that are signatories of Treaties No. 5 and 9, in the Province of Ontario. This organization provides a collective governing body among all of the NAN Chiefs (of First Nation member-communities) and serves as a liaison with other government institutions and offices, at both the provincial and federal levels. The tribal councils counted among the members of NAN are as follows: Independent First Nations Alliance, Keewaytinook Okimakinak, Matawa First Nations, Mushkegowuk Council, Shibogama First Nations Council, Wabun Tribal Council, Windigo First Nations Council,

and Independent Bands. The NAN territory is vast and encompasses two-thirds of Ontario's landmass (NAN, 2007).

The NAN consultation policy was ratified in 2001; it was meant to be used as a guide for both government involvement in policy development, as well as a guide to the way resource development should be carried out by proponents of these development projects (NAN, 2007). The NAN policy identifies the community likely to be most impacted as the priority for early contact. The responsibility for consultation is centred on the Crown, with the consultation process being advanced in a respectful and meaningful way. The policy also distinguishes between consultation and notification. Consultation being identified as an "information-sharing and issue-resolution" process carried out in advance of authorizations, approvals, and permits, as opposed to a notification process, which occurs after approvals have been made (NAN, 2007:18). Appropriate consultation is characterized by early notice, and a process that is open, transparent and inclusive, providing for financial resources to the First Nation/organizations to help facilitate meaningful participation; the process is also described as being flexible to reflect community needs whereby rights infringement are adequately considered, accommodated, and reconciled with the responsibility of the process remaining with the government (NAN, 2007).

Taking into account the varying complexity and potential impacts of individual projects requires thorough consideration of the NAN protocol, as the proponents of a project need to demonstrate not only meaningful consultation, but also community benefits, with limited environmental damage, and adequate compensation based on infringement (NAN 2007). The process is concluded when the membership reaches an informed decision and

provides consent (NAN 2007). A ten-step process is outlined by NAN (2007:22-) that incorporates the above requirements:

1. Initiation
2. Notice
3. Information Exchange
4. Technical Resourcing
5. Communication
6. Information gathering by First Nation
7. Analysis
8. Negotiation/Accommodation
9. Impasse or Reconciliation
10. Benefits

Kabinakagami River Hydroelectric Development

The proposed Kabinakagami River Hydroelectric Project is the product of a partnership between Northland Power Inc. and Constance Lake First Nation (CLFN) (Hatch 2013). The physical installation includes access roads and four power-generation facilities - Neeskah (Goose), Peeshoo (Lynx), Wapeestan (Marten), and Wapoose (Rabbit) - each site would consist of an earth-filled dam with various structures to control flow intake, outlet, and power generation (Hatch 2013). Collectively, the project is designed to produce 26 MW with transmission line installation to connect to the main Ontario power grid (Figure 5; Hatch, 2013).

There are three main environmental approvals required for the project:

- Class EA for Waterpower Projects (OWA, 2012).
- Class EA for Resource Stewardship and Facility Development Projects, which relates to the transmission line that will be located on Crown land (MNR, 2003).
- A Water Management Plan (WMP) under the Lakes and Rivers Improvement Act (MNR, 2002)

Initially, the Project had requirements under the Canadian Environmental Assessment Act (CEAA 1992) requiring a Federal-level Environmental Screening related to the Fisheries Act and Navigable Waters Protection Act. However, changes to the CEAA in 2012 meant that those requirements were no longer a consideration (Kirchhoff and Tsuji 2014). Nonetheless, the final Environmental Report for the project addresses both the provincial requirements and the federal Environmental Screening requirements (Hatch, 2013). The Class EA for Waterpower Projects includes a categorization of the project, concept, definition, assessment, documentation, and implementation requirements (OMNR, 2012). This Class EA allows for integration with other legislative requirements, and is submitted and subject to review under the individual review process (MOE, 2012). The advancement of the Class EA process is also meant to provide opportunities to incorporate the consideration of other legislative requirements. In addition, the Kabinakagami River Hydroelectric Project proposes the installation of a transmission line that transects Crown land and therefore requires a Class EA for Minor Transmission Facilities. These two Class EA processes are coordinated in one report to improve the transparency and efficiency of the process (MOE, 2012).

The Kabinakagami River Project is considered to be within an unmanaged waterway (Hatch, 2012) - a category B, Class EA that are thought to have the broadest impacts - and therefore require greater Aboriginal community involvement and agency interest (OWA, 2012). These types of projects require four notifications, which are meant to fit into the targeted final report timeline of 12-24 months (OWA, 2012:26):

i. Notice of Commencement, meant to inform all potentially affected parties, landowners, aboriginal communities, regional MOE, MNR offices, government agencies, municipalities, interest groups, President of OWA, of projects.

ii. Notice of Inspection (to parties who have expressed an interest or participated and additional parties at the discretion of the proponent) for unmanaged waterways for additional opportunity to review the Environmental Report for 30 days (unless extended by the proponent)
iii. Notice of Completion is issued once the input provided has been considered and the Environmental Report is finalized, a 30-day period for comment follows as well as requests for Part II Orders. The proponent can extend this period; they can determine that further consultation is required based on outstanding issues.
iv. Statement of Completion. This notice includes a description of outstanding issues following the notice of completion 30-day review period. Once these issues are addressed and as long as no Part II Order is received the statement of completion can be submitted and the final Environmental Report made available. This is the conclusion of the EA process and further permit and approval processes can be carried out.

While the above notification forms the basis of the mandatory requirements for the proponents; proponents are also meant to consider the context of the proposed project including the geography and timing. The principles that guide this consultation process should include mutual respect, clarity, transparency, flexibility, trust and certainty (OWA, 2012).

3.2 Research Methods

The mandatory criteria required for the fulfillment of the "duty to consult" legal obligation under the Province of Ontario environmental legislation – and the non-obligatory criteria put forward by the Mushkegowuk First Nations at the community, regional, and supra-regional levels – form the backbone of our evaluative framework on whether "duty to consult" was met with the Kabinakagami River Project, as a reflection of the nature of participatory methods used to advance decision-making in practice. The assessment serves as an attempt to respond to the limited representation in academic literature of empirical research in citizen engagement and participation, as compared to theoretical developments (Carpini, Cook and Jacobs, 2004; Reed, 2008). Our framework

includes two levels of consultation, because there is the legal obligation of the proponent whether Aboriginal or non-Aboriginal, and then there is the ethical obligation inherent in the dealings of one Aboriginal group with another. We believe the latter should be at the highest standard, as it is the way that Aboriginal people want non-Aboriginal groups to interact with them (Sistili et al 2006); these better practices criteria are that are derived from existing guidance material are described in Table 3. These criteria (mandatory and better practices) were used to structure our evaluation of the Kabinakagami River Project. Primary information was collected using culturally-appropriate semi-directed interviews that have been developed through a long standing research partnership established between researchers working with Dr. Len. Tsuji and the community of Fort Albany First Nation (Tsuji et al 2007). Interviews were conducted with the current Deputy Chief and Chief of Fort Albany First Nation, and the former Chief of Fort Albany First Nation, as communication concerning the Kabinakagami River Hydroelectric Project was always directed toward these community leaders. Oral consent was given by all participants, and interviews were in English, although the option of an interview in Cree was open. All available relevant written documents for the case study were obtained and evaluated. These documents included: EA documents that detail the process as recorded by the propoentn; the record of communications compiled by the community leaders and Mushkegowuk Council; relevant Band/Tribal Council Resolutions; joint declarations; and consultation protocols. A themed deductive analysis of written record was performed, framed by the criteria (Table 3) needed to satisfy the Class EA process for this type of development in order to gain Government of Ontario approval, and the better practices informed from Aboriginal organizations. The evaluative criteria were drawn from these

sources as they reflect shared expectations present in protocols from FN and Provincial government, the regulator and those who represent those who are impacted by the decision. This is meant to demonstrate the similarities that are present from these different sources.

Table 3. Compilation of characteristics used to describe effective consultation process as described in the Nishnawbe Aski Nation handbook on Consultation in Natural Resource Development (2007), Reaching Effective Consultation, (Anishinabek/ Ontario Resource Management Council, 2003), The Resource Development Protocol of the Mushkegowuk Tribal Council (MC, 2009), and the Ontario Water Association Environmental Assessment guidelines (OWA, 2012).

Criteria	Description
Timeline	To be initiated and carried out as early as possible in the project planning and assessment process. Allow for adequate time for communities to gather additional information and understand the potential impacts of the development on their Aboriginal and treaty rights.
Information	Respectful, timely, comprehensive and reciprocal information (Indigenous knowledge and "western" science) exchange prior to government decision-making, authorization, permits or licenses are issued. Notification is not consultation.
Means	Providing the means to allow for participation in the process. This is necessary to ensure equality between industry, First Nations, government and industry. Financial, technical and human resources are necessary to ensure that First Nations are able to fully understand and participate.
Flexibility/ transparency	Towards accommodation and reconciliation. A process that shows openness to accommodate additional information requests, communications, and thorough consideration of suggestions brought forward by the First Nations to improve the project, achieve greater benefit to the communities, or mitigate impacts, or compensate.

3.3 Results and Discussion

The chronology of the major milestones and requirements associated with the Kabinakagami River Class EA project is presented in Table 4. Reference is made throughout the EA process to the "Aboriginal Engagement Plan and Public Consultation Plan". This Plan guides the delivery of information, mandatory notification, and what information, if any, will be collected as part of the planning process. The Aboriginal communities identified by Northland and CLFN in the "Aboriginal Engagement Plan" to

be consulted with included: CLFN, Hornepayne FN, Fort Albany FN, Kashechewan FN, Metis Nation of Ontario, and Cochrane Northern Lights Metis Council. However, CLFN was identified as the community whose traditional lands would be affected directly by the project.

Table 4 Chronology of events of the development of the Kabinakagami Hydroelectric River Project (taken from the Kabinakagami River Project revised from Hatch, 2012; Hatch, 2013)

Date	Milestone
May-2007	Constance Lake First Nation (CLFN) and Northland Power Inc. commence discussions regarding development of up to 8 waterpower sites on the Kabinakagami River
Jul-2008	CLFN and Northland Power Inc. sign first Letter of Intent to develop a project on the Kabinakagami River
17-Nov-2008	Agreement signed between Hatch Inc. (consulting company) and Northland Power Inc. (terms and conditions)
Apr-2009	Applications submitted to the Ontario Ministry of Natural Resources (MNR) to obtain rights to pursue development on Crown land under the **Direct Site Release Process** for 8 waterpower plants. Hatch Inc. retained to prepare Pre-Feasibility Engineering Study and commence baseline environmental field investigations
Nov-2009	CLFN and Northland Power Inc. sign formal agreement to proceed with the Project
Nov-2009	Applications for Feed in Tariff (FIT) contracts for seven (7) sites submitted to the Ontario Power Authority's (OPA) FIT Program
Dec-2009	Hatch Inc. prepares Prefeasibility Study document (design information on Project Description document is the same from the Prefeasibility Study)
Jun-2010	MNR provides a Site Information Package (SIP), which identifies potential stakeholders. The Project Description document states that "**Aboriginal Engagement and Public Consultation Plans have been prepared to identify the consultation processes that will occur**". The Project description lists Fort Albany FN (Hatch, 2011,Table 1.1, page 1-2) as one of the stakeholders to be consulted for this EA. It also states that "All agencies and stakeholders listed in Table 1.1 will be sent an introductory letter and copy of the Notice of Commencement".
17- June-2010	Notification of Kabinakagami River Hydroelectric Project given to Fort Albany FN from CLFN and Northland Inc.
23-June-2010	Notice of Site Release (MNR's Waterpower Site Release process) posted in newspapers. CLFN sent notice as part of MNR's Duty to Consult during Applicant of Record review stage.
26-June-2010	Workshop held at CLFN to provide community members with information on the proposed project
July 22,	Site Release process letter sent from MNR to Fort Albany FN,

2010	Kashechewan FN, Hornepayne FN, Northern Lights Metis Council, and Metis Nation of Ontario.
20-June-2011	All Agency kick-off meeting held at the MNR office in Hearst, ON. Federal agencies involved included Department of Fisheries and Oceans (DFO), Transport Canada (TC), Aboriginal Affairs and Northern Development Canada (AANDC) and Natural Resources Canada (NRC). Appendix C8 include minutes of the meeting.
November 2011	**Public Notice of Commencement, Notice of Water Management Plan (Nov. 11)**
Nov-2011	Open community meeting held at CLFN – "community voted to move forward with the project" (Hatch, 2012,draft Environmental Report (ER), page 2-6)
21-Nov-2011	Notice of Public Information Centre #1 (sent from Niagara Falls, ON, meeting held in Hearst, ON)
2-Dec-2011	Hatch Inc. receives email with "Scoping Document for Federal Screening of the Kabinakagami River Hydroelectric Project"
6-Dec-2011	First Public Information Centre (PIC) held in Hearst
6-Dec-2011	"All-agency" (federal and provincial) meeting held in Hearst (however, only NRC attended, via teleconference, only for a short duration of the meeting due to bad connection)
11-Dec-2011	Follow-up meeting for all-agency meeting (June, 2011) MNR, CLFN, Ontario Ministry of Environment (MOE), Northland, and Hatch Inc.
13-Dec-2011	Teleconference held regarding the Scoping Document with federal agencies including Canadian Environmental Assessment Agency (CEAA), DFO, TC, Environment Canada (EC) and NRC. MNR and MOE also participated in the call.
14-Dec-2011	**Federal Notice of Commencement under the Canadian Environmental Assessment Act (Screening Environmental Assessment (EA)) – DFO and T C involved**
19-Dec-2011	Notice of public information Center #2 (sent from Niagara Falls, held Jan. 11 in Hearst, ON)
11-Jan-2012	Second Public Information Centre (PIC) held in Hearst
1-Feb-2012	The draft ER was provided to CEAA, DFO, TC, EC, NRC and Health Canada (HC) for review and comments.
1-Mar-2012	Teleconference held with the Federal Review Team to discuss the project and the draft Environmental Report (ER). The draft ER was revised to address the preliminary comments received from the federal agencies before issuing the Notice of Inspection
11-April-2012	**Notice of Inspection (under the Ontario Water Association Class EA) issued including Draft EA– 30-day review period runs from April 13 until May 14, 2012**
July 2012	Environmental Screening (Federal Trigger) no longer required resulting from changes to the Canadian Environmental Assessment Act (2012)
5-Feb-13	**Final ER for the Kabinakagami River Hydro Project was released.**

27-Feb-13	Second Part II Order (Bump-up) request sent by Chief Rex Knapysweet, Fort Albany FN to Minister of Environment. (First request was made in May 2012, following notice of Inspection which was deferred as it was submitted too early in the process and should follow the final ER)
Jan. 2015	Anticipated Commercial Operation date

Table 5 also follows the EA process but is specific to communication between Constance Lake FN and Fort Albany/Kashechewan FNs. The chronology of events shows that the required notifications and information sessions were carried out as a mandatory part of the process. Some of the relevant meetings involving responsible authorities and government officials with an interest in the project are also included.

It is also important to note that throughout the EA process for this project there were significant issues related to CLFN community support and changes in community leadership in CLFN, and Fort Albany FN, as well as Kashechewan FN that further complicate inter-community communication. Moreover, there was a majority vote against the project in CLFN in August 2010. However, it was not until February 2011 when INAC (now known as Aboriginal Affairs and Northern Development Canada (AANDC)) indicated that the CLFN Chief and Council could as elected officials, decide to advance the project irrespective of the community membership vote. In June of 2011 CLFN elected a new Chief (Roger Wesley) and replaced three Band Council members. In the summer of 2012 Fort Albany FN and Kashechewan FN elected new Chiefs and Councils. The new Chiefs and Councils faced significant challenges in coming up to speed with respect to the various areas of responsibility with respect to the EA process.

Table 5. Chronology of communication and sessions with First Nations communities potentially impacted by this project (from Hatch, 2012; Hatch, 2013; ongoing correspondence provided by Chief Rex Knapysweet).

Date	Description/Notes
April – May 2009	Traditional Environmental Knowledge interviews conducted with Constance Lake First Nation (CLFN) members
Oct-2009	Through discussions with CLFN, it was decided to reduce the number of proposed facilities to 7, due to environmental concerns associated with one of the proposed sites at Roger's Road Landing
17-Aug-2010	CLFN holds referendum to discuss the project (105 against and 97 for the project)
Dec-2010	Aboriginal Affairs and Northern Development Canada (AANDC, at the time known as Indian and Northern Affairs Canada) provides a letter indicating that the referendum could only be classified as an expression of interest, and says that ultimately, the decision lies with the elected leadership of CLFN
Feb-2011	CLFN Chief and Band Council (based on AANDC's letter) decides to move ahead with the project
24-Feb-2011	Information meeting for CLFN members in Thunder Bay Area was held in Thunder Bay, ON
June-2011	CLFN local elections – New Chief elected (Roger Wesley) and three new Band Council members
6-Dec-2011	Chief Solomon of Fort Albany FN requests direct consultation with his community and Kashechewan FN and an additional information session with these communities
8-Dec-2011	Two open houses held at CLFN to provide additional information to the CLFN membership regarding the proposed project
14-Jan-2012	Open house held at CLFN School Gymnasium
21-Feb-2012	Meeting in Fort Albany between CLFN Chief and Band Council members, representatives from Northland, MNR and the Chiefs and representatives from the Band Councils of Fort Albany FN and Kashechewan FN
16-Mar-2012	Letter from William Armstrong (Ontario Ministry of Environment (MOE), Southwest Region) to Noel Boucher (Hatch Inc.) taking issue with geography, language boundaries, and that so far, the process has not included meaningful or effective Aboriginal consultation
11-May-2012	Chief Solomon of Fort Albany FN submits a request to Minister Jim Bradley (Ontario Ministry of Environment) for a bump-up to an Individual Environmental Assessment and Comments on Draft Class EA report based on, among other things, the "duty to consult" not being met.
12-July-2012	Letter received from CLFN responding to bump up request because it should be submitted once the final environmental report has been submitted. Concerns outlined were forwarded to proponents and CLFN responded.

