Keeyask - A watershed decision

Closing Arguments

Consumers' Association of Canada (Manitoba Branch)
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Stephens Lake, Nelson River • Photo by R. Halim

Contents

"That was our major road before Hydro came."[1]

[1] McCorrister, "Keeyask Hearing", December 11 2013 at p 6100.

Overview

As we reflect upon what we have heard during the course of the Keeyask proceedings, we remember what many described as the potential impacts of the proposed Keeyask Generating Station. In other words, we reflect on the potential legacy of the proposed Keeyask Project, recognizing that the effects will be felt differently for each of us. We acknowledge that "this is a short story or small chapter in a much longer story" which shaped by the past legacy of hydroelectric development which has negatively impacted the environment and First Nations on the Nelson River.[2]

To a certain extent, the recommendations made by the CEC will impact this story. Ultimately, the CEC is required to make a recommendation on whether the project is in the public interest.

The following are CAC's observations and conclusions based on the written materials in the EIS and the evidence provided at the CEC hearings.

The CAC does not speak for the Cree First Nations, or Cree people generally. The CAC voice is that of the consumer, from a consumer perspective, in this context as consumers of hydro electric power. CAC considers as part of it's voice of consumers to consider sustainability, the ethical nature of production, participation in matters that are of environmental importance, equality and equity. The consumer of a product has a duty to know about the loss engendered in the production or acquisition of a product. CAC has a duty to learn. CAC must not only to hear what is being said in these proceedings but must do as Elder Linklater suggested, listen and try to understand each other.

> So in order to understand what we are trying to do with respect to Keeyask, we have to understand the art of listening, *we have to understand also the art of nesohkumakewin to try and understand each other, to try and understand who we are, especially with respect to our people.* You have to understand also what we have been through as First Nations people in this country with respect to extinguishment, we nearly lost our ways, our language. But the Creator gave us blood history, through those customary laws and customary law principles that we get reminded, we never lose anything because of our blood history, and it is always there. And we must use what was given to us and apply it to things that makes our lives difficult. And that is the purpose of that, why we are here, try and understand the art of listening and also the art of understanding [...] *So it is important to try and*

understand our people and our laws. It is important also to governments and regulators to try and understand us, who we are and where we come from.[2]

We have provided a three part document speaks to CAC's understandings on :

- Part I: Worldviews, Knowledge, Relationships and Reconciliation
- Part II: Evaluating Impacts
- Part III: Recommendations

[2] Linklater, "Keeyask Hearing", December 12 2013 at p 6339.

PART I: Worldviews, Knowledge, Relationships and Reconciliation

1. CREE WORLDVIEW

One of our customary laws that we are exercising today in Tawinamakewin. We come here and exercise the art of listening in order to create understanding amongst ourselves. We are exercising our customary law today.[3]

1.1. Introduction

Although there is no easily identifiable collective "we" or "us" in this regulatory process or in the proposed partnership, each of the parties and persons represented in this room can acknowledge that there is a past legacy of hydro-electric development that has negatively impacted the environment and First Nations on the Nelson River system and whose enduring effects will have profound implications for the future.

The First Nation Partners have reminded us that the past must be acknowledged.

> So for us, there were three dams that were built in our area, plus some converter stations. So the mega hydro development over the years has had a damaging effect on the Fox Lake Cree, our way of life was changed forever. We no longer had access to the land. We were evicted from our homes. The waterways were changed or diverted. With that came, like private property signs were put up on different areas, gates were erected, we couldn't get to areas. The land was flooded. So the whole northern environment got changed.[4]

The First Nation Partners also told us that they made a decision to become partners with Manitoba Hydro, with the future in mind.[5]

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[3] Linklater, "Keeyask Hearing", December 12 2013 at p 6236.

[4] Anderson, "Keeyask Hearing", November 4 2013 at p 1900.

[5] For a Tataskweyak Cree Nation see : Spence, November 6 2013 at p 2413. For Fox Lake Cree Nation see : Neepin, November 6 2013 at p 2360. For York Factory First Nation see: Bland, November 6 2013 at p 2270-1.

Tataskweyak Cree Nation	Fox Lake Cree Nation	York Factory First Nation
Victor Spence	George Neepin	Ted Bland
Keeyask will be the fifth generating station on the Nelson River. We can no longer live off the lands and waters in the way we used to. With this project we have a realistic hope that Keeyask can help us strengthen our identity and to improve the social and economic hardships that we struggle with daily, while being constructed and operated in an environmentally sustainable way, with appropriate mitigation and monitoring measures to ensure ongoing respect of the environment.	So it was not with eagerness or absence of thought that we chose to become partners in a major hydroelectric project. Rather our pride in our history, culture and values makes us cautious and apprehensive as we approach this new phase in our history.	York Factory has begun a process of reconciliation. And we have started this a couple of years ago, and we recognize that being partners with Manitoba Hydro is a step in a direction, and not everybody was on board with that. When people had an opportunity to speak about the impacts that they have felt, it was emotional for a lot of people. And not everybody agreed to move forward, but a majority of people acknowledge that there was impacts, acknowledge that this is not something that we can hold onto in our hearts. And I would absolutely think an apology would benefit and help the First Nations move forward.

Collectively, the Cree First Nations and Manitoba Hydro have formed a partnership (the KHLP) and have decided to proceed with a two track approach to the Keeyask Hydroelectric Development. Although they are acting in partnership, each partner has proposed to move forward on its own track, aiming to bring together their different perspectives into one EIS, while remaining distinct in:

- their worldviews;
- the preparation of their Environmental Assessments; and
- the development of monitoring plans.

The partners collectively took on the daunting task of preparing an EIS that would respect and value each of these worldviews and the systems of knowledge that flow from them namely:

- Aboriginal traditional knowledge (ATK) – rooted in the Cree Worldview; and
- Western scientific knowledge (WSK)– rooted in the Western worldview

The four partner KCNs conducted their own assessments of the proposed Project and provided their findings in separate Environmental Evaluation Reports. Two of the communities – Tataskweyak Cree Nation (TCN) and War Lake First Nation (WLFN) formed a partnership, the Cree Nation Partners (CNP), because of a "shared interest in future hydroelectric development" that will impact their traditional lands. Their assessment of Keeyask resulted in the CNP (2012) Evaluation Report (181pp). The other two KCNs – Fox Lake Cree Nation (FLCN) and York Factory First Nation (YFFN) – carried out separate assessments that resulted in the FLCN (2012) Evaluation Report (111pp) and YFFN (2012) *Kipekiskwaywinan* (Our Voices) Report (158pp), respectively.

The conclusions that can be drawn from the four parts of the EIS are founded on two different and differing systems of understanding the world.[6]

The KCN Evaluation Reports do not represent a single, unified voice. Each KCN developed its own approach and structure for conducting an environmental assessment of the project based on their Cree worldview.

The reports of YFFN, and to a lesser degree FLCN, make repeated use of direct quotes from their members to highlight the breadth and depth of feeling that exists within their respective communities, and points to a great deal of anger and distrust directed towards Hydro. The YFFN report, in particular, suggests that some community members are unhappy to be Partners in this development. For both communities, the chance to bring investment and jobs into their

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[6] The EIS consists of four separate environmental assessments:

a) The Response to EIS Guidelines;
b) The Cree Nation Partners Keeyask Environmental Evaluation. (January 2012);
c) Kipekiskwewinan – Our voices (York Factory First Nation) (July 2012); and
d) Fox Lake Cree Nation Environmental Evaluation Report (September 2012).

communities, which they hope can benefit their children and grandchildren, is the key compensating factor.

This contrasts with the CNP report where a greater emphasis is placed on the economic benefits that have been negotiated. Dissenting individual voices are absent from the report. There are very few quotes and it is difficult to gauge the feeling of individual community members.

The First Nation Partners have shared with us, each in their own nuanced words, models and perspectives, that the Cree worldview is founded on relationships with the goal of achieving mino-pimatisiwin. The western worldview is founded on individual values and is driven by property (including capital and profit). It is less holistic in nature. Of course the understandings of each of these worldviews is more complex. But these foundations of political and legal philosophy and theory distinguish the two worldviews and show how in some cases they may be difficult to reconcile.

From a regulatory perspective, the Western Worldview looks at significance of adverse effects, and net positive contribution to sustainability, in order for licenses to issue and projects to proceed. Through their own environmental assessments, the First Nations demonstrated that they were attempting to reconcile the inherent difficulties associated with causing damage to Askiy through efforts at ongoing monitoring and mitigation (including ceremonies) , accepting that not all of the potential impacts have been mitigated or compensated.[7]

The conclusions drawn and the recommendations made by the Clean Environment Commission (CEC) must consequently take into account each of these analyses, founded on two different worldviews (including Cree laws and principles).

Ultimately, the CEC will have to make a recommendation as to whether or not a licence should be issued for the proposed Keeyask Generating Station, but more importantly this Commission will have to arrive at some <u>understanding</u> as to whether the risks and benefits of the project, separately and collectively are acceptable based on the four environmental evaluations that have been provided.

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[7] Bland, "Keeyask Hearing" November 6 2013 at p 2243.

1.2. The Cree Worldview

The Cree worldview is unique. It is different from the Western worldview.

The Cree worldview is founded on relationships with the goal of achieving mino-pimatisiwin. The western worldview is founded on individual values and is driven by property (including capital and profit). Of course, understanding each of these worldviews is more complex, yet these foundations of political and legal philosophy and theory distinguish the two worldviews and show how in some cases they may be difficult to reconcile.

Cree Wordview	Western Worldview
Relationships	**Individualism**
Mino-pimatisiwin	**Property**

1.2.1. Cree Worldview(s)

The KCNs have expressed that there is no singular Cree worldview. In fact, there may be as many Cree worldviews as there are Cree people in the world. And some of those Cree worldviews will be informed by other world views, including the Western worldview. There are however commonalities amongst the Cree worldviews.

We heard from each of the KCNs, through their Environmental Evaluation Reports and their testimony at the hearing that the Cree worldview is founded upon relationships and is aimed at achieving mino-pimatisiwin (or something akin to it).

> ... Inherent in the Cree culture is how we placed ourselves in our relationship to the land and all of nature. It was a reciprocal relationship – nature contributed by caring for the Cree and the Cree contributed by caring for nature.
>
> [...]
>
> As we became involved with the white man and adapted Christianity into our spiritual beliefs, certain practices changed, but the basic beliefs, values, traditions and customs have been retained.[8]

[8] Irvine Keeper, Keeyask Hydro Limited Partnership, "Keeyask Generation Project: Response to EIS Guidelines Chapter 2 : Partners' Context, Worldviews and Evaluation Process", June 2012 at p 2-8.

1.2.2. Relationships

The CNP report listed some core beliefs associated to worldview and a section on "Relationships as the Basis of Our Existence and Our Culture" which describes in depth relationships with Mother Earth, other non-human living beings and relationships amongst people.[9]

The relationship with the land or Mother Earth is a longstanding relationship. Elder Linklater testified that for over 10,000 years "our people were there with our own laws looking after the land."[10] TCN and War Lake explain that , "[a]s a people, we are inseparable from our relationships with Mother Earth – relationships that have developed over thousands of years. This is the foundation of our worldview and is integral to our survival."[11]

In the Cree worldview there is "no separation between living and non-living beings." The land is not separate from the living beings that occupy it. The relationships with non-human living beings is integral to the holistic Cree worldview. "Maintaining proper relationships between people and the spirits of all other beings is an essential part of our way of being."

> I feel sorry for animals friends, our brothers and sisters, because they have a lot to go through.[12]

Decisions must take into account impacts on relationships with plants, animals and other beings.

> Particular species of plants and animals or individual relationships cannot be singled out from the remainder when assessing the overall impact on harmony and balance in our homeland ecosystem, and subsequently on our culture.[13]

CNP put forward the Mother Earth Ecosystem Model which illustrates the interrelatedness of all things.[14]

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[9] Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013 at p 18.

[10] Linklater, "Keeyask Hearing", December 12 2013 at p 6234.

[11] Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013 at p 16.

[12] Nepotaypo, "Keeyask Hearing" , December 9 2013 at p 5487.

[13] Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 at p 16.

[14] Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 at pp 25-6.

1.2.3. Mino-pimatisiwin

Chapter 2 of the FLCN EER describes the holistic perspectives of FLCN Inninuwak Mino Pimatisiwin which:

> relates to the overall health of our people. Mino pimatisiwin includes the protection of Aski, our health and social wellbeing, socio-economic prosperity, integrity of culture and language, integrity of governance and autonomy, and healthy local ecosystems.[15]

The EIS-RG defines *mino pimatisiwin* as meaning:

> living a good and honourable life. Mino-pimatisiwin includes many things such as being a good person respecting Askiy, harvesting and consuming healthy Ininew foods, and following our values. Kanawécikéwin-- we care for Askiy for the Ininewak today and future generations.[16]

1.2.4. The difference between the Cree worldview and ATK

The Cree worldview is different from Aboriginal Traditional Knowledge (ATK). Cree worldview is a holistic way of seeing the world (insert quotes from each of the EERS).