15-Aug-2012	Letter to Chief Andrew Solomon of Fort Albany FN from Jim Bradley (Minister of Environment) declining request for Part II order (bump-up) and indicating that the proponent would consider revising the Draft EA and the time to request the Part II order is during the Notice of Completion public review period
Aug-2012	Election of new Chief and Council Fort Albany FN
5-Dec-12	CLFN letter sent to organize an information session in Kashechewan FN and Fort Albany FN.
5-Dec-12	Chief of Kasheschewan responds suggesting a meeting in the new year.
13-Dec-12	Chief Rex Knapaysweet of Fort Albany responds indicating open availability for meeting.
18-Dec-12	Information was requested to determine staff members who could act as point of contact through the information session planning process. Response from Fort Albany making Thomas Scott (Deputy Chief) the point of contact.
15-Jan-13	CLFN suggests advancing to possible dates in Feb. once the ice road along the coast of James Bay is operational to hold the information session.
21-Jan-13	CFLN sends follow-up email expressing some concern over lack of response and suggesting Feb 11th to the 15th and Feb 25th to March 1st, 2013.
5-Feb-13	**Final Environmental Report for the Kabinakagami River Hydroelectric Project was released.**
25-Feb-13	Chief of CFLN sends an official letter updating the project. The Environmental Report had been finalized. Describes importance and community consultation and numerous attempts to set up community meetings and requests efforts be made to schedule these.
27-Feb-13	Second Part II Order (Bump-up) request sent by Chief Rex Knapysweet of Fort Albany FN to Minister of Environment.

3.3.a Criterion 1 Timeline

The Class EA guidelines outline a 12-24 month timeline to carry out the process. This presents a problem in many communities with the limited resources, both technical and financial, and especially impacts northern Canadian communities. Geography and timelines are always a complicating factor in remote areas. Indeed, the first notification of the project was provided to Fort Albany FN and all potentially affected FN

communities in June 2010, while the partnership between Northland and CLFN was formalized in July of 2008. In addition, a request for direct consultation was made by Fort Albany FN in Dec. 2011 following the first public information session held in Hearst, Ontario.

A meeting with Fort Albany FN and Kashechewan FN was held in Fort Albany Feb. 21, 2012, and was attended by Chief and Band Council members from CLFN, Fort Albany FN, Kashechewan FN, representatives from Northland, and the MNR. However, Hatch Inc., the consulting firm responsible for drafting the technical documents and delivering the PIC session, was not present. The draft EA was released shortly thereafter in April, 2012. Several comments were submitted by Fort Albany FN detailing concerns. While Fort Albany FN expressed an openness to host further community consultation, no sessions were scheduled by CLFN. A new Chief and Council was elected in Fort Albany FN in August of 2012, and several attempts were made to organize community consultation between Dec. 5, 2012 and Feb, 2013, with CLFN. The final Environmental Report was released on Feb. 5, 2013, ending any opportunity for meaningful consultation. Dates for a community meeting in Fort Albany FN were finally advanced for the weeks of February 11th, and 25th, following the announcement of the final Environmental Report.

It is clear that Fort Albany FN had expressed an interest and an expectation of being consulted as part of this project early on in the process (i.e., before legislated EA report review period). Little opportunity for meaningful consultation was incorporated into the "Aboriginal Engagement Plan" that also guided information sharing and communication

with CLFN. The requirements outlined in the OWA guidelines as part of the Class EA include specific notification timelines for "stakeholders" and Aboriginal consultation, which was followed in the case of CLFN. Aboriginal Consultation with CLFN in the Kabinakagami Project meant, TK studies, workshops, notifications, meetings for off-reserve members, liaison staff, multiple meetings with Chief and Council, door to door notification of meetings, community information centres, as well as personal notice of commencement, draft report for inspection, and notice of completion. However, when describing the consultation and engagement strategy for "other First nations" (Hornepayne FN, Fort Albany FN, Kashechewan FN, Metis Nation of Ontario, and Cochrane Northern Lights Metis Council) engagement is limited to the mandatory notifications, with an option for additional meetings if requested. The guidelines also recognize the need to consider the context of the project including timelines and geography. The principles that guide the consultation frameworks for both the NAN and MC protocol highlight the importance of early notice of FNs that may be impacted, so that resources can be made available to participate, with flexibility being incorporated in the process. The location of the information session in Hearst, Ontario, highlights an existing shortcoming of this Class EA process whereby northern FN people have to fly out of their home communities at great expense, on little notice, to attend a consultation session supposedly put on for their benefit.

This case clearly demonstrates why Class EA frameworks developed and designed in southern Ontario should not be applied to northern Ontario carte blanche (McEachren et al 2011). The circumstances related to environmental issues, geographic location,

infrastructure, data, and capacity are completely different (McEachren et al 2011). The strict timelines incorporated into the EA process here are completely inappropriate. At the very least, the proponents must take into account for the unique logistical requirements that relate to the geography of the area and provide participant funding if they want to demonstrate a commitment to meaningful and effective consultation.

In moving forward, the Minister of Environment has yet to respond to the second Part II Order (bump-up) request submitted in February 2013. If the Minister orders a bump-up - the project would be subject to an Individual EA – requiring more time and adding greater uncertainty into the feasibility of the project under the present scheduling. Perhaps the Ontario Minister of Environment would require consent for this project by affected downstream communities.

3.3.b Criterion 2 Information

Information exchange figures prominently in the advancement of the project with a clear primary purpose in the current case being placed on informing CLFN to cultivate community support, solicit input to shape the project, and advance community benefits. Prior to the notification of the project being sent, the TK interviews were carried out with CLFN members (April-May 2009). The report detailing the process carried out indicates that no responses were received following the Notice of Commencement from representatives of Aboriginal communities (November, 2011, Hatch, 2013 (Section 2, p.3). This assertion is not based on facts, as Fort Albany FN had already expressed an interest in the project well in advance of the Notice of Commencement. This was expressed by Raymond Ferris (CLFN) in a meeting discussing the early development of

the project (meeting minutes Feb. 26, 2010, Hatch, 2013 Appendix C8,p.63). In addition, the Chief of Fort Albany sent an official request for direct consultation with his community in December of 2011. The leadership of Fort Albany FN indicated that they would prefer an initial meeting with CLFN leadership, as well as a community information session in Fort Albany FN. A meeting was held between Northland Power Inc, CLFN, and Fort Albany FN leadership on February 21, 2012. The initial meeting would allow the Fort Albany FN leadership to evaluate the nature of the project and assess their own needs to effectively participate in future discussions.

The draft EA was released on April 11, 2012, immediately following the release, Fort Albany FN submitted a long list of questions and concerns as part of a Part II Order bump-up request. Concerns were related to the following issues: "duty to consult"; lack of scientific evidence presented describing water quality; lack of mitigation regarding "fish passages"; lack of consideration of water temperature changes and changes in river ice regimes as a result of the development; inadequacies related to consideration of cumulative effects; and approach to boundary selection for study. Hatch Inc. responded to the concerns indicating that no further study would take place, nor would there be further consideration of changes to the design, or changes to boundary selection. The response did indicate that the proponents would hold one additional meeting with the community members in Fort Albany FN and Kashechewan FN. However, efforts to provide information sessions in the communities (Dec, 2012 - Feb, 2013) did not materialize, until within weeks of announcing the final environmental assessment on Feb. 25, 2013.

Information sessions must form an important part of the project development process. As mentioned in the "Background" section there is a small window of time in the western James Bay region where access to the coastal communities is logistically easier and more affordable along a seasonal snow-ice road that connects the southern terminus of rail transportation Moosoneee, Ontario, to the James Bay coastal communities. Notices of public information sessions were all sent within a two-week window of the session, and it must be emphasized that mail (and courier) service is not reliable in this region. This fact would have been common knowledge to leadership of CLFN. Further, each of the notices was mailed from Niagara Falls, Ontario - so if mail service was good for this particular case, the notices would have arrived before the actual sessions, but the timing would have put notification within days of the information session – which is exactly what happened. This is a very short period of time to arrange scheduling and transport for community leadership and membership to the information sessions located in southern Ontario. In addition, Fort Albany FN and Kashechewan FN are located in a remote area of northern Ontario, and travelling to the locations for information sessions in Constance Lake and Hearst, Ontario, would represent a significant expense with respect to flights and accommodation, in the thousands of dollars per person range. The cost of travelling is prohibitive for Band Council and even more so for community members. This limits the ability of community members to attend information sessions outside of the community, which would be known by CLFN leadership.

There is some dispute related to the degree of impact directly from the project that will be experienced related to traditional activities of First Nations people downstream the proposed project on the Albany River. The proponents have advanced the position that

Fort Albany FN is 400km downstream from the project, a distance beyond any possible impacts. In addition, they argue that the water from the Kabinakagami River contributes less than 3% of the source water to the Albany River (Hatch, 2012) though no source for this information is cited in the report. It is well known that Fort Albany FN and Kashechewan FN are located a distance downstream of the proposed project, however, the traditionally activities (e.g., moose hunting, fishing) of people from this region extends inland to the Kabinakagami River. Assessing the degree of impact based on the proximity of the settlement area to the sited resource development project is not appropriate where significant subsistence activities are undertaken all along the Albany River. In addition, the TK study for this project was only carried out with a small number of community members and they were all from CLFN, further narrowing the information used to inform this report; relevant TK held by members of Fort Albany FN and Kashechewan FN were not represented in the report.

Clearly, the legal requirements of the "duty to consult" were not met in this process, let alone the higher standards that should be in place where one of the proponents is a FN organization. The lack of adequate community meetings – the siting and timing of project information meetings – and the advanced state of the project when the other FNs were notified, do not even meet the minimum standard for information-sharing. It is difficult to understand this oversight when considering the context of the development: a FN co-proponent of a project with potential impact on treaty rights with respect to neighboring FN communities. Further, there were two overarching governance structures in place, NAN and MC, CLFN is not a member of MC but has made joint declarations

regarding development impacts - both with established consultation protocols and extensive institutional experience. Yet none of these protocols were implemented nor the FN guiding principles reflected in the spirit of these documents. This raises serious questions about the comprehension of the NAN and MC protocols and their "legitimacy", if FNs that have supported them in principle do not support them in practice.

3.3.c Criterion 3 Means

Outside of provision of information upon request and mandatory notification, there was no provision of financial, technical, or human resources provided outside of the community of CLFN; CLFN was even provided a liaison position. Indeed, no financial resources were made available to assist community leadership or community members of other FNs to attend public information centres held in Hearst, Ontario, to receive information or provide input regarding ongoing concerns. A digital copy of the information used during the information session was provided to Fort Albany FN, but no actual support to understand this information was provided. Also, there was no mention of providing means to surrounding FNs to attend, or participate in the collection TK data about areas of cultural, spiritual or environmental importance to be used to inform the development of the project at the time that these studies were carried out (April-May, 2009).

3.3.d Criterion 4 Flexibility/Transparency

The "Aboriginal Engagement plan" was meant to provide an opportunity for Aboriginal communities to be informed about the project, provide TK, identify important cultural and spiritual site information, areas of special interest, and to communicate issues of concern present in the affected community related to the project. The Aboriginal

Engagement Plan for this project described transparency as a guiding principle for Aboriginal engagement. The report defined "transparency in terms of sufficient information for meaningful and constructive participation and consideration of values, and transparency in terms of how participation informs the outcomes of and the final decisions for the project" (Hatch, 2013, Appendix C1:p.2). There was some flexibility demonstrated with the reduction in the number of sites to be developed as a result of environmental concerns revealed though discussions with CLFN community members (Table 4, October, 2009), as CLFN was a co-proponent. However, the proponents did not elicit or consider input from other FNs downstream of the proposed project. As mentioned, FAFN did submit comments as part of the bump-up request that detailed many concerns with the project including the lack of provision of information in Cree and a lack of opportunity for information gathering from the community to inform project design, participation and consultation. The proponent did indicate a willingness to provide a copy of the executive summary detailing the project in Cree as it had been provided the CLFN, however, no changes to project design or additional consultation was carried out. The Aboriginal Engagement lists Fort Albany FN under "other aboriginal communities" and describes mandatory notification, with additional meetings to be facilitated when requested. Meetings and consultation were requested prior to Feb. 2010 directly with CLFN and more formally in December 2011. The first and only meeting to be held happened in Feb. 2012. There were some efforts to schedule a community information session taking place following that date until the final environmental report was released.

3.3.e Was the requirement 'Duty to Consult' met in this case?

The "duty to consult" is certainly triggered in this area based on treaty rights. However, the process that has been carried out failed to meaningfully consider the impact on treaty rights for downstream communities. TEK studies with downstream communities were not contemplated due to the adopting of limited boundaries with respect to project effects. Thus, potential cumulative impacts related to past diversions and water impoundment structures on fish populations were not thoroughly considered. Beyond the need for consultation that flows from prescribed elements of the legal doctrine - there is substantial moral obligation - as there is a history of limited consultation with previous hydroelectric developments in the region (Moose River Complex) with a need for reconciliation. This is evident in the "Northern Rivers Agreement" between the FNs and the Ministry of Environment and Energy (later known as the MOE), that requires consent from those communities that would be affected by hydroelectric development then and now. The application of this agreement presents itself in the MNR "Site Release" policy document which implies shared recognition of this agreement by both the MNR and MOE. The Class EA guiding document also describes this project as a category B project requiring greater agency and Aboriginal interest. Together these elements would suggest that the highest level of consultation with downstream FNs would be expected. However, this process has demonstrated the minimum standard for "public" consultation, by providing notification, at best – which is surprising as a co-proponent is a FN – or perhaps because a co-proponent was a FN, the proponents felt no need for extensive consultation.

3.4 Recommendations

Ensuring direct government involvement in early consultation activities to ensure that all involved understand roles and expectations would benefit the process. This would contribute to greater awareness of the nature of the project and potential for infringement. Communication with potentially impacted communities – widely scoped to include all potentially impacted communities – to identify early concerns or policies that would trigger more rigorous consultation processes. This would benefit the process in the long run with a more realistic understanding of time, information, and capacity requirements that would be necessary. In addition, there should be greater oversight by Crown representatives throughout the process, delaying or suspending the process when it becomes clear that requirements for adequate consultation are not being met would help to address these issues.

There is a need to instill greater awareness of limitations to the consultation process when restrictive project timelines are used, such as in the case of streamlined EAs (e.g., Ontario's Class EAa) Limitation will be particularly evident when streamlined EAs are applied to remote, predominantly First Nations, in northern areas for logistical, cultural, and other reasons. In addition, clear guidelines detailing opportunities for participant funding should be implemented particularly in cases where finances and geography presents significant barriers to participation.

There was certainly organizational awareness of the presence of requirements for consent that flow from the "Northern Rivers Agreement" as evidenced by its mention in policy and strategic planning documents. However, this heightened expectation for consent from downstream communities was not carried through in the approval of the "Aboriginal Engagement Plan" that guides consultation in this case. Clearly, more thorough consideration of the degree of consultation is required especially in light of agreements that have been made towards reconciliation of past wrongs related to hydro development in the region.

Significant attempts to engage in ongoing information related to the advancement of project design, feasibility studies, TEK studies, background review by those FN communities listed under "Other" were not meaningfully considered as material to the project or the EA process. The effort to satisfy these requests for further information, consideration of concerns were only prioritized in later stages of the process, arguably, well passed the point of influencing the project or advancing mitigation. Greater accountability related to flexibility and openness is required to avoid future oversight of these principles meant to guide the process and potential cause for litigation.

A series of training exercises for community leaders and staff introducing the legal (and ethical) requirements of "duty to consult", with special emphasis being put on EA scenarios similar to the one that is of particular concern for that community. This community engagement is critical to building community-based capacity for participation. There is organizational knowledge that can be shared here by members of the regional

and supra-regional FNs governance organizations, along with protocols that can serve as tools at the community level with provision of more overt efforts to knowledge training and support[9].

The establishment of a participation strategy within potentially impacted communities to ensure thorough documentation, reporting, and information sharing would enhance the ability to participate within the limited timelines often present in the EA process. This ability to mobilize more readily and engage in the process would ensure that the community meets its obligation to actively participate at every opportunity.

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3.5 Conclusions

The presentation of this case study has served to highlight the standard for consultation that is expected and some standards that are introduced, in this case, that result from unique geographic, cultural and historical conditions. The evaluation has highlighted significant shortcomings in this case that have resulted in increased conflict and uncertainty related to development. While there has been no response to the Part II Order, in the first quarter of 2014 the co-proponent Northland Power downgraded the project from "highly certain" status of being constructed. As a result, $5.2 million of previously deferred development costs were written off, meaning that the future of the project is now uncertain (Northland, 2014).

Notes

1. In this article Aboriginal People refers to First Nation, Inuit and Metis populations in Canada.

2. The British Crown recognized that the "Indians" in their North American colony had land rights established long before the British arrived (Henry, 2006). These existing land rights meant that land had to be ceded or purchased through treaties to facilitate settlement (Cauchon and Cockburn, 1867).

3. "The existing aboriginal and treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed"

4. The Dominion of Canada was founded on a federated system of government in 1867

5. define omnibus bills: Omnibus bills package together several measures into one, covering a number of diverse and often unrelated topics (Goertz 2011)

6. define scoping and "alternatives to" and "alternative means"; Scoping is an "early component of the EIA process used to identify important issues and parameters that should be included in the assessment" (Noble, 2010: 267). Alternatives to "refers to different ways of addressing the problem at hand or meeting the proposed project objectives; renewable energy, for example, would be considered an "alternative to" a proposed coal-fired generating plant" (Noble, 2010:260). Alternative means refers to "different ways of carrying out a proposed project – typically alternative location, timing of activities, or engineering design" (Noble, 2010:260)

7. The "Northern River Agreement", applies to the Moose, Attawapiskat, Albany, and Winisk Rivers, requires a co-planning process between Government of Ontario and local First Nations be carried out for any hydroelectric development greater than 25 MW (OWA, 2005). "…[O]ur government would agree that there will be no hydroelectric development of greater than 25 Megawatts (MW) installed capacity within the basins of the Attawapiskat, Albany and Weenusk [sic] Rivers. Hydroelectric proposals of less than 25 MW installed capacity would be considered if they were proposed by, or directly consented to, by the potentially affected First Nation". Further the letter indicates that the agreement "bind present and future Provincial and First Nations Government." (Letter dated May 20, 1993, para. 4, To Mr. John Turner, Chairman of the Moose River/James Bay Coalition, from the Ministry of Environment and Energy). This requirement is repeated in Ontario Ministry of Natural Resources site release policy "[a]t this time, individual developments greater than 25MW will not be considered within the basins of the Severn, Winisk, Attawapiskat and Albany Rivers" (MNR, 2004).

8. Matawa First Nations include: Aroland First Nation, Constance Lake First Nation, Eabametoong First Nation, Ginoogaming First Nation, Hornepayne First Nation Long

Lake #58 First Nation, Marten Falls Indian Reserve #65, Neskantaga First Nation, Nibinamik First Nation, Webequie First Nation.

9.Krupa (2012b) undertook an evaluation of the experience of one aboriginal community, Pic River First Nation (PRFN) in northern Ontario, who have successfully developed three hydro electric projects: Wawatay a 13.5 MW operation, Twin Falls a 5MW operation, and Umbata Falls 24 MW operation. The first, Wawatay was developed as a proponent that gained them significant equity, the second, Twin Falls employed a financing strategy that led to full ownership, and finally Umbata Falls where PRFN was the lead developer and owner of majority shares (Krupa, 2012). PRFN, a community with a wealth of experience in hydropower development has gathered a number of lessons and strategies that have helped to maintain continuous improvement in their community with respect to meeting objectives related to social well-being. Along the way they have also met with dissention related to social and environmental impacts. They have incorporated significant opportunities for participation by community members in the planning, environmental assessment, and impacts on daily or subsistence activities. Incorporating these mechanisms into the process has improved the efficiency of the process for approvals and permits and also within the community improved the social legitimacy of the ventures (Krupa, 2012a).

Chapter 4

Drawing a line in the muskeg: A systematic review of Environmental Assessment information, curated and evaluated, to advance evidence-based environmental decision-making to benefit communities, policy makers and proponents in a remote area of Northern Ontario, Canada

4.0 Introduction

The majority of information-management specific literature that relates to Indigenous groups, technology, and land use is centred on various forms of geographic information systems (GIS) and mapping. The emphasis in practice and the academic literature is on the ways that Indigenous knowledge[1] is gathered, displayed, disseminated, shared and protected as part of the land use planning, permitting, and development process (Feldman, 2002; Johnson et al. 2006; Jankowski, 2009; Sletto, 2009; Roth, 2009; Bryan, 2009; Wainwright and Bryan, 2009). The application of, or requirement for information within the environmental decision-making process – for example for environmental impact assessment (EA)[2] – remains largely separate. The consideration of the type and quality of information that flows in the environmental management and decision-making process, especially during the EA process, is a lesser-studied aspect of the flow of information in decision-making (Pullin et al. 2004). Similarly, the type and quality of information generated and used during Indigenous land use planning and decision-making is often over-looked, although there is a great deal of literature that examines Indigenous knowledge and the integration of different knowledge types (e.g., Johannes, nd; Raymond et al. 2010; Lertzman, 2010) or use of different knowledge types as complementary constructs (e.g., Agrawal, 1995; Tsuji and Ho, 2002; McGregor, 2008). Nonetheless, the consideration of these knowledge types – Indigenous knowledge (historically, oral in form) and "western science" (historically, written) – remains largely separate between established EA and land use planning protocols. Further, both the process for the collection of Indigenous knowledge and the use of existing biophysical

information in the EA regime have been found to be lacking, especially in the subarctic region of northern Ontario, Canada (Whitelaw et al. 2009; McEachren et al. 2011).

In this paper, we highlight an approach to gathering information to inform decision-making, as part of a systematic review in a remote subarctic First Nations community, Fort Albany First Nation. Typically, efforts to undertake systematic review[3] as described in the literature, are concentrated on gathering the information for environmental management practitioners to be used broadly (Pullin et al. 2004; Stewart et al. 2005; Roberts et al. 2006; Pullin and Knight, 2009). We take a slightly different approach to gathering information, to build capacity in a group that is isolated geographically. We move towards setting a common standard of information to be available for community decision-making. The central system we used to house the information is a closed system[4], as the two main information sources – Indigenous knowledge and written/online information – that are housed in this tool require protection of intellectual property, while allowing communities to share the information as they see fit.

This paper begins with a description of the region of study and its current state of development; our information management tool will then be described followed by methods used to collect relevant information. The results and discussion section provides a description of our efforts to compare information standards in current decision-making (i.e., actual cases), to the information collected in our information management tool. Finally, lessons learned, existing challenges, and next steps will be discussed.

4.1 Background

The initiation of community-based land use planning in remote First Nations communities along the western James Bay Coast of Ontario, Canada, is an enormous undertaking. Several challenges exist related to remoteness, lack of data, limited technical and financial capacity of communities, and the need to consider distinct knowledge types with different storage needs. In the early stages of community-based land use planning, the use of information or state of knowledge to be considered in the case study became a primary concern. Although the main source of knowledge in this region comes from Indigenous knowledge, Indigenous knowledge must first be "collected" through a detailed use and occupancy study. However, other forms of knowledge do exist and can be of relevance and complement Indigenous knowledge (Agrawal 1995; Tsuji and Ho 2002). This article documents the process taken to collect, collate, evaluate, and disseminate information (existing written and online) other than oral Indigenous knowledge – to inform planning and land-use decision-making – and evaluate the utility of the present exercise, by comparing our approach to past and current EA processes (i.e. documents) that have been carried out in the western James Bay region.

Fort Albany First Nation (FAFN) is the focus of this study. The community is located within the western James Bay region of the Muskegowuk Cree Traditional Territory (MT; Figure 8). Communities in the area are governed by locally-elected Chiefs and Councils; an elected regional body called the Muskegowuk Tribal Council, and a supra-regional body, Nishnawbe Aski Nation, that covers much of northern Ontario and includes the land area under Treaties No. 5 and No. 9. All of the communities are remote

and have ice road access in the winter months and are accessible year-round by air. The population within the area is estimated to be 10,000. Approximately 900 people populate the community of Fort Albany First Nation.

The western James Bay lowland area is within the Hudson Plains, an area described as the 3rd largest wetland globally (Riley, 2011). The James Bay region has several of Ontario's largest river systems, the Attawapiskat, Albany and Moose River systems all drain into James Bay within the MT. In addition, the area is part of Canada's much celebrated boreal forest system. The climate in the area is subarctic with extended winters and mild short summers. In general, the area presents a harsh climate with a wide range of both biological diversity and changing conditions. It is anticipated that the subarctic regions will experience more severe climate change impacts as compared to more southerly regions (Gough et al. 2004; Stirling and Parkinson, 2006; Sala et al. 2006; IPCC, 2007). This combination of climate, wetlands, rivers systems, and forests forms the basis for an extremely sensitive and complex ecosystem.

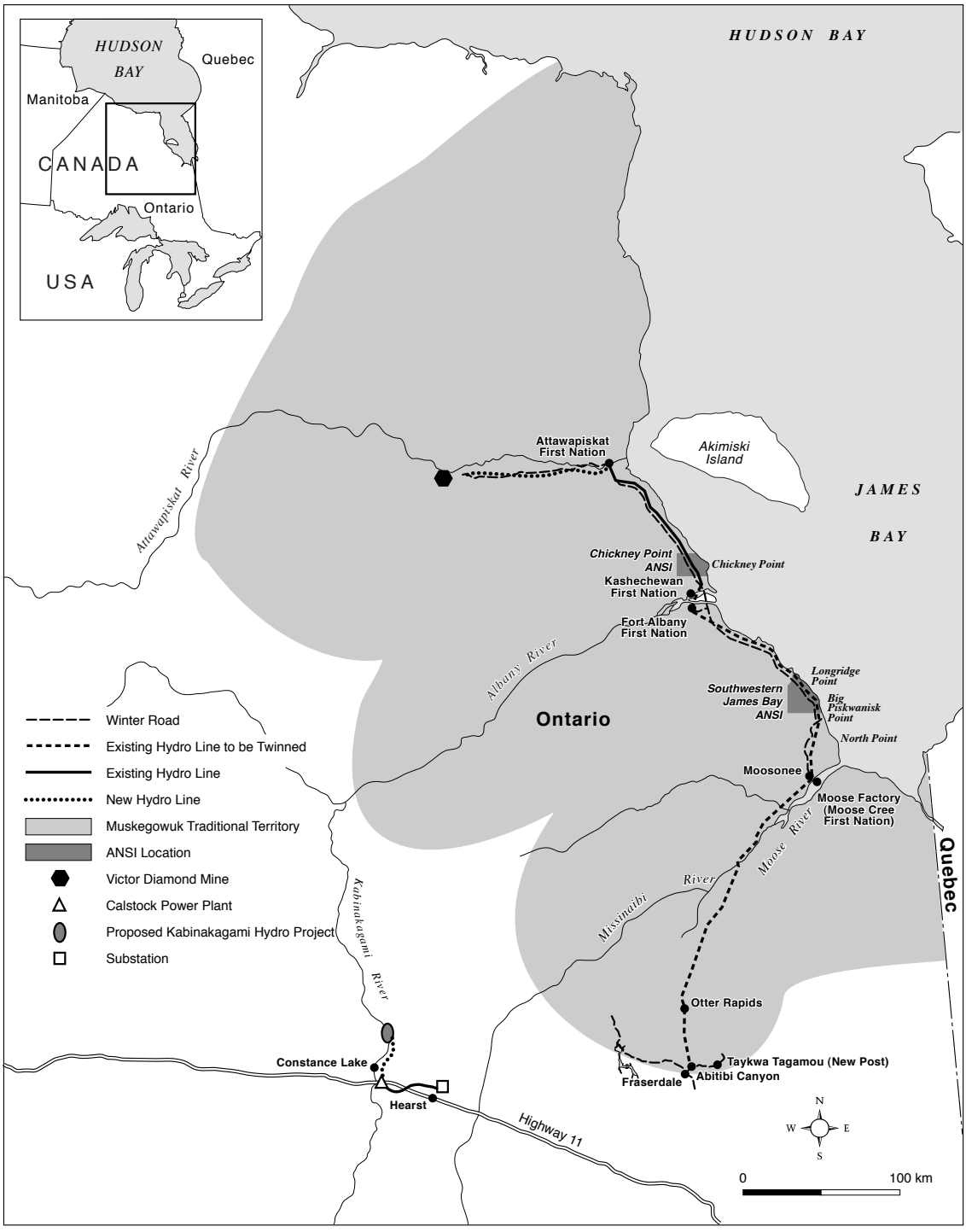

Figure 8. Western James Bay Coastal area showing major river systems, communities, shaded area shows approximate limits of the Mushkegowuk Territory, current and proposed development, as well as areas that have been determined to be of scientific interest (modified from Whitelaw et al 2009; McEachren et al 2011; Gardner et al 2012).

While the area has had limited development in the past, it is the focus of increasing development pressure as a result of the discovery of a large mineral deposit called the "Ring of Fire" (Gardner et al. 2012). Exploration and mineral staking of the area has been extensive in recent years and shows significant mineral resource potential (Ministry of Northern Development and Mines (MNDM), 2013a). In 2008, the first diamond mine in Ontario became operational and boasts high-value diamond resources (Wood et al. 2013). Indeed, DeBeers Canada Inc. has applied to extend their diamond mine in northern Ontario (CEAA, 2013). Further, chromite, zinc, gold, and kimberlite have been found in the area. Currently one chromite mine, the "Eagle's Nest Project", is in the early stages of the EA process (MNDM, 2013b). With resource development, comes interest in developing new infrastructure – hydroelectric generation, pipelines, permanent road systems, and landing strips – to service the many potential future projects. Indeed, the Kabinakagami River Hydro Project located in the Albany River watershed was in the final stages of the EA process.

A few communities in the "Far North"[5] area of Ontario have been undertaking community-based land use planning activities since 2008. In 2010, the province passed Bill 191, the Far North Act, which outlined a provincial framework to guide community-based land use planning in Ontario's northern region, areas covered by Treaties #5 and #9, including the MT. The Far North Act (2010) outlines three main objectives: to provide a framework whereby First Nations can play a significant role in the planning process; to protect 225,000 km^2 in interconnected protected areas, biological diversity, and

ecological function for the sequestration of carbon; and to enable economic development that will benefit First Nations.

Balancing the requirements related to the continuation of the traditional lifestyle, with the demands of large-scale development moving into this sensitive ecosystem, requires careful consideration of activities that are sustainable, through innovative land use planning. Central to the development of the community-based land use plan is the involvement of the community. This is achieved through member-driven planning advisory "councils" or groups, workshops, community meetings, and working groups. A critical early activity is to gather existing written and online information in the form of reports, studies maps, archeological assessments, scientific research, past development, site remediation material, and historic mapping. This activity followed by a gap-in-information analysis contributes to determining needs for further technical studies and monitoring. Early efforts to develop community-based land use plans have also found that the western James Bay region is information poor; communities lack technical resources, and there have been challenges in ensuring significant participation from the communities. The issues are further compounded by the logistical challenges related to the remoteness of the communities.

4.2 Collaborative Geomatics

The Centre for Community Mapping (COMAP), a non-profit organization of the University of Waterloo's Computer System Group (UWCSG), has developed the Web Informatics Development Environment (WIDE)[6], which has the capacity to advance

"dynamic assets mapping", a version of web-based information systems. Dynamic assets mapping involves the development of applications that support several file formats including: videos, pictures, maps, text, and files. Additional consideration was given to the types of barriers to technology, information sharing, and dissemination issues experienced by community-based groups. The necessity for a secure system was recognized as a high priority early on in the design process, given the sensitivity of information that was anticipated to be housed on the system (Cowan et al. 2010; Gardner-Youden et al. 2011a,b). The WIDE platform was created with these requirements in mind and supports geographically-based information, with defined access controls via login and social networking capabilities, as well as additional collaborative tools to encourage and support intercommunity, agency and stakeholder interactions despite geographic challenges (Cowan et al. 2010). The system integrates a wizard-based approach allowing for the development of additional user appropriate applications with minimal technical knowledge and training, while allowing file export that can be used to populate maps in more traditional mapping software and hardware (e.g., GIS), required in many environmental decision-making and planning processes. In addition, meta-data are searchable within the system. As a whole, the collaborative-geomatics informatics tool is a self-contained and maintained operating system for the community[7]; the community maintaining developmental control and ownership over information, without the associated financial burden or requirements for technical expertise (McCarthy et al. 2011). A collaborative-geomatics informatics system specific to the MT was initially developed in 2009. Communities in the region expressed a need to have access to mapping and community information technology that was consistent with their circumstance, limited

technological and financial capacity. In response, we developed a tool specific to their needs through an iterative process. As part of the development process, we acquired high-resolution satellite imagery of the region and loaded the images onto a basic system, which included some simple features: zoom in/out, a simple data entry process for oral, written and photographic files, and collaboration tool that supported multi-user screen sharing (Barbeau et al. 2011). The collaborative-geomatics informatics tool could have been rejected outright at this stage and a more appropriate system built from the ground up. Ongoing development of the tool was (and is) an iterative process involving updates and new applications based on community feedback after field-testing each version of the tool (Barbeau et al 2011). Using the latest version of the collaborative-geomatics informatics tool, we will evaluate EA activities that have been carried out in subarctic Ontario to examine the standard of information used in the decision-making process for land use and development. This paper describes the initial work and short-term outcomes; and long-term, continuous improvement in the process and capacity building in remote subarctic First Nations are envisioned.