Although ATK is grounded in the Cree world view, it is a method of understanding and communicating the aboriginal knowledge about particular environmental and social phenomenon, based on a lifetime of learning and experience. Dr. Terry Dick described ATK as "more fundamental because it is the baseline information on which I would build my study."[17] Flora Beardy explained:

> Our Eninesewin also comes from a worldview that's reflected in our language and in our customary laws. Our Eninesewin is guided by our spiritual beliefs. Our Eninesewin is routed in our cultural practices and in our ceremonies.[18]

ATK is the system of knowledge that acts as the indigenous equivalent to western science knowledge (WSK) (also referred to as technical science). Dr. Lutterman explained that western

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[15] Fox Lake Cree Nation, "Environmental Evaluation Report" June 2012 at p ii.

[16] Keeyask Hydro Limited Partnership, "Keeyask Generation Project: Response to EIS Guidelines Chapter 2: Partners' Context, Worldviews and Evaluation Process", June 2012 at p 2-7.

[17] Dick, "Keeyask Hearing", December 12 2013 at p 6223.

[18] Beardy, "Keeyask Hearing", December 12 2013 at pp 6223-4.

science is not a worldview but rather a methodology that draws on the principles and values of an underlying worldview. ATK draws upon Worldview and is said to be an ongoing process:

> Ininiwi-kiskénihtamowin is absolutely fundamental and central to who we are as people and culture. Our traditional knowledge is held by our Elders and passes from generation to generation. It is a dynamic, living process that is added to and adapted in the lives of successive generations of Cree people. It lives within our way of life [...][19]

> MS. CRAFT: And when did you start learning about trapping and fishing, how old were you?

> MR. MASSAN: Well, as far as I can remember, I think I was about, I used to chase my dad around, maybe nine and ten.

> MS. CRAFT: And when did you finish your learning?

> MR. MASSAN: I'm still learning.[20]

Western science and ATK can and should be complimentary. The challenge lies in how to attribute equal weight to each while maintaining the integrity and value of each.

In attributing this equal weight, one must include and apply customary law or Cree law.

> Acknowledge the equal importance and value to be accorded to Enninesewin on the western scientific knowledge, must also recognize and include the application of customary law principles of Nisichawayasi Nehethawuk as an integral part of the consideration and application of Enninesewin.[21]

1.3. Cree Law

1.3.1. Indigenous Legal Traditions

Courts and decision-makers must take into account indigenous legal traditions in exercising discretion and exercising jurisdiction in ways which may impact indigenous people. Weight must be given to both the aboriginal perspective and the common-law perspective.[22]

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[19] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at pp 17-8.

[20] Massan and Craft, "Keeyask Hearing", December 11 2013 at p 6086.

[21] Linklater, "Keeyask Hearing", Dcember 12 2013 at p 6250.

[22] *R v Van der Peet*, [1996] 2 SCR 507.

A leading scholar in indigenous laws, Dr. John Borrows, notes that part of the strength and resilience of Indigenous laws is that they have been orally passed down through elders, families, clans, and others within Indigenous societies.[23] They are not isolated from the context or the worldviews of indigenous people but are intertwined with:

> the social, historical, political, biological, economic and spiritual circumstances of each group. They are based on many sources, including sacred teachings, naturalistic observations, positivistic proclamation, deliberative practices, and local and national customs.[24]

According to Val Napoleon[25], Indigenous law is "something that people actually do... as a collaborative process."[26] Indigenous law can also be instinctual, "implicit", or go "unsaid" for those who practise the law.[27] Many Cree Elders say that the Cree carry Indigenous knowledge and teachings within them.[28] Lawmakers should be encouraged to "incorporate [Indigenous legal] traditions into legislation, court decisions", regulatory matters, and environmental decision making.[29]

Although indigenous people are increasingly acknowledged for their unique relationship to the land, their knowledge is often ignored, mis-characterized or misunderstood within discussions of the environment. Indigenous legal traditions may be deeply meaningful in decision-making processes, having a positive impact in the lives of indigenous peoples and communities.[30]

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[23] John Borrows, "Canada's Indigenous Constitution (Toronto: University of Toronto Press, 2010) at pp 23-58.

[24] John Borrows, "Canada's Indigenous Constitution (Toronto: University of Toronto Press, 2010) at 23-4.

[25] Val Napolean is an Indigenous lawyer and professor of Cree and Dunnezah heritage.

[26] Hadley Friedland, "Practical Engagement with Indigenous Legal Traditions on Environmental Issues: Some Questions" at p 27.

[27] Val Napolean, "Thinking About Indigenous Legal Orders" (2007) Research Paper for the National Centre for First Nations Governance at p 8.

[28] Patricia Joan Steinhauer Hill "Kihkipiw: A Cree Way" (2008) at p 66.

[29] Whitney Bell, "Canada's Indigenous Constitution" Osgoode Hall Law Journal (2010) at p 716.

[30] Hadley Friedland, "Practical Engagement with Indigenous Legal Traditions on Environmental Issues: Some Questions" at p 1; Also see John Borrows, Canada's Inidgenous Constitution (Toronto : University of Toronto Press, 2010) at p 23.

Environmental decision making is important for the Cree as it affects their political, spiritual, personal, and economic lives in a unique way.[31]

Niigaanwewidan Sinclair explained that:

> when Europeans came to this territory, they joined, they were adopted into a system, as much as is often the narrative that Europeans imposed legal systems upon – I think that First Nations are stuck with a system that often values that, that celebrates that, that privileges that, particularly sense of ownership, for example. I think that these systems, particularly amongst the petroforms, but amongst the other that I mentioned, indicates and illustrates the legal systems in which Europeans joined, and that they accepted.[32]

1.3.2. Cree law

Like every court and administrative tribunal has its own rules of practice and procedure, some written, some borne out of convention, the procedural aspects of Cree law govern the relationships that the Cree are engaged in. Cree law is also understood to govern relationships amongst the Cree, with their partners, the commission and the other parties at the proceeding.