4.3 Methods

This section will first detail the approach used to carry out the systematic review through the thematic distribution of knowledge using the abiotic, biotic and cultural resource survey method. The type of information collected under each theme used the evidence-based approach. The following section will describe the information management tool used to house the information. Finally, the comparative analysis and scope of the

analysis are described, that guide the presentation of findings in the results and discussion section.

4.3.a The Abiotic, Biotic, and Human Cultural Resource Survey Method

Although one of the primary drivers that led to the development of the collaborative-geomatics informatics tool in the MT was to support the advancement of the community-based land use planning process, through a land use and occupancy study (see Tobias, 2009, for a detailed description of this type of process) – that is, the collection and collation of Indigenous knowledge – written and online material are also important complementary sources of information. Both forms of knowledge can be stored on the collaborative-geomatics informatics tool and used in the community-based land use planning process, as well as inform other planning related activities. A systematic review utilizing the abiotic, biotic and human cultural resource survey method (ABC method) developed by Nelson and Lawrence (2009) was used to gather information, to evaluate the standard of information used in the EA process in this remote region. The ABC method was chosen for application to the western James Bay landscape, to provide an overview of the abiotic (soils, climate, geology, and hydrology), biotic, (flora and fauna) and cultural (people and lifestyles) resources of the region. Existing knowledge was drawn from the scholarly works of academics, as well as "gray" literature contained in government documents.

4.3.b The Evidence-Based Approach

Our approach also followed the evidence-based approach espoused by Pullin and Knight (2009:931) for environmental decision-making – and first used extensively in health care – whereby a "formal shared evidence-base" is built to provide a practitioner with a basic understanding of the subject area and the rationale for what will be proposed and done. This approach allows for the comparison of the "intervention" in environmental management or "treatment" in health care to best (at that specific time) practices, as supported by the academic literature. A specific intervention or treatment was not appropriate for the present exercise, but the systematic review – that is, the establishment of the evidence base – was of importance as an evaluative framework to compare the EAs. The review was framed as follows, with special attention being placed on emerging issues related to development and other types of environmental change, such as, climate change:

1. Establish the type of study (plants, mammals, amphibians, etc.) to be done.
2. Establish the scope of the area to be covered (e.g., general - Hudson Bay Lowlands, James Bay Lowlands, watersheds, forest zones, etc; specific - narrow study areas).
3. Describe the sources to give an idea of where most of the research is being carried out and by whom (e.g., government reports, Non-Governmental Organizations reports, community reports)
4. Identify current state of knowledge
    a. Describe the general relevance to the ecosystem, vulnerability to environmental change of the topic area in the region.

b. Describe the level of information that is present. The currency of the research that has been done.
c. Identify the areas that are lacking (obvious data gaps).
d. Outline additional study requirements.

5. Provide a reference section (used in summary report).
6. Gather a list of other sources (this should be a comprehensive list of all the studies that have been accessed and uploaded to the site).

4.3.c The Collection, Collation, and Uploading of Information

Beginning in the spring of 2011 through until the summer of 2013, a team of graduate students began to gather the existing written/printed academic literature, as well as online/open-source reports (e.g., consultants, and government) with respect to abiotic, biotic and cultural material focused on the MT and environment (see Table 6). Broad searches were first carried out to identify sources with respect to known plants, forest types, animals, landforms, and climate in the region. These sources were then utilized to generate lists of keyword-search terms; these keyword-search terms were then used to conduct a detailed search to ensure the results were representative of the available information for the study region. Shared terms among researchers included "James Bay", "Ontario", and "Mushkegowuk". As described above, more specific search terms were used for each topic area (e.g., "fish" was used in the broad search, while, "Lake Whitefish (*Coregonus clupeaformis*) and Cisco (*C. artedii*)" were used to conduct the detailed searches). The material was collected and collated by each graduate student – and then reviewed by the primary author of this paper to determine appropriateness for inclusion

in the evidence-based database – prior to the graduate student summarizing the information and uploading onto the collaborative-geomatics informatics tool to be available for all users.[8]

Table 6. Division of search responsibilities among the researcher team

Graduate Student #1	Arthropods, Reptiles and Amphibians, Lichens, and Mosses
Graduate Student #2	Birds, Microorganisms, Hydrology
Graduate Student #3	Mammals, Fish, Abiotic (other than climate)
Graduate Student #4	Cultural material
Graduate Student #5	Vegetation, Soil, Climate

Material that was not copyright protected was uploaded directly onto the collaborative-geomatics informatics tool using upload forms embedded in the system. The data upload form includes a drop-down menu requiring a description of the file type, location information to link data geo-spatially, additional metadata, and a more detailed description form for additional notes about the file.

This protocol allowed the user to specify the data type (document, audio, video, photograph), while applying geospatial reference co-ordinates of the material onto the high resolution platform, followed by a brief description of material uploaded. For copyrighted material, all the steps above were followed except the copyrighted material was not uploaded onto the collaborative-geomatics informatics tool. In addition, the tool was updated to include a diversity of abiotic, biotic, and cultural categories. This updating of the tool essentially provided for more detailed metadata, to improve the searchability of the tool to allow for a variety of uses. The content of the tool can be

searched based on the data type, a range of information categories (abiotic, biotic, cultural), geographic location (accessed by scrolling over the base map) or by the group that had uploaded the information (Figure 9). While the largest effort to compile this information was carried out in the latter part of 2011, the review and upload of new information remains continuous, as new information becomes available.

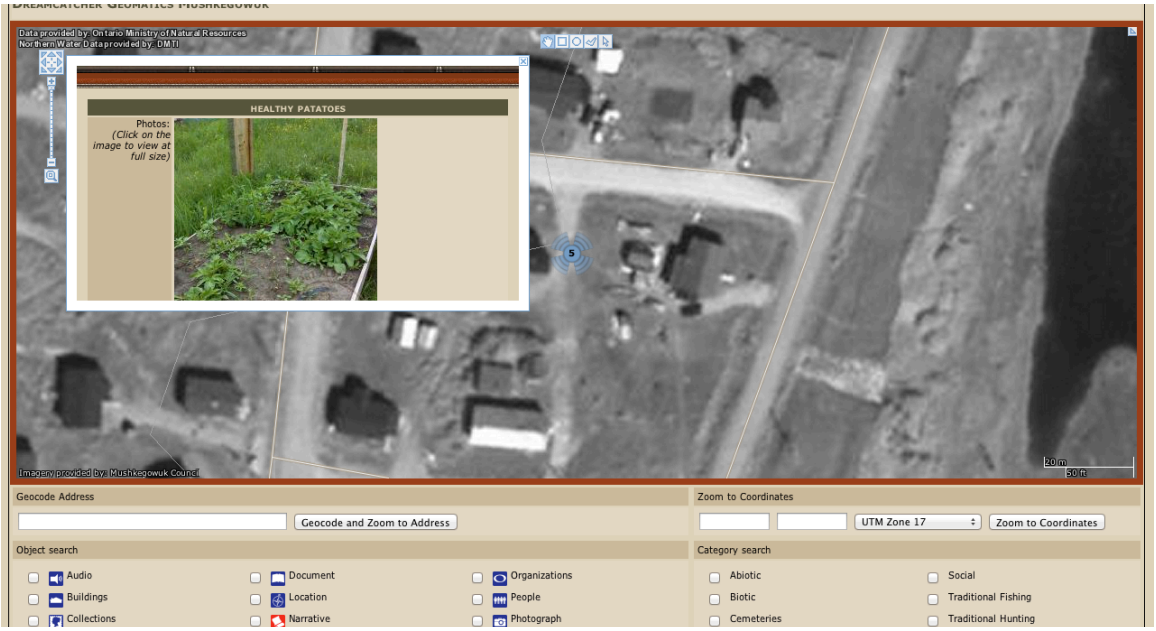

Figure 9. The base map page shows an image of the base map (zoomed into a community; note the sliding scale on the left of the map image), and a geocoded photograph that had been uploaded. A small "5" to the right of the photograph shows that at this geospatial coordinate, five additional files have been uploaded.

4.3.d Comparative Analysis

To test the potential usability of the collaborative-geomatics informatics tool and associated database in the environmental-decision-making process, the database was compared to the following EA reports: retrospectively to "Western James Bay Transmission Line Project Draft Environmental Assessment (WJBTL)" (Fenco MacLaren Inc. (FMI) and SNC Lavalin (SNC) 1997); another past EA,[9] the "Victor

Diamond Mine Power Supply Environmental Study Report Addendum" (SNC, 2005);[10] and a current Class EA, the "Kabinakagami River Environmental Report" (Hatch, 2013)[11]. The levels of detail and sources of information that were used in the three above-identified EAs (see Table 7 for details) were compared to the database of the collaborative-geomatics informatics tool, taking into account what was known at the time the reports were written. In this way, the standard for information (quality and comprehensiveness) used in the decision-making process could be determined, and areas of improvement identified (if appropriate).

The three test EAs selected in the present study represent EAs completed under different legislative frameworks (federal vs. provincial) and completed during different periods of time (Table 7), being specific to, or impacting the MT. Limited development and infrastructure in the region means that the consideration of these EAs are representative of development as a whole, in the region. The use of EAs related to mining and infrastructure to support mining operations, also, represents the nature of development that will dominate the region in the future. Table 7 describes the proponent, type of EA and regulatory requirements that triggered each of the undertakings. Figure 8 shows the footprint of the development projects relative to the MT and the community of Fort Albany.

4.3.e Scope of Analysis

As it would be beyond the scope of the present paper to compare all the elements contained in the selected EAs – to the information that has been identified and/or

uploaded to the collaborative-geomatics informatics tool – we have narrowed our analysis to selected elements that are shared between each of the EAs (Table 8). In the following section, the key points of information presented in each EA will be summarized. This activity will be followed by a comparison of the information gathered in the systematic review and summarized in the collaborative-geomatics informatics database. It should be emphasized that the analysis does not include Indigenous knowledge, as that comparison would be a study upon itself, and the use (or lack thereof) of Indigenous knowledge in EAs conducted in the MT has been partially addressed elsewhere (e.g., Tsuji et al. 2011; Whitelaw et al 2014). While the focus here will be on specific elements of the EAs and the literature used to inform the EAs, the EA documents have been thoroughly examined in their entirety in order to avoid making judgments out of context.

The comparative analysis emphasizing the information sources cited will focus on three general elements of the EAs: the aquatic, socio-economic, and cultural environments. The aquatic environment section of each EA varies, but generally outlines surface water quality, fluvial morphology, and the types of fish present. The socio-economic and cultural environment sections of the respective EAs provide a description of the communities in the region, settlement areas, employment, current development, economic conditions, and types of culture and the cultural activities related to hunting, fishing, trapping, berry picking, medicinal plants and spiritual sites. The final analysis examines each element more broadly to identify whether the EAs considered environmental change, as part of the decision-making process (climate change, large-

scale climatic systems or geologic change), which the EAs should have under the EA framework in Canada, at both the provincial and federal levels of government.

Table 7. Basic description of EAs selected for this comparison/evaluation

Title	Proponent(s)	Type of EA	Trigger
WJBTL Draft Environmental Assessment (FMI and SNC, 1997)	Five Nations Energy Inc., SNC-Lavalin Inc.	Federal-Level Canadian Environmental Assessment screening	Location on reserve land, and funding provided by Federal government.
Victor Mine Power Supply Environmental Study Report – Addendum (SNC-Lavalin, 2005)	Hydro One, Five Nations Energy Inc., DeBeers Canada Inc.	Ontario Class EA for Minor Transmission Facilities, Rep. No. 89513, Rev. No 6. (April 1992)	Small scale project with the assumption of acceptable environmental effects, with commonly understood construction and operational requirements
Kabinakagami River Project Environmental Report (Hatch, 2013)	Constance Lake First Nation (CLFN), Northland Power Inc.	Consolidation – Ontario Water Association's Class Environmental Assessment for Water Projects, and Ministry of Natural Resources Class EA for Resource Stewardship and Facility Development Projects.	A water power project, 44-kilovolt transmission line on Crown land, Lakes and Rivers Improvement Act that requires key elements present in the "Water Management Planning Guideline for Waterpower"

Table 8. Three Environmental Assessments and focal components of the reports (shared components underlined)

EA	Western James Bay Transmission Line Project Draft Environmental Assessment (1997)	Victor Mine Power Supply Environmental Study Report – Addendum (2005)	Kabinakagami River Project Environmental Report (2013)
Components	Climate, Land Cover Classification, Terrestrial Biology,	Climate, Physical Terrain Conditions, physiography,	Surface Water Hydrology, Surface Water Quality and

	vegetation, wildlife, Aquatic Biology (fisheries resources and water quality) Socio-Economic Environment Cultural Environment, Physical Setting, topography, physiography, surficial geology, bedrock geology, soil and permafrost, surface water hydrology	surficial and bedrock geology, soils, permafrost, Atmospheric Systems Surface Water Hydrology Water Quality Soils Aquatic Environment Terrestrial Environment, Vegetation, Wildlife, Natural Heritage Values Aquatic Biology Socio-Economic Environment Cultural Environment	Quantity Groundwater Air Quality and Climate Noise Levels Social/Socioeconomic Environment Aquatic Habitat Fish community and Fish Habitat Physiography, Topography, Geology, Bedrock geology, Seismicity and soils, Terrestrial Wildlife, Vegetation.

4.4 Results

This section is organized thematically based on components of the EAs that have been evaluated: aquatic biology, socio-economic environment, and environmental change. Components selected for the analysis are described, based on the information presented in the EA condensed in a table and written summary. Each description is followed by a written summary of the results found in the systematic review (based on information available at the time the EA report/document was written), and a comparative analysis of the individual documents.

4.4.a Aquatic Biology

4.4.a.1 Western James Bay Transmission Line (WJBTL, 1997).

This EA combined fish habitat and fisheries under the aquatic environment section of the report. The report indicated that no systematic survey of fisheries resources had been

undertaken because of the remoteness of the region (OMNR, 1985). However, the major species present in the region were identified (OMNR, 1989). A more specific study of the Kinoje River described additional fish species (Stann and Johnson, 1974), which were assumed to be more widespread within the region (OMNR, 1985). Sea-run (anadromous) brook trout (*Salvelinus fontinalis*) were absent in the Kinoje River (Weir, 1981), but pike (*Esox Lucius*), walleye (*Sander vitreus*), and lake sturgeon (*Acipenser fulvescens*) were present there, and in all other major rivers in the project area which extends from Moosonee to Attawapiskat along the James Bay Coast. Professional judgment is assumed to be the source of this information, as no citations are offered. Water quality is described in one sentence in this report: "Generally, potential impacts on water quality within the project study area have only occurred within areas influenced by human activities (i.e., within proximity to communities)." (SNC-Lavalin, 1997:4-20). Potential impacts of the project were mostly expected during the construction phase of the project, and related to sedimentation described as either within the stream or as a result of shoreline instability. Two main mitigation efforts were included to limit potential impacts of the project: avoiding placement of poles in waterways; and to carry out the construction activities during the winter months, to use the winter road crossings for equipment wherever possible. The report concludes that the impact of transmission line installation on water quality in this case would be a net improvement, compared to the alternative; that is, diesel generation on-site requiring the transport, transfer, and storage of fuel up the James Bay coast, with the potential of fuels spills (SNC-Lavalin, 1997). Table 9 shows the literature that the proponents used to inform this section.

4.4.a.2 Systematic Review

Our systematic review identified numerous studies that should have informed the aquatic environment section of the WJBTL EA. The review found that the majority of fish research had been carried out at a province-wide level, with river-specific information. Among the surveys completed, several were published prior to the release of the WJBTL (1997) report (Table 9; Minns 1989; Madrak and Crossman, 1992; Ferguson and Duckworth, 1997; Zanden et al. 1997). Additional elements relevant to understanding the aquatic environment related to winter road construction and water crossings, include changes in flow dynamics. Martini (1981) and King and Martin (1983, 1984) provide detailed description of the morphology and sediment present in the Albany River and Attawapiskat River, respectively, as the rivers enter James Bay. The literature describes flooding and tidal cycles, the geology of river substrates, organic content and the nature of river banks, as the rivers approach the coast. This type of information is relevant to construction and determination of the transmission line route, taking into account stability and safety. Of course, the complex nature of the environment in the James Bay Lowland area is dominated by flooding cycles that have implications for transmission pole placement throughout the region. Thus, cycles of sea ice break-up and sea ice changes based on storm surges have implications for the ongoing maintenance of these infrastructure systems. Woo and Heron (1987), Woo et al (1989), and Baltaos (1996) detail the break-up of small tributaries along the James Bay Coast, with consideration of the way snow and ice melt during break up, to cause snow dams and ice jams resulting in overflow into adjacent waterways and wetlands. This study helps to advance development of predictive models for segments of these river systems. In addition,

Mysak and others (1996) evaluated anomalies (North Atlantic Oscillation and El Nino-Southern Oscillation) in weather conditions influencing ice conditions in northern systems, including sea-ice observations in the areas through the 1970s and 1980s. This information gives relevant insight into the extremes that have occurred through the period immediately before the construction of the transmission line. See Table 9 for a list of relevant literature gathered as part of the systematic review.

Table 9. Aquatic Environment Resources sources used to inform the Western James Bay Transmission Line Project Draft Environmental Assessment (1997) and those available (i.e., pre-1997) and relevant, but not utilized.

Topic	**Western James Bay Transmission Line Project Draft Environmental Assessment (sources used)**	**Systematic Review (additional sources available but not utilized)**
Lake sturgeon distribution (ON, QC, Man.)	OMNR, 1985; Weir, 1981; Stann & Johnson, 1974; FMI, 1997 (community questionnaire); professional judgment.	Ferguson et al. 1993; Ferguson and Duckworth, 1997
Freshwater fish distribution (ON)	OMNR, 1985; Weir, 1981; Stann & Johnson, 1974; FMI, 1997 (community questionnaire); professional judgment.	Morin et al. 1980; Ochma and Dodson, 1982; Guderley et al. 1986; Minns, 1989; Lambert and Dodson, 1990; Mandrak and Crossman, 1992; Nicholas et al. 1992; Morin et al. 1992; Seyler, 1997; Zanden et al. 1997
River morphology	OMNR, 1985; Weir, 1981; Stann & Johnson, 1974; FMI, 1997 (community questionnaire); professional judgment.	Martini, 1981; King and Martini 1983, 1984
River ice conditions, break-up dynamics	OMNR, 1985; Weir, 1981; Stann & Johnson, 1974; FMI, 1997 (community questionnaire); professional judgment.	Woo et al. 1989; Woo and Heron, 1987; Mysak et al. 1996; Beltaos, 1996

4.4.a.3 Victor Mine Transmission Line/Winter Road expansion.

The evaluation of the expansion of the existing transmission line draws on the information described in the initial transmission line EA carried out eight years earlier (FMI and SNC-Lavalin, 1997). The expansion of the existing transmission line was not expected to have an adverse impact, as there would be no in-water activity related to construction or operation. As with the original construction project, no poles would be located within waterways and construction would be undertaken during the winter months. An exception is made for the southern portion of the project, which generally has different biophysical conditions, and existing infrastructure (rail line), which allows for different restrictions on construction (FMI and SNC-Lavalin, 2005).

Consideration of the fisheries resources in the area, refers to a lack of systematic review that describes the extent and significance of resources (OMNR, 1985). The majority of this section is taken word-for-word from the original report including use of literature (MNR, 1985; MNR, 1989; Stann and Johnson, 1974; Weir, 1981). This is also the extent of information used to characterize water quality: "Work undertaken for the Environmental Assessment of the existing Western James Bay Transmission Line from Moosonee to Attawapiskat in 1997 determined that there had been limited impact to water quality along the corridor. In general, the only areas of potential impact on water quality were within the areas influenced by human activities (e.g., the areas in proximity to established communities)." (SNC-Lavalin, 2005: 5-107).

The description of impacts and mitigations were consistent with the original WJBTL (1997), but provided a more detailed description of the cutting around riparian zones to minimize in-stream disturbance and maintain shoreline stability. No impacts on water quality were expected and if some would occur, then they were expected to occur only during the construction phase (SNC-Lavalin, 2005). Table 10 shows the literature cited to characterize this component.

4.4.a.5 Systematic Review

The systematic review reveals that there have been notable contributions made to the published literature with respect to the aquatic environment, in the eight years following the first study (Table 10). For example, a general study of fish species provides some basic understanding of the life history and ecology of 19 fish species in the Province of Ontario (Kerr and Grant, 2000). Further, Hendry and Chang (2001) provide a detailed review of assemblages of fish and fish communities found in adjacent river systems, the Moose and Abitibi Rivers. The authors examined the impacts on fish as a result of hydroelectric development, and report that while spawning was likely still occurring with some species, the flow rate in proximity to the dam installation was too high for many fish species to spawn. The potential migration of non-native species of fish northward as a result of climate change, and the potential impact on existing fish communities was covered in a paper by Jackson and Mandrak (2002). Of specific value to coastal development, a comparison of salt marsh fish communities within various North American estuaries, including one in the James Bay region was published (Nordlie, 2003). Finally, a summary overview of the Hudson's Bay ecosystem prepared for the

Department of Fisheries and Oceans provided an outline of the potential impacts of harvesting, development, contaminants, and climate change will have on birds, mammals, fish, plants and other organisms in the region (Steward and Lockhart, 2004).

Studies of river flow in the James Bay region, including the specific study of the Moose, Albany, and Attawapiskat Rivers, have shown that the discharge rate is declining. Discharge volumes (1964-2003) have decreased up to 13% (Dery and Wood, 2005; Dery et al. 2005). These changing conditions were largely attributed to damming and changes in precipitation (Dery and Wood, 2005). In addition, the Canadian Ice Service (2004, 2005) provided a detailed description of trends in ice conditions in Hudson Bay and James Bay as a result of both seasonal temperatures and fluctuations in those temperatures, ultimately influencing the timing and rate of ice break up. More detailed descriptions of ice break up extending into the northern rivers are provided in Ho and others (2005), with a more comprehensive picture being provided through the use of Indigenous knowledge. This study showed that there have been changes to ice-break up dates in recent years, an important consideration for establishing a timeline for construction in the area and determining the duration of access to ice road for moving large equipment across crossings.

Table 10. Aquatic Environment Resources sources used to inform the Victor Mine Power Supply Environmental Study Report – Addendum (2005) and those available (i.e., pre-2005) and relevant, but not utilized.

	Victor Mine Power Supply Environmental Study Report - Addendum **(sources used)**	**Systematic Review (additional sources available but not utilized)**
Topic		
Lake sturgeon distribution	WJBTL EA Report (SNC-	Ferguson et al. 1993;

(ON, QC, Man.)	Lavalin,1997); Re-evaluation Report (SNC-Lavalin, 2005); OMNR, 1985	Ferguson and Duckworth, 1997
Freshwater fish distribution (ON)	WJBTL EA Report (SNC-Lavalin,1997); Re-evaluation Report (SNC-Lavalin, 2005); OMNR, 1985	Morin et al. 1980; Ochma and Dodson, 1982; Guderley et al. 1986; Minns, 1989; Lambert and Dodson, 1990; Mandrak and Crossman, 1992; Nicholas et al. 1992; Morin et al. 1992; Seyler, 1997; Zanden et al. 1997; Kerr and Grant, 2000; Hendry and Chang 2001; Jackson and Mandrak, 2002; Nordlie, 2003
River morphology/flow	WJBTL EA Report (SNC-Lavalin,1997); Re-evaluation Report (SNC-Lavalin, 2005); OMNR, 1985	Martini, 1981; King and Martini 1983, 1984; Dery and Wood 2005; Dery et al. 2005
River ice conditions, break-up dynamics	WJBTL EA Report (SNC-Lavalin,1997); Re-evaluation Report (SNC-Lavalin, 2005); OMNR, 1985	Woo et al. 1989; Woo and Heron, 1987; Mysak et al. 1996; Beltaos, 1996; Canadian Ice Service, 2004, 2005; Ho et al. 2005
Aquatic ecosystem	WJBTL EA Report (SNC-Lavalin,1997); Re-evaluation Report (SNC-Lavalin, 2005); OMNR, 1985	Stewart and Lockhart, 2004

4.4.a.6 Kabinakagami Hydro Project

This environmental assessment report divides the water section into two separate chapters: water quality (Surface Water Hydrology), and the aquatic environment. Both will be described here in terms of literature and information used to inform the consideration of impact, significance and mitigation (Table 11). The water quality

section describes vegetation, morphology, substrate, and flow (based on both the nature of the channel and seasonality). The various indicators of water quality (total suspended solids, mercury, methyl mercury, dissolved oxygen, bacteria, pH, etc.) are based on "Provincial Water Quality Guidelines" and "Canadian Water Quality Standards". Further, aquatic habitat sections are based on field observations of the seven sites initially proposed for development and described in relative depth: velocity, substrate, flow, and fish species (identification of species, general abundance, and some classification of age to establish a determination of the likelihood of the areas as potential spawning areas). Fish communities were described using a variety of techniques, such as, a field survey, information from reports (MNR information pack on the Kabinakagmi River (2010)), a TK study conducted with Constance Lake First Nations, and one large inventory carried out at the mouth of the Kabinakagami River by the OMNR in 1984. The report indicates that no known fish habitat or community studies exist in the project area prior to the collection of baseline study for the proposed development (Hatch, 2013). The Hatch (2013) study is narrowed to examine species that are of social or ecological importance. These include: lake sturgeon *(Acipenser fulvescens)*, brook trout ((Brook Char) *Salvelinus fontinalis)*, walleye (*Sander vitreus*), lake whitefish (*Coregonus clupeaformis*), northern pike (*Esox Lucius*), white sucker (*Castostomus commersoni*), spottail shiner (*Notiopus hudsonius*), and yellow perch (*Perca favescens*). Further, life history requirements, distribution, spawning, nursery, cover, and foraging habitat were discussed. The distribution of these species throughout the various sites identified for hydro development is identified from the field survey completed in 2009 (Hatch, 2013).

Table 11. Aquatic Environment Resources sources used to inform the Kabinakagami Hydro Project (2005) and those available (i.e., pre-2013) and relevant, but not utilized.

	Kabinakagami Hydro Project (sources used)	**Systematic Review (additional sources available but not utilized)[12]**
Topic		
Lake Sturgeon *(Acipenser fulvescens)* "Special Concern" (species at risk based on Ontario ESA (2007 –Hudson Bay – James Bay population)	Harkness, 1922, 1923; Roussow, 1957; Wang et al. 1985; Scott and Crossman 1998; MNR, 2009a; OWA, 2009; Sheehan pers. comm, 2010; Golder, 2011; Hatch, 2011a; Barbour, pers.comm., 2010	Ferguson et al. 1993; Ferguson and Duckworth, 1997; OMNR, 2009; Kerr, 2010; Golder 2011
Brook Trout (Brook Charr) *Salvelinus fontinalis*	Ricker, 1932; Greeley, 1932; Cooper, 1940; Baldwin, 1948; Scott and Crossman, 1998	Morin et al. 1980; Morin et al. 1992; Mandrak and Crossman, 1992; Seyler, 1997
Lake Whitefish (*Coregonus clupeaformis*)	Scott and Crossman, 1998; Evans et al., 2002; COSEWIC, 2005; Eakins, 2007.	Guderley et al. 1986; Lambert and Dodson, 1990; Mandrak and Crossman, 1992; Seyler, 1997;Hendry and Chang, 2001; Holm et al. 2010;
Walleye (*Sander vitreus)*	Auer, 1982; McMahon et al., 1984; Corbett and Poules, 1986; Newbury and Gaboury, 1993; NWST, 1996; Kerr et al. 1997; Finucan, 2004; Golder, 2006.	Morin et al. 1980; Ochman and Dodson, 1982; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Seyler, 1997 ;Holm et al. 2010;
Northern Pike (*Esox Lucius)*	Inskip, 1982; Casselman and Lewis, 1996;NWST, 1996; Seyler, 1997	Morin et al. 1980; Mandrak and Crossman, 1992; Seyler, 1997; Hendry and Chang, 2001; Holm et al. 2010;
White Sucker (*Catostomus commersonii)*	NWST, 1996; Cudmore-Vokey and Minns, 2002	Morin et al. 1980; Mandrak and Crossman, 1992; Seyler, 1997; Hendry and Chang, 2001; Holm et al. 2010;
Yellow Perch (*Perca favescens*)	NWST, 1996	Morin et al. 1980; Mandrak and Crossman, 1992; Seyler, 1997; Hendry and Chang, 2001; Holm et al. 2010;
Spottail Shiner	NWST, 1996; Evans et al., 2002	Morin et al. 1980; Ochman

(Notropis hudsonius)		and Dodson, 1982; Mandrak and Crossman, 1992; Holm et al. 2010;
General Freshwater fish distribution/aquatic habitat	OMNR 1984,2010; Scott and Crossman 1998 (methods)	Morin et al. 1980; Ochma and Dodson, 1982; Guderley et al. 1986; Minns, 1989; Lambert and Dodson, 1990; Mandrak and Crossman, 1992; Nicholas et al. 1992; Morin et al. 1992; Seyler, 1997; Zanden et al. 1997; Kerr and Grant, 2000; Hendry and Chang 2001; Jackson and Mandrak, 2002; Nordlie, 2003; Browne, 2007; MERC, 2009; Holm et al. 2010; Kerr 2010; WCS, n.d; Stewart and lockhart, 2004; MERC, nd
River morphology/flow		Martini, 1981; King and Martini 1983, 1984; Dery and Wood 2005; Dery et al. 2005;
River ice conditions, break-up dynamics		Woo et al. 1989; Woo and Heron, 1987; Mysak et al. 1996; Beltaos, 1996; Canadian Ice Service, 2004, 2005; Ho et al. 2005; Canadian Ice Service 2006, 2007, 2008, 2009, 2010a,b, 2011, 2012; Environment Canada 2010a, b; Stewart and Barber, 2010; Hochheim et al. 2010, 2011; Dery et al. 2011;

Mercury content was addressed by species throughout the Kabinakagami River Project Report (Hatch, 2013). Various government reports and studies were referenced with respect to mercury in lake sediment (Bissonette, 1975; Langston, 1982; Krabenkhoft et al. 1998; Kainze et al. 2003), and the different trophic levels: accumulation in plankton and

benthic macroinvertebrates (Jackson, 1988; Parkman and Meili, 1993; Trembley, Lucotte, and Rheault, 1996); insect larvae (Tremblay and Lucotte, 1997); and general fish species in the region (Bodlay and Fudge, 1999), including rainbow trout (MacLeod and Pessah, 1973). Other issues discussed include: bioaccumulation of mercury from flooding (Bodlay et al. 1997); mercury contamination from the LaGrande Hydroelectric development on the east coast of James Bay (Bruoard et al. 1990); impacts on fish (Environment Canada, 2003); mercury cycling in rivers and wetland systems (Waldron, Colman, and Breault, 2000).

4.4.a.7 Systematic Review

Our assessment confirms that there is a lack of ongoing monitoring of surface water quality conditions, and of the 56 species of fish found in the region, less than 25% have been studied in the literature (Seyler, 1997; Holm et al. 2010). One significant source of information is a study carried out by Browne (2007) which describes the range and ecology of several of the species relevant to this study area: walleye (*Sander vitreus*), northern pike (*Esox Lucius*), yellow perch (*Perca favescens*), white sucker (*Castostomus commersoni*), lake whitefish (*Coregonus clupeaformis*), and cisco (*Coregonus artedi*). This study gives some basis for understanding the dynamics of fish ecology in the region. A detailed study of both the Attawapiskat and Albany Rivers, completed by the Mushkegowuk Environmental Research Centre (MERC, nd) in 2008 and 2009, examined some of the environmental conditions surrounding the Victor Diamond Mine and two proposed hydro development sites along the Albany River (Hat Island and Chard River). The study examined the methyl mercury content in fish tissue from pickerel, northern

pike, sturgeon, whitefish and trout to compare to the Food Advisory level. In the first sampling period, 18 northern pike and 18 walleye samples were collected from the Albany River and analyzed. The only previous published study was carried by the Ministry of Environment at the mouth of the Albany River and reported that higher mercury concentrations were found at the outfall of the river than in the inland samples collected in the MERC study. However, the results reveal that it is not safe to consume northern pike that are greater than 65 cm in length and walleye greater than 40 cm in length as a result of methyl mercury concentrations in their tissue (MERC, nd). The study also collected baseline information including type of substrate, water quality, dissolved oxygen concentrations, acidity, temperature, and fish inventory at the Hat Island and Chard River sites.

With the exception of the MERC (nd) study, there is a lack of published community-based research that would enrich the information on the impacts that resource development and climate change will have on local fish populations. The MERC study also indicated that further research into methyl mercury concentrations in sturgeon and whitefish were necessary, as well as an expanded study area for baseline data collection. Despite significant data gaps in this geographic area, there is still background information to provide a scientific basis for a preliminary professional judgment. Also, several studies explore the range of fish species in the Province of Ontario (Mandrak and Corssman, 1992; Minss, 1989; Ferguson and Duckworth, 1997; Zanden et al. 1997; Kerr and Grant, 2000; OMNR, 2009a,b; Holm et al. 2010; Kerr, Davison, and Funnel 2010).

The limited evaluation of known impacts on fish populations, as a result of hydroelectric development is concerning. Hydroelectric development in the western James Bay region has resulted in declines in fish reproduction due to changes in water speed and migration routes (Seyler, 1997; Hendry and Chang, 2001). Furthermore, hydroelectric development creates reservoirs that lead to river habitat loss and increased mercury concentration in fish (Browne, 2007). It appears that lake sturgeon and brook trout are highly sensitive to hydroelectric development (Browne, 2007). Ferguson and Duckworth (1997) found that habitat fragmentation due to dams and exploitation, is largely to blame for Lake Sturgeon population declines and it is unknown if sturgeon populations can sustain themselves after damming. In fact, studies from the adjacent watershed, the Moose River basin, a heavily dammed river system, have described spawning observations and made management recommendations to address habitat fragmentation. Seyler (1997) also reports on the need to promote gene flow between fish population in the Moose River basin despite hydroelectric dams.