> Our customary laws also apply to the consideration of proposals of new major developments within our ancestral lands and territories, including to the planning, approval and development and monitoring of hydroelectric projects.[33]

Law is not always called law or easily identifiable as law. This is particularly so in a holistic philosophical construct such as the Cree worldview. There are various ways of understanding and defining law. One can take a positivist or normative perspective. If we consider law as the

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[31] See for example, Knowledge keepers from the Muskeg Lake Cree Nation (MLCN) have outlined 8 Foundational Cree Laws which have been adhered by members of their community. Muskeg Lake Cree Nation, "nêhiyaw wiyasowêwina (Cree Law)" <http://www.muskeglake.com/services/community-justice/cree-law/>. See also "Nisichawayasi Nehethowuk Customary Law Principles"The *Nisichawayasihk Nehethowuk* (the people of where the three rivers meet) refer to their Customary Laws as the sum total of spiritual and philosophical beliefs, values, norms, principles and goals which are determined by Kihche'othasowewin (the Great Law of the Creator). The Great Law is underpinned by spiritual and philosophical beliefs, values, principles and goals. Nisichawayasihk Nehethowuk see themselves as being entrusted by Kihche'manitou (the Creator) michimahch'ohchi (since time immemorial) to ensure children are reminded of the life that has been given to them.

[32] Sinclair, "Keeyask Hearing", December 11 2013 at p 6054.

[33] Linklater, "Keeyask Hearing", Deember 12 2013 at p 6247.

norms that regulate conduct between and amongst living beings, we see that Cree law may be culturally influenced and may not be readily recognizable outside of the worldview and language on which it is founded.

Cree legal principles were explicitly shared with the CEC primarily through Elder Linklater's presentation (as endorsed by the KK Elders), the evidence and EER of YFFN[34], and the oral evidence of Dr. Niigaanwewidam Sinclair on December 11 2013. Cree legal principles were also evidenced throughout the hearing, although they were less often referred to as such.

> One of our customary laws that we are exercising today is Tawinamakewin. We come here and exercise the art of listening in order to create understanding amongst ourselves. We are exercising our customary law today.[35]

There was no evidence that the partnership was intending to collectively apply a Cree law framework for decision making, for example by including Cree law principles into terms and conditions of licences (as was done for the Wuskwatim Generating Station).

> Twelve customary law principles identified by Nisichawayasi O′nanakachechikewuk were incorporated into the protection plan, monitoring plans, management plans, and the heritage resource protection plan for the Wuskwatim project. Since these plans are linked to the licence conditions for the Wuskwatim project, the result is that these key customary law principles of our people was applied to the project as expressed in ethinesewin in our language are now associated with the licenced terms of the project.[36]

Although there may be nuances amongst the KCNs about the articulation of their Cree worldview including laws, Elder Linklater confirmed that the laws are contained in the Cree language itself. In the understanding of the language and the values that underly it, core elements of the Cree worldview and laws are relatively intact.

> Nisichawayasihk Nehethawuk customary law is the sum total of all of these beliefs, values and norms. These customary laws all combined to guide and direct the conduct of ithiniwuk, individuals, ka′esi minisichek, the family, ka′esi anisko′wakometochek, the extended family, mamawe′minisichek, the clan, and ka′esi′pisketuskan′nesichik, the nation.[37]

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[34] York Factory First Nation, "Kipekiskwaywinan: Our Voices", June 2012 at p 15 and 16.

[35] Linklater, "Keeyask Hearing" December 12 2013 at p 6236.

[36] Linklater, "Keeyask Hearing" December 12 2013 at pp 6250-1.

[37] Linklater, "Keeyask Hearing" December 12 2013 at p 6233.

There was very little guidance given on how the CEC should apply Cree law in the context of the KGS environmental proceeding. There is reason to make space and to have a process that is more open to and considerate of Cree law.

> For us as Cree in the north, the land is so important to us. While I'm not a resource user, my japa, my great grandmother instilled that in me. I saw her working the land. And I hear stories of the old people, you know what the land meant for them, and the pride and the sense of purpose and the sense of belonging. I don't know how to impart that so that it makes sense. And maybe I don't need to convince you, because we know what it is and how important it is to us.[38]

Elder Linklater explained that Indigenous people have made great efforts to learn western laws and western ways of being. Today they are asking for the same in return from non-aboriginal people – to try to understand indigenous people.

> And that was the first question I ask when we start talking about Wuskwatim, and I said, we have changed our lives, our way of life, we have tried to understand you, why can't you change your way of life and understand us? Why can't the governments and the developers understand our way? Why can't they change? Why are we the only ones to change? Governments have the same behavior and attitude towards our people and towards our land. They haven't changed. We are still waiting for them to change.[39]

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[38] Neckoway, "Keeyask Hearing", December 9 2013 at p 5518.

[39] Linklater, "Keeyask Hearing" December 12 2013 at p 6233.

1.3.2.1. Table 1: Cree Legal Principles[40]

Cree Legal Principle	English translation	Partial understanding or application
Kihche'othasowewin	The Great Binding Law	"And underneath that great binding law it is underpinned by our spiritual and philosophical beliefs, values, principles and goals. The customary law of the Nisichawayasihk Nehethawuk is the sum total of all of these beliefs and values."
Kistethichikwin	Respect	"It is a central value within mino pimatiziwin, oochinehwin, and pastamowin and not abiding by these and being disrespectful has harsh and serious consequences."
Tipithimisown	Sovereignty	"my great grandfather did not allow a person who was not from our nation or our territory to step out of their canoe unless he had provided his consent. According to our customary law, people must announce themselves and request permission before stepping into our land on to our land, or before traveling through our territory."
Tawinamakewin	Consent	"which means that the person seeking access acts with respect by requesting access and by obtaining prior consent. Tawinamakewin also means that the person granting access has the duty to consider a request for access, including consideration of the well-being of the person requesting access." "An exchange of gifts is required."
Aski Kanache Pumenikiwin		"Our actions are guided by the customary law Aski Kanache Pumenikiwin, which means that the contact of a person must be in accordance to protect N'tuskenan, our land, being the waters, land, all life, all creation, our home and our spiritual shelter entrusted to us by kiche'manitou for our children for time immemorial."

[40] Kihche'othasowewin see: Linklater, "Keeyask hearing", December 12 2013 at pp 6231-2. Kistethichikwin see : Fox Lake Cree Nation, "Environment Evaluation Report", September 2012 at p 17. Tipithimisown see : Linklater, "Keeyask Hearing", December 12 2013 at p 6235. Tawinamakewin see : Linklater, "Keeyask Hearing", December 12 2013 at p 6235-6. Aski Kanache Pumenikiwin see : Linklater, "Keeyask Hearing", December 12 2013 at p 6246-7. Ochenewin (Oochinehwin): Linklater, "Keeyask Hearing" , December 12 2013 at p 6224. Pastamowin see : Fox Lake Cree Nation, "Environment Evaluation Report", September 2012 at 15. Kwayaskonikiwn see: Linklater, "Hearing Transcript" December 12 2013 at p 6224-5; 6247. Puhkwenamekewin see : Linklater, "Hearing Transcript", December 12 2013 at p 6238. Nesohkumakewin see : Linklater, "Hearing Transcript", December 12 2013 at p 6238-9. Wahkotowin see : Linklater, "Hearing Transcript", December 12 2013 at pp 6239-40; 6252. Please note that this table does not represent an exhaustive list.