Existing information related to sea ice and water temperature changes are also overlooked in these reports. There is a large body of literature on sea ice and water in the James Bay region, especially in light of the anticipated impacts of climate change (Gough and Wolfe, 2001; Joly et al. 2001; Latifovic et al. 2005). The extent of sea ice is expected to continue to decline with the projected 5 degree Celcius increase (Joly et al. 2011). Also there is some indication that the stream flow conditions in the Albany River may not be easily predicted. Several studies have examined stream flow discharges into James Bay (Dery and Wood, 2005; Dery et al. 2005; Dery et al. 2011) and have reported a decline in

discharge rates in the various tributaries, except the Albany River which has been shown an increase in drainage of 0.07km^3/yr (Dery et al. 2011).

4.4.b Socio-Economic Environment

4.4.b.1 Western James Bay Transmission Line (1997)

The evaluation of the socio-economic impacts considered a number of elements based on the short and long-term effects of the project, on individuals and communities. The Western James Bay Transmission line did not include a detailed socio-economic impact assessment, perhaps because one of the proponents was one of the First Nations to be impacted by the development. Concern over this project was largely based on the physical installation of the transmission lines and their potential impact on traditional activities, such as, hunting, fishing, trapping, and berry picking. Although Statistic Canada provides an easily accessible resource for basic information regarding Aboriginal communities, where region-specific information exists that examines the range of indicators used to establish socio-economic impacts, this resource was not fully utilized.

4.4.b.2 Systematic Review

Understanding the historic movement and lifestyle of the James Bay Cree is relevant to understanding the way that some aspects of lifestyle have changed, while others have remained the same. The written record (from a European perspective) is fairly expansive with regard to the James Bay Cree, as early English and French traders recorded interactions with people in the region. Beginning in the 1670s, detailed records were maintained by representatives of the Hudson's Bay Company (Bishop, 1982,1985). Early

records of trading among various groups with those James Bay Cree are mentioned, extensive, and several authors have used them to detail activities related to hunting, trapping and fishing (Tyrrel, 1931; Bishop, 1974; Ray 1974; Roger and Smith, 1975; Bishop and Smith, 1975; Preston, 1975; Tanner 1979; Honigmann, 1981; Roger and Smith 1981; Ray 1984). The cultural and spiritual features that support ongoing traditional activities are critical to the understanding of value systems and cyclical use of resources (Berkes et al. 1991, 1994, 1995). Several examples exist that concentrate specifically on waterfowl harvesting (Honigmann, 1948; Hanson and Currie, 1957; Prevett et al. 1983; Thompson and Hutchinson, 1989; Cummins, 1992; Berkes et al. 1994 a,b, 1995; George et al. 1996), which is of central concern when considering the impacts of transmission line installations. Flannery (1995) includes an extensive list of ethnographic literature describing the western James Bay Cree subsistence lifestyle, culture, the cyclic nature of traditional lifestyles in the region, and the unique relationship with nature found in this population. A representative selection of works found during the systematic review is included in Table 12.

Table 12. Socio Economic Environment sources used to inform the Western James Bay Transmission Line (1997) and those available (i.e., pre-1997) and relevant, but not utilized.

	Western James Bay Transmission Line (1997) (sources used)	**Systematic Review (additional sources available but not utilized)**
Socio-economic environment	Statistic Canada Census, 1996; Aboriginal Peoples Survey developed in consultation with organizations representing Aboriginal People, Jankowski and Moazzami, 1996; FMI, 1997	Tyrrel, 1931; Honigmann, 1948; Hanson and Currie, 1957; Bishop, 1974; Ray 1974; Roger and Smith, 1975; Bishop and Smith, 1975; Preston, 1975; Tanner

		1979; Honigmann, 1981; Roger and Smith 1981; Prevett et al. 1983; Ray 1984; Krech, 1984; Thompson and Hutchinson, 1989; Berkes et al. 1991, 1994, 1995; Cummins, 1992; Flannery, 1995; George et al. 1996; Ohmargari and Berkes, 1997;

4.4.b.3 Victor Mine Power Supply Environmental Study Report-Addendum

The socio-economic section of this report is compiled using Traditional Ecological knowledge (TK) and community input. The report outlines significant advancement in the amount of TK collected, as compared to previous reports, and identifies activities related to the study of the Victor Project (project site) and the existing transmission facilities. Specifically, in addition to the original TK study involving 41 participants responding to surveys and interviews conducted as part of the WJBTL (FMI, 1997), an additional study was carried out in Attawapiskat (2003-2004). Similarly, to evaluate alternative routes for the power supply options in 2004 (SNC-Lavalin 2004), a TK study was conducted that included Fort Albany First Nation, Constance Lake First Nation, and Marten Falls First Nation. Kashechewan First Nation did not participate in the DeBeers led study even though they are in proximity to the winter road, on the north shore of the Albany River. All 26 respondents to the survey were from Constance Lake, Marten Falls, and Fort Albany First Nation (the south side of the Albany River). A TK study was carried out in 2004-2005 involving eight coastal communities (including Taykwa Tagamou which is inland) with a total of 122 participants. Much of the report provides a

description of each community, population, distribution, employment, services, and housing based on existing, albeit dated, reports and communications (SNC, 2005). Table 13 details the literature and sources cited for this section.

The nutritional section of the report describes a general shift in nutrition in Aboriginal people from diets rich in protein towards diets comprised of foods rich in carbohydrates and fats. The report indicates, "no studies to determine the implications of this dietary shift have been conducted within the Project area" (SNC-Lavalin, 2005: 6-47). The economic structure of northern Ontario is described as a mix between wage and traditional pursuits and claims that "…there are no comprehensive data available which quantify the extent of these activities. Such data are not collected by government agencies as the products generated from traditional economy are generally consumed locally and not marketed" (SNC-Lavalin, 2005:6-62). However, the report recognized that the contribution from the traditional economy may be significant to the Aboriginal population in northern Ontario (Manitoba Hydro, 1993; Jankowski and Moazzami, 1996). Specifically for the region in question, the Ministry of Natural Resources (1985) quantified the harvest (fishing, trapping, hunting) taken between 1981-1983. Further, the Aboriginal Peoples Survey (StatsCan, 1996) was referenced indicating that 66% of people within the Mushkegowuk Traditional area and the project area were participating in some form of subsistence activities (of individuals over 15 years of age). In addition, information extrapolated from the original TK study indicated that activities in the transmission line area and adjacent lands were significant with 88% bird hunting, 81%

game hunting, and 69% participating in fishing activities (AMEC, 2004 described in SNC-Lavalin, 2005)

An understanding of the cultural heritage sites within the transmission line corridor were derived from the 41 survey/interviews carried out as part of the WJBTL (FMI, 1997). MNR data and aerial surveys were used to locate the various camp structures located in proximity to the development corridor. Also, based on the TK study that was carried out, there were additional comments provided that described burial grounds, settlement and camp areas, and areas with medicinal plants, and berry harvesting areas. Finally, the wage economy was described based on census data, and showed that there was a high rate of unemployment, a lack of available jobs, and limitations related to adequate education and training (StatsCan, 1996). Jankowski and Moazzami (1995) estimated that as little as 24% of the eligible people in the region participate in the wage economy, a significantly lower rate than the rest of Ontario.

It was asserted that there would be little or no effect on the socio-economic environment, as a result of this project with exception to some employment during construction. Several different approaches to mitigation were advanced in consideration of employment related to providing skills training, adopting Aboriginal hiring requirements, and maximizing First Nations employment. No impacts on hunting, fishing, and trapping were described; access to these activities was expected to be improved through this project. The net benefits were said to include creation of jobs, and increased reliability of

electrical services with First Nations control and ownership. The range of literature used is described in Table 13.

4.4.b.4 Systematic Review

While much of the relevant information to describe the social and traditional economic activities present in the region was collected primarily through TK studies, carried out related to land use planning development activities, there was extensive literature that existed at the time and not utilized. Ohmargari and Berkes (1997) and Lytwyn (2002) provide a collective description of the historic movement of the Mushkegowuk people prior to contact, through the treaty making process, accounts of the implementation of colonial policies, and some indication of the ongoing impacts of those policies today. Human history in the region has also been extensively documented in other literature (see Table12 and 13).

The SNC Lavalin (2005) report describes the lack of an expansive evaluation of the importance of the traditional subsistence economy (SNC Lavalin 2005; McEachran, 2011); however, relevant literature existed, but was not accessed by the authors of the report. For example, detailed reviews of these activities including waterfowl harvesting activities in the region, a key subsistence activity (Honigmann, 1948; Hanson and Currie, 1957; Prevett et al. 1983; Thompson and Hutchinson, 1989; Cummins, 1992; Berkes et al. 1994 a,b, 1995; George et al. 1996; Lytwyn, 2002). The ongoing importance of subsistence activities in general are further described in additional studies (Ohmagari and Berkes, 1997; Tsuji and Nieboer, 1999) specific to the Mushkegowuk Traditional

Territory and provide a source for more comprehensive information regarding subsistence activities past and present. Ohmagari (2004) presents the value of traditional activities in economic terms to demonstrate the contribution of each and explanation of the current economic conditions in the Mushkegowuk Territory.

Table 13. Socio-Economic Environments sources used to inform the Victor Mine Power Supply Environmental Study Report – Addendum (2005) and those available (i.e., pre-2005) and relevant, but not utilized.

	Victor Mine Power Supply Environmental Study Report – Addendum (2005) (sources used)	**Systematic Review (additional sources available but not utilized)**
Topic		
Demographics, historical overview, economic development	Driben, 1982; Mortsch, 1991; Keewatin-Aski Ltd, 1994; RJB, 1995; Jankowski and Moazzami, 1995, 1996; Mushkegowuk Council, 1997; FMI, 1997; Keen, pers. comm., October, 1997; Woodford, pers. comm. October, 1997; Statistics Canada, 1996, 2001; Wakenagun CFDC, 1999; Cree Village, 1999; INAC, 2001; Lytwyn, 2002; AMEC, 2004; Moose Cree First Nation, 2004; Williams 1969 –part of Woodland Heritage, 2004; SNC-Lavalin, 2005; Moosonee Traffic Monitoring Station Data. Manitoba Hydro, 1993; Jankowski and Moazzami, 1996	Ohmagari and Berkes, 1997; Tsuji and Nieboer, 1997; Tsuji and Nieboer, 1999; Tyrrel, 1931; Honigmann, 1948; Hanson and Currie, 1957; Bishop, 1974; Ray 1974; Roger and Smith, 1975; Bishop and Smith, 1975; Preston, 1975; Tanner 1979; Honigmann, 1981; Roger and Smith 1981; Prevett et al. 1983; Ray 1984; Krech, 1984; Thompson and Hutchinson, 1989; Berkes et al. 1991, 1994, 1995; Cummins, 1992; Flannery, 1995; George et al. 1996; Ohmargari and Berkes, 1997; Lytwyn, 2002; Ohmagari, 2004; Innis, 1999; Whiteman, 2004

4.4.b.5 Kabinakagami Hydro Project

This section of the report describes the social environment based on the MNR's Site Information Package for the Kabinakagami River (MNR, 2010), government websites, literature review, management plans, TK with CLFN and field observations. The two communities in immediate proximity to the project are Constance Lake First Nations and Hearst, Ontario; both are described based on populations and various demographic indicators. The land area of the project falls into an MNR land use area (general use classification) which allows a range of development types and activities including commercial power generation developments (MNR, 2006). Historically the river was used as a transportation corridor pre-European contact and as a trade route post-European contact (MNR, 2010). The report goes on to outline the industrial and natural resource-based activities related to forestry, mining, trapping, and hunting, based mostly on various industry studies and reports detailed in Table 14 below.

4.4.b.6 Systematic Review

In addition to all of the recent literature available with respect to historical use in the area, there is a significant increase in the availability of archival information available online through the National Archival Museum that has undertaken digitization of historical documents (Table 14). Further, a dimension of Cree lifestyles is revealed in some of the literature available since 2005. Peloquin and Berkes (2009) examined the subsistence lifestyle in light of changing ecological conditions locally and regionally, describing the local approach to environmental monitoring that revealed the complexity of social ecological systems present in traditional land and resource management in the region.

Understanding the strength of this relationship was critical to effectively advancing TK studies to guide project design, construction and operation in complex environments, such as, the one found in the James Bay Lowlands. Moreover, a consideration of the economic conditions present in Cree communities was carried out that explored the impact in changes from purely subsistence to wage-based economies within Cree communities and comparison with non-Aboriginal communities.

Carlos and Lewis (2010) discussed these changing conditions, as it pertained to property rights with respect to Cree communities extending from the Hudson and James Bay lowland areas to the Plains Cree populations. Specifically, Carlos and Lewis (2010) reported on the divergent economic conditions that emerged over a century post contact between English and Aboriginal communities, beginning in 1740. Their evaluation provided insight into individual needs within communities related to food, clothing, housing, and non-essential items. Further, their study highlighted that there were particular social norms that governed land use in Cree communities that required consideration. Similarly, Innes (1999) provided a detailed economic history of Canada through the fur trade period to 1934. Whiteman (2004) provides a more modern context dealing with the socio-economic impacts of large-scale development, the James Bay hydroelectric project, from the perspective of the Cree tallyman. While the study was focused on the Eastern James Bay Region of Quebec, Canada, its central concern with impacts on subsistence communities dealt with hydroelectric development, and provided insight into the relevant issues that arose.

Table 14. Socio-Economic Environments sources used to inform the Kabinakagami Hydro Project (2013) and those available (i.e., pre-2013) and relevant, but not utilized.

	Kabinakagami Hydro Project (sources used)	**Systematic Review (additional sources available but not utilized)**
Topic		
Demographics, historical overview, economic development	Statistics Canada, 2007a; Site Information Package for Kabinakagami River, 2010; Aboriginal Affairs and Northern Development Canada, 2011; Hearst Economic Development Corporation, 2009; MNR, 2006; Ministry of Municipal Affairs and Housing, 2005; Hearst Forest Management Inc., 2007; GTA Resources and Mining Inc., 2011)	Tyrrel, 1931; Honigmann, 1948; Hanson and Currie, 1957; Bishop, 1974; Ray 1974; Roger and Smith, 1975; Bishop and Smith, 1975; Preston, 1975; Tanner 1979; Honigmann, 1981; Roger and Smith 1981; Prevett et al. 1983; Ray 1984; Krech, 1984; Thompson and Hutchinson, 1989; Berkes et al. 1991, 1994, 1995; Cummins, 1992; Flannery, 1995; George et al. 1996; Ohmargari and Berkes, 1997; Lytwyn, 2002; Ohmagari, 2004; Tsuji et al. 2006; Pelogquin and Berkes, 2009; Bird, 2007; Long, 2010; Restoule et al. 2012. Innis, 1999; Whiteman, 2004; Carlos and Lewis, 2010

4.4.c Environmental Change

4.4.c.1 Western James Bay Transmission Line (1997), Victor Power Supply Addendum and Kabinakagami River Hydro Project

Large-scale environmental change through isostatic rebound[13] and climate change is of critical concern in the region. The effects of isostacy and variability of discontinuous permafrost were noted in the WJBTL (1997) and "Victor Power Supply Addendum". The Victor Mine Power Supply Addendum provided details regarding the rate of isostatic rebound and its consideration, as part of the route selection to coincide with beach ridge

complexes. The report uses an Environment Canada (1990) reference not included in the reference list of the report.

The WJBTL (1997) study does not mention climate change, and the Victor Power Supply Addendum mentions it in consideration of a potential contribution of greenhouse gases, within the mitigation and impact significance matrix. The Kabinakagami Project report, however, incorporates a consideration of climate change. Several studies referenced point to potential long-term effects of climate change on the aquatic environment related to both ice conditions and fish populations. Table 15 details the literature used to inform various elements of the impact assessment.

Table 15. Environmental change sources used to inform the Kabinakagami Hydro Project (2013) and those available (i.e., pre-2013) and relevant, but not utilized.

	Kabinakagami Hydro Project (sources used)	**Systematic Review (additional sources available but not utilized)**
Topic		
Aquatic Environment/ Ice Conditions	Allan et al. 2005; Lorien Environmental Consulting, 2011; Meisner et al 1988; Meyer et al. 1999; Mortsch et al. 2003; MNR, 2011; Cheng, 2010; Pourse and Beltaos, 2002	Gough 1998; Gough and Wolfe, 2001; Gough et al. 2004a,b; Latifovic et al. 2005; Ho et al. 2005; Gagnon and Gough, 2005a,b; Hori, 2010; Joly et al. 2010; Hochheim et al. 2010, 2011; Hori et al. 2012
Fish	MNR 2009b; Reiger, 1996	Jackson and Mandrak, 2002; Gunn and Snucins, 2010;
Climate	Environment Canada, 2011; Environment Canada, 2006; Environment Canada, 2007; Government of Canada 2006; Kundzewicz and Mata, 2007; MNR, 2007	Gough and Wolfe, 2001; Furgal and Prouse, 2008; Joly et al. 2011;
Permafrost/slope stability		Hansell et al. 1998; Gough and Leung, 2002; Thibault and Payette, 2009;
Social		Fast and Berkes, 1998; Laidler and

Economics		Gough, 2003;
Isostatic Rebound		Hunter, 1979; Andrew et al. 1983; Marini and Glooschenko, 1984; Abraham and Keddy, 2005; Glaser et al. 2004a,b; Tsuji et al. 2009;

4.4.c.2 Systematic Review

Extensive literature describes the potential environmental change resulting from climate change and how those changes may affect quality of life, in the subarctic regions of Canada. Many of these studies have been published after the initial James Bay transmission line project; however, several studies predate the Victor Mine Power supply addendum. These studies cover consideration of ice conditions (Gough, 1998; Gough and Wolfe, 2001; Gough et al. 2004a,b), changes in surface conditions related to changes in permafrost (Hansell et al. 1998; Gough and Leung, 2002), and vulnerability of fish populations to temperature changes related to climate change (Jackson and Mandrak, 2002).