Cree Legal Principle	English translation	Partial understanding or application
Ochenewin (Oochinehwin)		"When one part is changed or destroyed or damaged, Aski is off balance. There is a word in our culture that we do not use very lightly or often. It is called ochenewin, that's a Cree word, and it means that what you do to Aski will affect you, your family, your extended family, and your community, your nation, and the children yet unborn. And this way every person has an obligation to care for Aski and care for everything on Aski. That's a word that we use,ochenewin, to look after Aski."
Pastamowin		"places the responsibility for decision making and learning from the consequences of those decisions with the person."
Kwayaskonikiwn		"We believe that every Inninu and all Inninuwuk have an obligation to carry out their role as Okanawaynichikaywak. We believe that every Inninu and all Inninuwuk have an obligation to do everything possible to achieve Kwayaskonikiwn, which means to restore balance. We must take every step we can to achieve Kwayaskonikiwin, whenever Aski is changed or destroyed or damaged or out of balance. We, as Okanawyanichikaywuk, have a responsibility to be the voices for everything on Aski, and to find ways to make things better. We are, as Okanawyanichikaywuk, have to do everything we can to achieve Kwayaskonikiwin. Where there is a disturbance and where Aski is out of balance, the future of all Inninuwuk depends on achieving Kwayaskonikiwin." This sacred obligation is expressed in our customary law, Kwayaskonikiwin, meaning the duty to restore balance.
Puhkwenamakewin	Sharing	"to share amongst what we have ourselves, this means that everything is shared whether in times of plenty or in times of want."

Cree Legal Principle	English translation	Partial understanding or application
Nesohkumakewin	Listening and understanding	"It means helping others, or to help and support others, practising the customary law of nesohkumakewin is when we provide food and firewood and support to our elders, to our widows with children or to those who are not well, or to those who are injured. (Cree Spoken). Nesohkumakewin also refers to providing spiritual support for those that are suffering or are grieving the loss of a family member or a relative. Nesohkumakewin also refers to the sharing to help those that are not in harmony with themselves or their health or their community."
Wahkotowin		"When we adopt people or a whole family under the customary law of wahkotowin, we become responsible for the protection and the well-being of that person or family, and everyone becomes a relation of the other." "we must as human beings as a human family, we must carefully consider each step that we take, each step that we take we act on behalf of our children, not only our children but your children. Each step we take we act on behalf of the unborn who are watching us right now from the spirit world. (Cree Spoken). This is our sacred responsibility we each hold under our customary law."

1.4. Observations/Recommendations

The Commission is bound by Cree customary law, as is the Minister.

During the proceedings, Elder Linklater expressed that damming the river is a breach of Cree Customary Law:

> Stated plainly it is contrary to our customary law to intentionally obstruct the flow of a river and knowingly alter water, fish, animals and habitat, and to knowingly create hardships for human beings that make a living from that land and that water. In accordance with our customary law, we must acknowledge the obligation we all hold to carefully identify and to reconcile the irreversible adverse effects of the diversion and control and damming of our rivers and lakes to produce hydropower. This

sacred obligation is expressed in our customary law, Kwayaskonikiwin,meaning the duty to restore balance.[41]

CAC Manitoba makes the following recommendations:

- Require Manitoba Hydro to consider and seek direction from their partners on the application of Cree customary law in the planning, construction, and operation phases of all hydro-electric development.
- Consider the application of Cree law procedural principles, processes and protocols in its future proceedings.
- That Cree customary law be incorporated into the terms of licences, permits and other authorizations relating to the KGS.

[41] Linklater, "Hearing Transcript", December 12 2013 at p 6247.

2. ATK

You are in Cree territory. Your activities are impacting our way of life. Respect our culture and respect our way of life, value our knowledge.[42]

2.1. The Cree Worldview and ATK in the EIS

The EISRG describes ATK as "a cumulative body of knowledge, practice and belief about relationships among living beings that is handed down by Elders in each generation and is a way of life continuously adapted and added to by each generation."

Elder Flora Beardy described Eninesewin as the traditional knowledge about the land.

> The elders are keepers of Eninesewin, which means our traditional knowledge and wisdom about everything concerning Aski, the land. The Eninesewin shares observations and experiences of everything on Aski. The Eninesewin also shares any changes that happen on Aski. Their Eninesewin is passed down from generation to generation. This Eninesewin becomes broader with each new observation and experience.[43]

2.1.1 Principles for the inclusion of ATK in the EIS

Chapter 2 of the EISRG speaks to the KCNs context, worldviews and evaluation process. and Appendix 2A lists the *Common Principles Regarding Inclusion of Aboriginal Traditional Knowledge in the Keeyask Environmental Assessment*. The principles were developed by the Partners to "reflect how their Aboriginal traditional knowledge is being and will be include in the Environmental Assessment."[44] The development of the common principles is a positive feature of the EIS.

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[42] Neckoway, "Keeyask Hearing", December 9 2013 at p 5520.

[43] Beardy, "Keeyask Hearing", December 12 2013 at p 6223.

[44] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 2A-1.

The common principles require that ATK is to be given equal weight with WSK and recognizes that "[t]here is a role for ATK in each step of the EA process."[45] As part of ensuring visibility (principle 2), ATK is to have a "distinguishable voice."[46]

> ATK will have a distinguishable voice in the EIS and will not be melded with western science so as to become invisible. The EA process honours and respects ATK and the Cree worldview. It is recognized that ATK has value in it and of itself. [47]

The common principles also consider the importance of acknowledging the past "as providing context for the assessment"[48] and of employing a "precautionary approach that identifies knowledge gaps and recognizes the uncertainty of predictions."[49]

As part of the Keeyask environmental assessment process, the existing environment in the Keeyask region and the manner in which it functions, including the effects on it caused by past and current projects, was "studied and analyzed using the scientific method (referred to as "technical information" in the environmental impact statement (EIS)), Aboriginal traditional knowledge (ATK) and local knowledge".[50]

During Round 1 and 2 of the public consultation, there was a concern that ATK and western science should be more greatly integrated in developing the EIS. Manitoba Hydro agreed and worked to incorporate ATK in Chapters 2, 5, 6, 7 and 8 of the 'Response to the EIS Guidelines' document. Indeed, the EIS makes reference to the Project bringing together technical science and ATK:

> Working as partners, Manitoba Hydro and the Keeyask Cree Nations have assessed the Project using both technical science and Aboriginal Traditional Knowledge, along with information gained through extensive public and government

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[45] Gaudreau and Gibson, "Framework for Sustainability-based ASsessment for the Keeyask hydro Project", November 4 2013 at p 26.

[46] Gaudreau and Gibson, "Framework for Sustainability-based ASsessment for the Keeyask hydro Project", November 4 2013 at p 26-7.

[47] Saunders, "Keeyask Hearing", November 27 2013 at p 4107.

[48] Gaudreau and Gibson, "Framework for Sustainability-based ASsessment for the Keeyask hydro Project", November 4 2013 at p 28.

[49] Gaudreau and Gibson, "Framework for Sustainability-based ASsessment for the Keeyask hydro Project", November 4 2013 at p 52.

[50] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at s 5-2.

> consultation and involvement. The Keeyask Cree Nations have also undertaken and submitted their own Project Environmental Evaluations. This integrated and collaborative approach avoids, reduces or mitigates potential adverse effects associated with a large hydroelectric development.[51]
>
> When I say we participated in all aspects of the process, I'm referring to the description of the project and its fundamental features, the environmental assessment process, notably the identification of and introduction into the process of our Aboriginal traditional knowledge with respect to Aski.[52]

Neither the EISRG or the EERs describe the methodology employed for achieving equal weighting of ATK and WSK. This is an important omission given the importance of the stated principle and the potential for disagreement (as illustrated by the literature in this area) about how to ensure equal weight to both forms of knowledge, particularly in a cross-cultural context. As illustrated by Ms. Anderson, it appears that the inclusion of ATK in WSK going forward remains to be discussed and agreed upon between the partners.

> So for us we expect that our studies, our ATK studies would inform the science. And some of our elders core group resource users have stated that they would like to be part of the studies, like collecting maybe water samples, those types of things. But at the same time, they would decide when they wanted to use the science itself. And I guess if you want like a clear cut answer of what they are going to do, like I guess scientists will do the scientific studies and we will do the ATK studies. There is different parts that they want to be involved in, not every part of it.[53]
>
> It is being developed right now, we don't have the fine details of the plan itself, but we want to make sure that ATK and our members are the ones who are fully involved in it and fully -- I guess telling us which is the best way to do it. And if it has to be training scientifically, I guess we need to address how we are going to do that. And if it is going to be learning directly on the land with our elders, then we will ensure that's done also. But there is nothing been developed, like fine details yet.[54]

In their EERs, the KCNs relied on their ATK and worldview. TCN was of the opinion that Western science-based environmental impact assessments consistently underestimated the effects of hydroelectric development because they failed to consider the Cree worldview (CNP 2012). The community believed that a proper assessment could only be done using the

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[51] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary" June 2012 at p 6.

[52] Neepin, "Keeyask Hearing", September 24 2013 at p 16.

[53] Anderson, "Keeyask Hearing", November 27 2013 at pp 4114-5.

[54] Anderson, "Keeyask Hearing", November 27 2013 at p 4115.

knowledge, values and wisdom of the people in whose traditional lands the development was to take place. FLCN and YFFN members, had different ideas to Hydro as to what should be studied and where, and the nature and extent of a potential impact. In some cases they predicted potential impacts that would go beyond where Hydro and its consultants were focusing their efforts (i.e. the study areas), with a belief that environmental disturbances would likely affect a much larger area beyond that of the immediate disturbance.

The KCNs conducted ATK studies and community planning, traditional knowledge programs and oral history compilation.[55] These informed the development of the EERs. ATK was also used to inform the EISRG and Technical Reports, however we are unsure as to how these studies and other ATK processes informed the western science that underlies the EISRG and Technical Reports, for each of the VECs, as well as collectively.

> Western science, all the studies that have been done through the environmental impact statement and everything else, none of that could have been done without having the First Nations there. We are the ones that showed Manitoba Hydro where the fish are, where they are in the spring time, where the sturgeon go, where the geese fly and where they land, where the moose are, where the caribou come in the winter time. All of this information was shared and all of these studies and impacts that were done were shared by us. And without all of this information, western science wouldn't have been able to produce documents.[56]

It would be helpful to understand if the technicians and experts in WSK had any training on methods of including ATK in their analysis and conclusions. If ATK is to have a "distinguishable voice", it would be beneficial to include information about how the ATK informed the WSK in the EIS and technical reports.

The KHLP plans to include ATK in the Monitoring plans (in addition to separate ATK monitoring Plans which will be developed and administered by each of the KCNs.[57]

> We chose to work with our elders and our youth, our knowledge holders. Those are the people that are going to continue the monitoring programs, they are going to continue to pass on traditional knowledge. [58]

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[55] See generally Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at ch 2.

[56] Bland, "Keeyask Hearing", November 27 2013 at p 4108-9.

[57] Northover, "Keeyask Hearing", November 27 2013 at p 4110.

[58] Bland, "Keeyask Hearing", November 27 2013 at p 4109.

2.1.2. VECs

The EIS is made up of so many different studies and reports that it is possible to miss how different aspects of the homeland ecosystem are interlinked. On the one hand, it becomes clear that Cree perspectives and concerns helped to identify Project-related impacts on the 'homeland ecosystem' and influenced Manitoba Hydro with regards to decision about dam size, reservoir levels, and location. For example, a low head option was chosen to limit flooding of terrestrial habitat and other design features used in order to avoid disturbing priority habitat types.

Once of the core challenges of the EISRG is that it approaches the potential impacts of the project from a Value Ecological Component (VEC) perspective. The technical science, upon which the outcome of the regulatory test for significance for each of the VECs is based, focuses on thresholds of acceptable change that are based firmly on western scientific parameters. This may respond to the regulatory guidelines, but as the *Executive Summary* itself acknowledges, the idea of VECs runs counter to the Cree worldview that considers all aspects of the ecosystem as interrelated and equally important/valued. Since the value-system adopted by the assessment process is one dominated by Western positivist science rather than Cree Worldview, this belies the stated commitment to an integrated and collaborative coming together of ATK and technical science.

> When we explain that every part of nature is connected, we are referring to a web of relationships: relationships amongst people; relationships between people and the land; and relationships amongst the various living, non-living, and spiritual beings that make up the universe. We include ourselves in that web of relationships. The changes that we describe below – that have taken place in the water and land – have also occurred in us. As individuals, families, and as a community, all of us have found ourselves shaken, and gradually changing along with the land. [59]

The above quote highlights how the understanding of interconnectedness is central to the Cree worldview and culture – the idea that if one area is affected then other areas are, in turn, also affected.[60] For the Cree, the maintenance of appropriate relationships with the lands and waters and continuation of cultural practices and traditions remains extremely important.