Early evaluation of the predicted impacts of climate change in the region often considers the wider Hudson Bay Region (which extends to the James Bay Lowland Region). There are several examples of this (Cohen et al. 1994; Leblond et al. 1996; Gough and Wolfe, 2001). Two works consider climate change with respect to impacts on the human population in this northern region (Fast and Berkes, 1998; Laidler and Gough, 2003). The number of studies has steadily increased over time, with several studies available but not considered for review for the Kabinakagami Project (See Table 15).

It is anticipated that subarctic regions dominated by peatland will be most severely impacted by climate change, as the changing conditions will change the hydrologic cycle critical to this sensitive ecosystem (Tarnocai, 2006). Studies describing changes to ice conditions detail the trends that are emerging related to climatic changes (Gough et al. 2004; Ho et al. 2004). Hudson Bay and James Bay surface temperatures and salinity, ice-free season, freeze/thaw cycles, fish and wildlife populations, and bird migration routes as related to climate change have been addressed extensively in the literature (Gough and Wolfe, 2001; Laidler and Gough, 2003; Gough et al. 2004; Gagnon and Gough, 2005; Ho et al. 2005, Furgal and Prouse, 2008; Thibault and Payette, 2009; Hori, 2010; Joly et al. 2010). Further, the reduction in continuous and semi-continuous permafrost in the region associated with climate change has been reported (Gough and Leung, 2002); this environmental change is likely to destabilize slopes and cause slumping of soils, and disruption of vegetation (Hansell et al. 1998). There is also a growing scholarship on potential impacts of climate change on land-based economies (Fast and Berkes, 1998) and more recently, on the use of TK in examining the effects of climate change (Hori et al. 2012). These are issues that are central to the ongoing development of infrastructure, roads, transmission lines, and pipelines that support large-scale development.

4.5 Discussion

The evaluation of the information used in the EA processes undertaken in this remote region, to date, has highlighted a number of potential challenges and opportunities. The three EA documents represent three separate information collection opportunities over a 16-year period (1997-2013). The information gaps that were highlighted within these

reports – have been recorded – and the persistence of data gaps, as seen within the surface water quality and fisheries assessments remain. For example, the lack of long-term surface water monitoring stations limits the ability to establish baseline conditions in the region. This leaves communities and decision-makers in a vulnerable position, because of the sensitive and highly connected aquatic environment in the region. Impacts on water quality can have far reaching impacts on communities, as they rely heavily on surface water for transportation and drinking water. Subtle changes to these systems can have far reaching impacts on health and well-being of the communities in the region.

Not in keeping with the theme of information improvement over time, the EA documents WJBTL Draft Environmental Assessment (FMI and SNC, 1997) and Victor Mine Power Supply Environmental Study Report – Addendum (SNC-Lavalin, 2005) show surprisingly, heavy reliance on a few sources (i.e. OMNR, 1985 and 1989) to characterize the aquatic environment. Additional information was available prior to, and within the period between the first and second report that could have contributed to informing the decision-making process. For example, Price et al. (1988), Woo and Waddington (1990), Lafleur (1990), and Lafleur and Rouse (1998) detailed characteristics of wetland and stream hydrology in the region. Dery and Wood (2005) examined the relationship between peak spring discharge and the latitudinal position of the river system. In the present study, systematic review revealed that there were many additional studies that could have been utilized to help inform potential impacts on fish in the region. Indeed, a study by Seyler (1997) provides an expansive review of river fish species found in the Moose River basin, beyond the ones (Stann and Johnson, 1974; OMNR 1985) used in the

WJBTL (1997) and the Victor Mine Addendum (SNC-Lavaline, 2005). Province-wide studies can certainly be incorporated in the review where site-specific information is limited. Again, the presence of data gaps regarding the aquatic environment and fisheries have been long been recognized, but become even bigger when appropriate references are not utilized.

There are many reasons for this lack of data and long-term monitoring in the region, such as, a lack of political will, a lack of capacity at various government levels to prioritize and initiate monitoring and study in the region, and the costs and logistical issues of research in this remote region. But this may change, as the "Far North" of Ontario is seen as an untapped high-value natural resource; legislation is already in place to take advantage of the economic boost to the Province of Ontario that development in this region would bring (Gardner et al. 2012).

The lack of consideration of natural and anthropogenically induced environmental change within the EA documents reviewed is difficult to explain, given the disproportionate impact climate change has (and will have), and the impact of the natural process of isostatic rebound. The impacts of these environmental change processes on existing infrastructure, especially ice roads, and new infrastructure related to electricity and transportation are certainly of critical concern and should be a priority.

The omission of the growing body of literature related to the role of the subsistence economy in the region is difficult to explain for the EA documents examined, in the

present study. Studies have been carried out and published that revealed historical and contemporary usage of resources with respect to the subsistence lifestyle. The peer-reviewed publications conform to data collection standards, and have well described methods, making them repeatable and complementary to TK studies. Although a guiding principle of the EA process identifies standards for rigorousness that includes the application of the "best practicable" science and the full consideration of information relevant to the affected environment (1999), the lack of rigour[14] in the EA documents is surprising. This is especially true in the digital age where everything is just a "click" away; the approval of these EA documents puts into question the EA review/oversight process at both the federal and provincial levels.

As a whole, it is difficult to understand why relevant[15] literature was not used in the EA documents. The EA process is to be informed by sufficient, usable and reliable information to advance the planning and decision-making process. Such limited use of data may be deliberate on the proponents' part, but it is the responsibility of the Government of Ontario and the Government of Canada to provide oversight to the EA processes and set minimal standards. Perhaps there were issues related to: access to academic databases; time and financial constraints; capacity of those engaged in the collection of information; or lack of understanding of the range of information that is available. However, these EA documents were prepared by professional, paid consultants. This limited use of information available raises questions about the quality of analysis with respect to predictability of impacts and mitigation measures put forward. At this stage, we can only speculate on the lasting effects that the resulting decisions will have

on development, communities, and the sensitive ecosystem in the region. Of concern is the potential for unexpected environmental impacts that will be felt to a greater degree, by these largely subsistence-based communities.

Fundamentally, these decisions are based on current environmental and development policy. Regulators are responsible for determining the nature and depth of information that is required, initiated by approval of the "terms of reference". Perhaps there is a need to introduce a more iterative approach to establishing the "terms of reference" that are used to guide these reports, to encourage ongoing collaboration and support for impacted communities. It may also be helpful to introduce requirements for independent peer-review of resulting guidance documents, to encourage a greater diversity of expertise capable of evaluating the standard and depth of understanding necessary to advance truly informed decision-making.

Fortunately, this exercise has certainly made strides towards improving the access to the range of information available at the community level. Indeed, opportunities to expand the information resources are likely to reveal greater understanding of this complex and sensitive ecosystem that will serve both the community and developers, as they advance project design and proposals. This exercise could be strengthened and improved, particularly in remote areas, by sharing resources among communities. However, establishing some awareness of available information is a critical first step achieved here.

4.6 Future Steps

A common language summary of the information that has been collected has been drafted. The document titled, "Fort Albany First Nations Community Based Land Use Plan Background Report: Mushkegowuk Traditional Territory" describes the general findings from the searches and review, as well as the identification of preliminary data and information gaps that have been revealed through this exercise. This document is the first step in communicating the existing information for use within this remote First Nation community. The preliminary draft of the document has been discussed with community members and Chief & Council; both have expressed an interest in reviewing and continuing to revise it with additional information, including relevant legislation and consultation requirements. Collaboration with community members is ongoing in the development of the collaborative geomatics-informatics tool. Aggregation and community reporting of academic search outcomes is occurring, on an ongoing basis. The collaborative geomatics-informatics tool will be revised to include additional drop down menus to allow for more specific searches to be carried out. Additional feedback to improve the presentation of academic literature will also be helpful to ensuring that the tool is used effectively, as a system for information management and will continue to evolve with community input.

The collaborative geomatics-informatics tool serves as a means to collect, collate and display local information and existing knowledge. The web-based system is available to a broad range of users, and overcomes many of the geographic challenges experienced by those in this remote region. The long-term outcome of the tool's development – a stand-alone, community-owned system – is critical to the community, as it will provide for

complete control over intellectual property and Indigenous knowledge. The tool stores information specific to the region and represents a first effort in collecting, collating, and displaying that information. Sharing of information between First Nations and the academic community is supported in Fort Albany by a longstanding relationship between this research team and community membership and leadership. The product, as demonstrated in the article, has a broad range of uses within the community. In particular, it is a step towards asserting control over decision-making related to development in the traditional territory, amidst growing pressure from resource developers and political systems alike. The tool contributes to improving literacy of information flowing from both traditional and scientific communities, as well as identifying opportunities to facilitate the duality of information sources for future work, that can contribute to advancing information management structures in the community. This information can be used both to participate in proponent-led development proposals and First Nations-led, or co-management type of development proposals. It should also be emphasized that EA turn-around timelines for examination and comments on EA documents is short; thus, having already compiled the necessary information on the informatics tool should make participation in the EA process by First Nations easier.

Future work will require a process to determine which data gaps persist, so that environmental decision-making and planning in the region are informed by the most recent data. The consideration of both written (and online material) and Indigenous knowledge constructs will provide for a better understanding of the strengths of each, and lead to greater control over information and its use in the region. The end result will be

better informed environmental decision-making and planning in the western James Bay region.

Acknowledgements
We would like to thank the communities throughout the Mushkegowuk Traditional Territory for their participation in this project, especially Fort Albany First Nation. We also thank the Social Sciences and Humanities Research Council of Canada, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research (Institute for Aboriginal Peoples' Health, AHI-120536) for their support, as well as the Northern Scientific Training Program (Department Aboriginal Affairs and Northern Development).

Notes

1 As stated by the Dene Cultural Institute:
"Traditional environmental knowledge [TK, also known as Indigenous knowledge] is a body of knowledge and beliefs transmitted through oral tradition and first-hand observation. It includes...a set of empirical observations about the local environment... With its roots firmly in the past, TK is both cumulative and dynamic, building upon the experience of earlier generations and adapting to the new technological and socioeconomic changes of the present." (cited in Stevenson, 1996:281)

2 Although "systematic review" has not been well developed in environmental planning or environmental management (Pullin And Knight, 2001), in the medical field it is well defined. Medical practice has over time developed a defined methodology for systematic review that has been demonstrated to be effective, in influencing evidence-based policy and practice advancements (Pullin and Knight, 2009). The value of developing approaches to systematic reviews, within environmental planning and management practice has been identified to both describe the effectiveness of interventions and influence future policy and practice (Pullin and Knight, 2009). The challenge of gathering and synthesizing the evidence to determine the degree of effectiveness of each to advance evidence-based decision-making remains limited – within environmental planning and management – but there is an opportunity to draw on approaches described in medical practice to establish such frameworks in environmental planning and management.

The health services field has a continuously evolving method for systematic review in the development of the "Cochrane Collaboration". "Systematic review is a methodology normally used to objectively assess the effectiveness of an intervention or impact of an action" (Pullin and Knight, 2009: 932). The method involves clearly defined questions that include three common elements (Khan et al. 2001; Stewart et al. 2005; Pullin and Knight, 2009):

1. A subject – a defined group or space, population, species, habitat, etc.
2. An intervention [or activity] – that either impacts the subject directly or indirectly.
3. An outcome – results in a change to the subject or a result of concern.

The method includes two critical features "(i) the systematic review and collation of evidence on effectiveness of actions in a comprehensive and objective manner, weighted by quality, then disseminated effectively into practice and policy communities, and (ii) the objective identification of knowledge gaps and, therefore, prioritization of areas for primary, needs-led research" (Stewart et al. 2005:270).

Efforts to establish these mechanisms within environmental planning and management have been limited Pullin and Knight, 2009). Pullen et al (2004) reviewed the use of scientific evidence by environmental managers in decision-making and found that many practitioners rely almost entirely on anecdotal information, personal judgment and long-standing land management practices. The examination of current state of information

found that practitioners are often limited by time to review individual studies or access to systems that have the information compiled and readily available.

3 In Canada, environmental impact assessment takes place at two levels – federal (Government of Canada) and provincial – as a federated system of government is employed. The environmental assessment process serves to frame a protocol that identifies the following: potential for "significant" impacts; mitigation measures; the potential effectiveness of mitigation to reverse or avoid impacts; and monitoring protocols in advance of a proposed initiative being undertaken (CEAA, 2013b)

4 A closed system restricts access to those who have been approved to view the contents of the program. This is carried out using a password and userID system.

5 Ontario's Far North extends north of the forest management line described in Figure 1.

6 The WIDE toolkit is unique in that it requires limited intervention from computer programmer and geographic information system specialists, as the WIDE toolkit uses a wizard (or forms)-based approach (Cowan et al. 2010).

7 Community here is used in the broadest sense and could be an actual community, government organization or simply a group of people. Several of the collaborative-geomatics informatics tools have been developed for a range of user groups with diverse needs (Isogai et al. 2011; Barbeau et al. 2011; Charania et al. 2011).

8 There have been several challenges to the project and gathering the relevant information. While the graduate students had access to all of the academic databases that the University of Waterloo subscribes to and material that can be ordered from other sources, issues were identified related to copyright. This meant that posting the full articles onto the collaborative-geomatics informatics site could not be done. To overcome this challenge the abstracts were included on each of the entries – as these are available as open access online – and a detailed summary was compiled to ensure that the information was disseminated and accessible to the community.

9 The WJBTL Draft Environmental Assessment – a federal, Government of Canada level Screening EA – outlines the construction of a transmission line that connects the communities on the James Bay coast to the Ontario electricity grid and replaces the use of diesel generators to provide a more reliable, cost-effective electricity source (FMI and SNC, 1997). The project included the construction of 275 km of 138 kV single pole lines in three sections: Moosonee to Fort Albany (160 km), Fort Albany to Kashechewan (15 km), and Kashechewan to Attawapiskat (100 km), and associated switching and distribution stations in each community. The project proponent, Five Nations Energy Inc. (FNEI), a First Nations initiative, planned to build the transmission line and purchase energy from Ontario Hydro to sell at the community level. Each community has their respective power corporation responsible for community electrical infrastructure, billing, and collections from community members. Overall the project was seen as likely having minimal impact. In fact the expectation was for a net benefit to the natural, social, and

economic conditions largely flowing from the transition from diesel fuel, and mitigation measure implemented in the construction phase involving winter construction and avoiding pole installation in waterways (FMI and SNC, 1997).

10 The provincial-level Class EA for the Victor Diamond Mine Transmission and Winter Road Expansion project followed a streamlined approach that identified pre-approved criteria that satisfied the requirements of the Ontario Environmental Assessment Act. Class assessments are meant to expedite the approvals process for projects that are often undertaken and have well understood impacts, which can be easily managed (McEachren et al. 2011).

The Victor Mine Power Supply Environmental Study Report Addendum (SNC, 2005) outlines the expansion of the coastal transmission line to service the Victor Diamond Mine located approximately 90 km inland from the community of Attawapiskat, along the Attawapiskat River. The report describes the final route selection for the project, the traditional knowledge study, and input from community and government consultation. The rationale for the project was the need to provide reliable electrical infrastructure, as the infrastructure at the time lacked adequate capacity to serve the mine once construction and operation commenced. The project components include: 350 km of transmission line that twins the original Five Nations Energy Inc. and Hydro One Networks Inc. line that runs from Abitibi Canyon Junction to Kashechewan, 100 km twinning from Kashechewan to Attawapiskat (described as contingency for future development); and 100 km transmission line that connects the existing line to the mine. This report indicated a reliance on the FMI study (FMI, 1997) carried out as part of the WJBTL Study (FMI and SNC, 1997), additional TK studies carried out as part of the Victor Diamond Project Comprehensive Study Environmental Assessment (AMEC, 2005), as well as a TK study carried out for the transmission line development. As with the initial transmission line construction, impacts were not expected to be significant; in fact, they expected a net benefit of the project related to improved access to hunting areas (SNC, 2005).

11 The provincial-level Class EA, the Kabinakagami Hydroelectric project follows a streamlined approach that identifies pre-approved criteria to satisfy the requirements of the Ontario Environmental Assessment Act.

The Kabinakagami River Hydro Project is a hydroelectric project that includes four small run-of-river facilities on the Kabinakagami River (see Figure 12). The project is the result of a partnership between Northland Power and Constance Lake First Nation, the co-proponents. Initially the project included eight sites, one was eliminated based on socioeconomic and environmental impact concerns, and of the remaining sites only four were awarded an Ontario Power Authority Feed In Tariff (FIT) contract. The design of each facility includes a weir and powerhouse generating equipment. The installations will result in a small head pond upstream of each weir, but are not going to manipulate the flow or storage of water. Collectively the four sites will produce an anticipated 26 MW of electric power. Additional installation of access roads and transmission line are required to complete the required elements of the project. The Kabinakagami River

environmental report incorporated information from government databases, web searches, community members, TK interviews, and field investigation undertaken in 2009 and 2010 (Hatch, 2013). Overall, the project is expected to be a source of renewable energy contributing to the Ontario electricity grid that will be profitable to the co-proponents. The natural beauty of the area will be reduced with the loss of the falls in the project area. In addition, there are ongoing concerns related to mercury levels in fish populations in the region that are expected to increase over the short term. Additional fish consumption limitations will be revised based on these changes (Hatch, 2013).