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[59] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 72.

[60] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012; Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012; Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013.

The KCNs did not adopt a VEC model for their EERs. The KCNs expressed that the VEC model was inconsistent with their worldview(s). The FLCN found the VEC approach "difficult to accept"[61] since it "tends to ignore the interrelatedness of people, animals, water, landscape and plans."[62] This approach was also explained by the CNP and YFFN.

> Particular species of plants and animals or individual relationships cannot be singled out from the remainder when assessing the overall impact on harmony and balance in our homeland ecosystem, and subsequently on our culture.[63]

> Askiy is the whole of the land, water, people, plants, animals and all things. [...] We respect Askiy and we are affected by even the smallest changes to Askiy.[64]

York Factory's experience with hydroelectric development is that this development has and will continue to fundamentally change these relationships, and in so doing, will produce adverse effects. The Keeyask Project will "add to these changes in some ways that are foreseen and may add to these changes in other ways that are currently not foreseen."[65]

In focusing on VECs and failing (whether intentional or not) to integrate ATK throughout much of the assessment process in the EISRG, Hydro has limited the ability of the KCNs to ensure that their philosophy of *mino-pimatisiwin* ("living the good and honourable life") informs all parts of the EIS. As an example, when Hydro determines that the 'residual effects on culture and spirituality' are "adverse, small in geographic extent, long-term in duration and small in magnitude for both construction and operation phases" (Section 6.6.5.6.2, *Response to EIS Guidelines*), one is left to wonder how they could be in a position to determine this.

2.1.3. Differences between the ATK and WSK

Manitoba and the KCN approach baseline data from different viewpoints.

> Our people define baseline as the condition of the land, waters and people prior to hydro electric development which began in the early 1960s. This is in contrast to

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[61] Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012 at p iv.

[62] Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012 at p v.

[63] Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013 at p 23.

[64] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 15.

[65] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 103.

> Manitoba Hydro's baseline as the existing condition of the terrestrial, aquatic and socioeconomic environments.[66]

In terms of future impacts, Chapters 6, 7 and 8 of the EISRG documents a number of instances where ATK predicts that the effects will be greater than those predicted by technical science. ATK anticipates a larger spatial extent of effects, extending upstream to Split Lake and downstream in the Nelson River past the Kettle GS. Concerns were expressed by other participants in the hearing including: Shamattawa, Pimicikamak Okimawin, and Peguis First Nation.[67] KCN members are also skeptical that mitigation measures can lessen some of these effects to the extent proposed.[68]

The views of KCN members are heavily informed by past experiences with Hydro: "In our experience, the implications of hydro-electric development projects have not been communicated to us accurately, and scientific predictions – though they have often claimed certainty and objectivity – have not always been correct. In fact, the predictions and technical modeling associated with past hydro-electric development, such as Kelsey, the CRD, and LWR, have appeared excessively confident and even arrogant at times."[69] The report goes on to state,

> "because of our past experience we continue to be skeptical of the predictions of the potential effects related to the Keeyask Project. To us, the water, the land, the people, and the animals, throughout the river system, are so tightly interconnected that we cannot confidently predict all that will happen as Keeyask is built."[70]

The 'Physical Environment' files (impacts from Project on different aspects of the physical environment), for example, are based almost wholly on western scientific observations and the modeling of future patterns. What is missing is any attempt to learn from what previous hydro developments led to. An important aspect of ATK, and one that is absent from the analyses and modeling undertaken as part of the environmental assessment process, concerns First Nation

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[66] Fox Lake Cree Nation, "Environment Evaluation Report", September 2012 at p v and 35.

[67] See Transcript materials filed by all participants.

[68] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012; Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012; Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013.

[69] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 92.

[70] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 92.

observations and experiences regarding the impact that other generating stations have had on the region's biophysical environment.

There are also differences between the ATK and WSK between some of predicted cumulative effects. As illustrated in relation to fish,

> [...] the technical analysis indicates that there are no adverse effects of the Project on fish populations" but "[m]embers of the KCNs... have stated that they expect a larger spatial and temporal extent of effects than indicated in the technical analysis.[71]
>
> As with water quality, members of the KCNs at workshops to discuss Project effects and mitigation have stated that they expect a decline in the numbers and health of most fish species as a result of the Keeyask Project and that adverse effects will extend to Split Lake.[72]

2.1.4. "We have tried to share our eninesewin"

It appears that in relation to some of the VECs identified in the EISRG there was a disconnect between the ATK and what the WSK put forward. The Caribou as a VEC was considered and analyzed differently by the WSK in the EISRG and the Cree perspective. The conclusions arrived at were different on two fronts: the existence of a woodland caribou herd in the area and the anticipated behavior of the migratory caribou in their migration patterns.

Elder Flora Beardy explained that:

> We have tried to share our eninesewin about the four groups of caribou. We have names for each of the groups. There are the Noschimik Atikok, which means caribou that stay in the bush. There are the Wapanik Atikok which means the caribou that comes from the east, which we refer to as the Pen Island herd. There are Mantayosipi Atikok, which are the Cape Churchill herd. And then there is the Pasko Atikok herd which are the caribou that stay where there is no trees, and we refer to these as usually the Beverly herd.[73]

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[71] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 7-23.

[72] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 7-23.

[73] Beardy, "Keeyask Hearing", December 12 2013 at pp 227-8.

The ATK indicated that the caribou have stayed away from the First Nations communities for the better part of 30 years because of Hydro development and are now just starting to return.[74] The western science says that caribou are not affected by Hydro development

Although there was no agreement between the ATK and the technical science conducted in the EISRG and technical reports about the existence of a woodland caribou herd, Dr. Schaffer concluded that it was "more probable than not" that resident woodland caribou resided in the area. The KK Elders recommended that ATK and WSK work together "to recognize and protect the Noschimik Atikok."[75]

With difference in the ATK and WSK, there is no agreed upon baseline from which to analyse departures of changes in the caribou population, health and behavior.