12. Specific information on fish species collected during systematic review with sources

Name	**Range**	**Source**
Arctic Char *Salvelinus alpinus*	Strays in Hudson Bay tributaries/ Status	Holm et al. 2010; Morin et al. 1992
Arctic Sculpin *Myoxocephalus scorpioides*	James Bay Region	Morin et al. 1992; Morin et al. 1980
Arctic Staghorn Sculpin *Gymnocanthus tricuspis*	James Bay Region	Morin et al. 1992
Atlantic Herring *Clupea harengus*	Few strays in eastern James Bay	Morin et al. 1992
Banded Gunnel *Pholis fasciata*	Hudson Bay Coasts, Northern James Bay,	Ochman and Dodson, 1982
Blacknose Shiner *Notropis Heterolepis*	Small pocket between Moose River and Albany River	Morin et al. 1992. Mandrak and Crossman, 1992
Brook Stickleback *Culaea inconstans*	All of Ontario	Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982; Seyler, 1997
Brook Trout (Brook Charr) *Salvelinus fontinalis*	Ontario except North Western Ontario and the Southern most part of Ontario, Hudson Bay Lowlands	Morin et al. 1992; Morin et al. 1980; Mandrak and Crossman, 1992; Seyler, 1997
Burbot *Lota lota*	All of Ontario except pocket from Kitchener North	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Ochman and Dodson, 1982; Seyler, 1997
Capelin *Mallotus villosus*	Northern part of James Bay	Morin et al. 1980; Ochman and Dodson, 1982

Cisco (Lake Cisco) *Coregonus artedi (Coregenus artedii)*	All of Ontario except Southern Ontario (found in Lake Erie and Ontario) and Ottawa East	Holm et al. 2010; Morin et al. 1992; Morin et al. 1980; Lambert and Dodson, 1990; Morin et al. 1982; Guderley et al. 1986; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Ochman and Dodson, 1982; Seyler, 1997
Common Shiner *Luxilus cornutus*	Just North of Moose River (Halfway to Albany River) and South	Holm et al. 2010; Mandrak and Crossman, 1992
Creek Chib *Semotilus atromaculatus*	Hudsons Bay and James Bay coast	Mandrak and Crossman, 1992
Emerald Shiner *Notropis atherinoides*	Western James Bay	Morin et al. 1980; Mandrak and Crossman, 1992
Fallfish *Semotilus corporalis*	Mouth of Moose River and South	Holm et al. 2010; Morin et al. 1980; Seyler, 1997
Fathead Minnow *Pimephales promelas*	Between Moose River and the Albany River, Attawapiskat River	Holm et al. 2010; Mandrak and Crossman, 1992; Seyler, 1997
Finescale Dace *Chrosomus neogaeus/Phoxinus neogaeus*	All of Ontario except South of London	Holm et al. 2010; Mandrak and Crossman, 1992
Fourhorn Sculpin *Myoxocephalus quadricornis*	Maquatua River estuary, Eastern James Bay Coast	Morin et al. 1992; Morin et al. 1980
Goldeye *Hiodon alosoides*	Southern James Bay (Moose River and South)	Holm et al. 2010; Hendry and Chang, 2001; Seyler, 1997
Greenland Cod *Gadus ogac*	Hudsons Bay and James Bay	Morin et al. 1992; Morin et al. 1980; Morin et al. 1991; Ochman and Dodson, 1982
Iowa Darter *Etheostoma exile*	Rivers South of Winisk River and South of Albany River	Holm et al. 2010; Mandrak and Crossman, 1992
Johnny Darter *Etheostoma nigrum*	All of Ontario	Holm et al. 2010; Mandrak and Crossman, 1992; Seyler, 1997
Lake Chub *Couesius plumbeus*	All of Ontario except Kingston east and South Eastern Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992
Lake Sturgeon *Acipenser fulvescens*	James Bay Region (Ontario) The Southern Hudson Bay-James Bay population is classified as special concern status	Holm et al. 2010; Mandrak and Crossman, 1992; Ferguson and Duckworth, 1997; Hendry and Chang, 2001; Golder Associates, 2011; OMNR, 2009; Kerr et al. 2010; Ferguson et al. 1993; Seyler, 1997

Lake Trout *Salvelinus namaycush*	All of Ontario, potentially found in James Bay region and introduced species	Mandrak and Crossman, 1992
Lake Whitefish *Coregonus clupeaformis*	All of Ontario except Southern Ontario (found in Lake Erie and Ontario) and Ottawa East	Holm et al. 2010; Lambert and Dodson, 1990; Guderley et al. 1986; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Seyler, 1997
Logperch *Percina caprodes*	All of Ontario	Holm et al. 2010; Mandrak and Crossman, 1992; Seyler, 1997
Longnose Dace *Rhinichthys cataractae*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982
Longnose Sucker *Catostomus catostomus*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Ochman and Dodson, 1982
Lumpfish *Cyclopterus lumpus*	Hudson Bay	N/A
Mooneye *Hiodon tergisus*	James Bay Region	Morin et al. 1980; Hendry and Chang, 2001; Seyler, 1997
Mottled Sculpin *Cottus bairdii (C.bairidi)*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982; Seyler, 1997
Ninespine Stickleback *Pungitius pungitius*	All of Ontario except most of Southern Ontario, found in Great Lakes and band across Brockville	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982; Seyler, 1997
Northern Pearl Dace *Margariscus nachtriebi*	All of Ontario except from London South	Holm et al. 2010;
Northern Pike *Esox lucius*	All of Ontario (expect pockets North of Bancroft South to Peteborough and North of Kitchener)	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Seyler, 1997
Northern Redbelly Dace *Chrosomus eos (Phoxinus eos)*	Small pocket between Moose River and Albany River	Holm et al. 2010; Mandrak and Crossman, 1992
Northern Sand Lance *Ammodytes dubius*	Northern part of James Bay	Morin et al. 1980; Ochman and Dodson, 1982
Pacific Sand Lance *Ammodytes hexapterus*	Northern part of James Bay Vulnerability	Morin et al. 1980

Pearl Dace *Margariscus margarita*	Eastern James Bay	Morin et al. 1980; Mandrak and Crossman, 1992
Rock Bass *Ambloplites artedii*	Hudson Bay (Red River), Abitibi River and few strays likely	Hendry and Chang, 2001
Round Whitefish *Prosopium cylindraceum*	Eastern James Bay	Morin et al. 1980; Morin et al. 1982; Mandrak and Crossman, 1992
Sauger *Sander canadensis (Stizostedion canadense)*	St. Lawrence-Great Lakes, Hudson Bay, and Mississippi River basins from Quebec to Alberta in Canada	Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001
Shorthead Redhorse Sucker *Moxostoma macrolepidotum*	All of Ontario	Holm et al. 2010; Mandrak and Crossman, 1992
Shorthorn Sculpin *Myoxocephalus scorpius*	James Bay	Morin et al. 1980; Hendry and Chang, 2001
Shortjaw Cisco *Coregonus zenithicus*	Spotted distribution throughout Ontario Threatened	N/A
Silver Redhorse *Moxostoma anisurum*	Moose and Albany Rivers	Holm et al. 2010; Mandrak and Crossman, 1992
Slender eelblenny *Lumpenus fabricii*	Maquatua River estuary, Eastern James Bay Coast	Morin et al. 1992; Morin et al. 1980; Ochman and Dodson, 1982
Slimy Sculpin *Cottus cognatus*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Seyler, 1997
Spoonhead Sculpin *Cottus Ricei*	Attawapiskat River, Western Ontario, Central Ontario and Great Lakes	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992
Spottail Shiner *Notropis hudsonius*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982
Threespine Stickleback *Gasterosteus aculeatus*	Western James Bay Coast, Eastern Ontario, Great Lakes	Holm et al. 2010; Morin et al. 1980; Nicholas et al. 1992; Ochman and Dodson, 1982; Seyler, 1997
Trout-Perch *Percopsis omiscomaycus*	All of Ontario except pocket from Kitchener North	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Ochman and Dodson, 1982; Seyler, 1997
Walleye *Sander vitreus (Stizostedion vitreum, S. vitreum vitreum)*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Ochman and Dodson, 1982; Seyler, 1997

White Sucker *Catostomus commersonii*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Seyler, 1997
Yellow Perch *Perca flavescens*	All of Ontario	Holm et al. 2010; Morin et al. 1980; Mandrak and Crossman, 1992; Hendry and Chang, 2001; Seyler, 1997

13. Isostatic rebound, also called post-glacial isostatic adjustment is "the unloading associated with the melting of the Laurentide ice sheet, which reached a thickness of more than 3 km over James Bay, [once melted, the weight of the ice was no longer present, thus]…a rebound of the crust that is locally evident as a sea-level fall (or land emergence)… This drop in sea level within Hudson Bay and James Bay will lead to an offlap of water and an outward migration of shorelines. Thus, it is possible that, as the process continues into the future, it will lead to the formation of land bridges connecting the present islands to the mainland." (Tsuji et al. 2009:460-461).

14 *Rigorous* - the EA process should apply "best practicable" science, employing methodologies and techniques appropriate to address the problems being investigated (IAIA and IEA, 1999).

15. Relevant – The EA process should provide sufficient, reliable and usable information for development planning and decision-making (IAIA and IEA, 1999).

Chapter 5

Conclusions

5.0 Conclusions

This collection of articles has presented a view of participation, in practice, in a remote First Nations community in northern Ontario. The policy and EA processes presented in the case studies provided an opportunity to examine the application of different participatory methods. Specifically, the nature of information that was contributed, the barriers or limitations that were expressed by participants, as well as the outcomes of the process, new legislation and project approval or delay. This research has provided insight into the application of participatory principles that are present in policies concerning environmental decision-making – that include an objective to advance sustainable development in Canada – and more specifically to the Far North region of subarctic Ontario, Canada. In particular, I have examined how the policy development process incorporates participation into the political process, while accounting for the types of information that are needed for Aboriginal people to effectively participate in planning and development; especially with how information can be gathered, stored, retrieved, and utilized. My work as a whole revealed that there are significant challenges occurring within the participatory process, with respect to the environmental-decision-making framework that need to be addressed, using some of the interventions I have shown to be useful or others have suggested.

The inadequate consultative process used in the advancement of the Far North Act (2010) was characterized by a minimum standard for consultation being used. Terms were fixed prior to the process, limiting outcomes and frustrating those attempting to engage in the process. Further, timelines were too condensed to allow for meaningful participation, and

unequal power distribution was evident, resulting in a threat of future litigation. Nonetheless, meetings and workshops, as well as testimony that were offered by community members and leadership demonstrated meaningful consideration of the proposed legislation and social learning. However, the actual participatory method offered in this case, public hearings, limited the potential to realize learning outcomes as suggested by the Sinclair et al (2008) learning loop description; that is, first realization of goals within the existing governing structure towards better streaming of participation into the process. The testimonies at public hearings were largely ignored; changes to the proposed legislation were not obviously evident in the final piece of legislation.

Similarly, evaluation of the Kabinakagami Hydro Project EA process revealed severe limitations to effective participation by affected communities, even though the co-proponent was a First Nation. This is especially disheartening taking into account that guiding policies among all actors existed. These guiding policies were within governing bodies, public and private agencies, and detailed many of the better practices for improved participation and consultation in environmental decision-making. Noteworthy was that no specific guideline existed to guide the participatory process when a co-proponent of a development project was a First Nation – and from what was learnt from the case study – it cannot be assumed that First Nations will deal with other First Nations respectfully and fairly. The participatory methods used (information sessions, a meeting, and public comment) provided little opportunity for meaningful participation. Significant information was offered in the comment period that provided clear and compelling arguments, describing concerns about the consultation process and the scope of the

studies underway. The response, however, demonstrated limited flexibility to adjust the process or consider changes to project design or implementation. This meant that participants in downstream First Nation communities were not streamed into the process. The final outcome, however, a lack of response by the Minister to the Part II Order request, has meant that this project is unlikely to proceed. The reasons for that lack of response could vary widely, but may be related to some recognition that the consultation approach taken in this case was inadequate, and that narrowing the scope of the study served to limit an understanding of the wider impact to social and ecological systems.

The collaborative-geomatics informatics tool provided a useful tool to gather relevant information, begin a dialogue among community members, and monitor changes that may be occurring in the region. In this way, the tool builds capacity, all the while providing protection of intellectual property, as the tool is under First Nations control being password-protected. Typically, there are challenges to establishing a unified and consistent approach to mapping, but the collaborative-geomatics informatics tool has the ability to house a range of information that is accessible, and can be flexible and usable in a variety of ways. The tool has been populated with available written and online information that are relevant to environmental decision-making needs for the Mushkegowuk Territory. The tool has been equipped and formatted with database querying "apps" developed specifically for the needs of the Mushkegowuk people through their input, and existing information has been synthesized and summarized to give an understanding of the state of information and information gaps present in the region. This is the beginning of an information-management system that will help the

lands and resource group from the community to be prepared to participate in ongoing EA processes, with the added capacity to challenge the thoroughness and accuracy of information that is advanced by proponents and their consultants, as they attempt to receive project approvals.

While sustainable development is an important objective driving both EA and land use planning activities in the region, considered broadly, the activities that have surrounded the policy and EA activities examined in this dissertation have demonstrated limited meaningful change in underlying elements needed to achieve transformative change. There has been no shift from "Government" to "governance" or a change in the power distribution (i.e., shared and more decentralized), as authority has remained under state control. Opportunities for public participation were present in each of the cases examined, but were limited to public hearings, information sessions, meetings, and public comment. Although beyond passive sharing of information, the process has not fostered ongoing dialogue or built relationships. Information and notices were shared, while testimony and comments were submitted and not responded to, reflecting one-way exchange rather than dialogue. Access to the process was provided, but with limited ability to ensure that contributions made by participants were reflected in the outcomes. This is in line with what Arnstein (1969) would describe as "tokenism" the middle ground in the participatory ladder.

A positive feature of this evaluation is that participants in the process demonstrated growing capacity to engage in decision-making despite scarce resources, limited time,

administrative capacity, and information. Contributions have reflected consideration of political process, technical knowledge, local knowledge, and a more diverse range of information necessary to consider complex social and ecological systems, a key element to advancing good environmental decision-making. Unfortunately, my work has revealed that while there is an awareness of, and an existing administrative policy to support meaningful participation and consultation for environmental decision-making in the Far North region, it is not being adopted in a meaningful way to realize the benefits of participation in the process. The result is an increasingly litigious environment, which serves nobody's purpose, slows project development, and increases costs. Governments, Provincial and Federal, have shown little interest in stepping into a leadership role to invest in early relationship development, as a way to more effectively approach and ensure community support, and the long-term success of development projects. This leaves impacted communities and private companies with the task of navigating this process to advance their respective goals with little regulatory oversight or intervention.

5.1 Further Practice

Better management practices for participation in environmental decision-making are clearly defined in the literature, and many of these concepts are present in government guidance policies (Doelle and Sinclair, 2006; Reed, 2008; O'Faircheallaigh, 2010). The present dissertation has contributed to empirical research that demonstrates how a marginalized community is functioning within a changing regulatory and policy framework. It has demonstrated the limitations and challenges that are present in the advancement of land use planning policy and EA processes. In addition, this thesis has identified information used to advance decision-making, and an approach for remote First

Nations to gather information to build capacity to participate, and contribute to decision-making under increasingly streamlined conditions. Despite extensive literature that describes participatory methods and their effectiveness, limited use of those resources occurred in the studied cases (Arnstein, 1969; Kasperson, 1977; Day, 1997; Randolf and Bauer, 1999; Irvin and Stansbury, 2004; Reed, 2008). As a result, there was also limited opportunity to advance sustainable development (George, 1999; Gibson, 2000; Noble, 2001; Doelle and Sinclair, 2006). Particularly in the case of EA, policy continues to shift towards more streamlined processes that can limit participatory activities (Lindgren and Dunn, 2010; Kirchoff et al. 2013). Further examination of why effective participatory activities are not being adopted – by public and private proponents of development projects – would be helpful to understanding barriers from their different perspectives. A study of a process, led by a proponent that has an interest in adopting better management principles would be helpful. In addition, a review of how the final product – an EA report/document is evaluated at the governmental regulatory level with respect to the quality and depth of information acceptable – would give some indication of the general expectation needed to gain approval, and provide greater transparency. What is the data quality standard that is expected in these reports/documents and how can the process be rendered more systematic and repeatable? There is little transparency in the EA approval process. Finally, progress in methods for quantifying social learning could inform the advancement of participatory practice and better management.

In the end, there is significant work to be done to advance the community's interest in environment decision-making, especially taking into account increasing resource

development pressure. Effective participation in these processes, especially in remote areas with scarce resources, is the primary means to contribute to shaping the way that development advances in keeping with traditional and contemporary lifestyles. Balancing the demands of culture and development, towards sustainable development, can serve as a guide towards fostering prosperity and improved quality of life.

Chapter 6

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