> "With adaptive management it is very important to articulate the processes that you are going to use to make those changes, so that you decrease the number of things that are uncertain."[76]

The solution or proposed means of addressing the conflict between ATK and WSK is to defer the conflicting views to the process of adaptive management and monitoring. It is difficult to have confidence in the success of the adaptive management where there is no articulated process for working through the differing views. As explained by Dr. Fitzpatrick in relation to the monitoring work of the MAC:

> What is absent and what we would have liked to see is more information on how potential discrepancies will be resolved. So, what is the process for reconciling if the two bodies of knowledge have different findings? And so that's an oversight or a missed opportunity and something that would be important in moving forward. What happens if there are differences, different answers?[77]

The approach proposed in the EIS to differ conflict to the monitoring of mitigation measures may result in a process that fails to acknowledge the importance of the caribou for the Cree (spiritually, culturally and as food). The disappearance of migratory caribou over an extended

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[74] "When the caribou came back, the Elders said that the caribou had left for 30 years until they learned how to adapt to this territory, mainly to the impacts of the flooding of the land and the environment: York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 82.

[75] Beardy, "Keeyask Hearing", December 12 2013 at p 6228.

[76] Fitzpatrick, "Keeyask Hearing", December 12 2013 at pp 6128-9.

[77] Fitzpatrick, "Keeyask Hearing", December 12 2013 at p 6155.

period of time after construction may prove the ATK right, but at what cost? It may be at the cost of another 50 years of the caribou staying away. Is that an acceptable risk? Herein lies the problem of shifting the disagreement to the future and of not being candid about the potential of residual adverse effects being significant. Herein also lies the problem of two differing worldviews, one that defines the risk of the loss of caribou as "acceptable" and the other who does not.

> MR. MASSAN: I'm concerned about those caribou that are calving in that area. I'm just wondering what is going to happen to them?[78]

The treatment of the caribou ATK leads one to question whether the ATK has been fully included in the final determinations of what residual adverse effects may be significant or not. As expressed by Elder Beardy:

> We are very concerned that our voices have not been heard. We are concerned that our eninesewin [aboriginal traditional knowledge] is not being treated with equal value and importance with western science. We are very concerned that more imbalances on Aski will happen. We are concerned that we will not be able to work together to achieve Kwayaskonikiwin [balance].[79]

In sum, there is an absence of meaningful consideration of ATK in the description of most of the VEC baselines as well as the lack of demonstrated reliance on ATK in the proposed mitigation strategies. We do not know how the ATK was used to inform the analysis and how it ultimately influenced the conclusions regarding the ultimate significance of the Project.

> MR. MASSAN: He seen about 25 of them. They were in the middle of the lake. It was kind of blowing snow. That's what caribou do, they go in the middle of the lake. I guess, the wolves, I guess -- that's where he caught one of them. Even my cousin a couple of years ago, he killed a woodland caribou at Butnau dyke. His son killed it. He was wondering why this thing is so big, you know. They are around, those woodland caribou, I seen them on the Shamattawa Road too. I shot a couple there too, 14-mile creek, I shot a couple there. You get to see things.[80]

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[78] Massan, "Keeyask Hearing", December 11 2013 at p 6100.

[79] Beardy, "Keeyask Hearing", December 12 2013 at p 6226.

[80] Massan, "Keeyask Hearing", December 11 2013 at p 6226.

2.2. Mitigation and offsetting programs

The EISRG proposes to mitigate potential adverse effects. An important feature of the mitigation strategy proposed is contained in the three Adverse Effects Agreements (AEA) signed by Hydro and the KCNs.

The AEA programs will be controlled and administered by the communities and annual funding may be reallocated to "address the project effects as they are experienced."

While offsetting is explained as compensating for "unavoidable adverse effects"[81], the proposed offsetting for Keeyask justifies what may be avoidable destruction. This is where offsetting sits most uneasily with Cree perspectives on *Askiy*.

At the core of the AEAs is a set of Offsetting Programs, which are designed to provide appropriate replacements, substitutions or opportunities to offset unavoidable adverse effects on the practices, customs and traditions integral to the KCNs respective distinctive cultural identities.

> We negotiated an Adverse Effects Agreement with Manitoba Hydro, as did the other three Cree Nations, which deals with avoidance, mitigation and compensation of the adverse effects we have been concerned about; notably the impact of the influx of workers which has always terrorized our community.[82]
>
> The mitigation programs all have a focus on healing and strengthening the Fox Lake people and on strengthening Fox Lake language and heritage. Fox Lake will receive the funding for and administer the offsetting programs.[83]

The idea of offsetting—compensating for losses of biodiversity at an impact site by generating ecologically equivalent gains elsewhere—is not without controversy. It involves trading places: allowing development to negatively impact wildlife and habitats if, in return, new habitats are created elsewhere.

From an adaptive management perspective, offsetting could work in principle–it is technically feasible–but it is neither straightforward nor guaranteed. Specifically, it places substantial faith

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[81] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary" June 2012 at p13.

[82] Neepin, "Keeyak Hearing, Gillam" September 24 2013 at p 16.

[83] Neepin, "Keeyak Hearing, Gillam" September 24 2013 at p 17.

in the ability of restoration to recover lost biodiversity. We cannot be certain that offsetting will work and the residual adverse effects be accurately determined?

The replacement of hunting and fishing areas is one example of an offsetting strategy which may not account for, or measure, a VEC's full value. As a central feature of the AEAs, these programs will transport community members to areas where they can hunt and fish due to the impacts on the resources of their traditional areas. However, this does replace traditional areas that have been lost to flooding; places that have become valued as places by those who use them and around which ATK is created. This includes impacts on four traplines in the immediate vicinity of the KGS.[84]

> MS. CRAFT: Is there anybody else that you think is going to be affected if that trapline can't be used, apart from yourself?
>
> MR. MASSAN: Well, my family have been -- this trapline was passed on to me. I lost my dad in 2000, and it has been passed on to me. And my brothers, they still trap, and now it is my stepson, I got some helpers that are still trapping in that area.[85]

Transporting hunters and fishermen to other areas complicates the wider involvement of extended families in hunting and harvesting in a camp setting, which in all three KCN evaluation reports is understood to be an important social practice or custom.

[84] Keeyask Hydropower Limited Partnership, "Question 11 : Trapping" , January 3 2014 at p 24-7.

[85] Craft and Massan, "Hearing Transcript", December 11 2013 at p 6092.

2.2.1. Adverse effects Agreements [86]

York Factory AEA	Fox Lake AEA	War Lake AEA	Tataskweyak AEA
- Resource Access and Use Program - Environmental Stewardship Program - Cultural Sustainability Program	- Gathering Centre - Youth Wilderness Traditions Program - Cree Language Program - Gravesite Restoration Program - Alternative Justice Program - Crisis Centre and Wellness Counselling Program - Lateral Violence "Where do we Go From Here" Program	- War Lake - Distribution Centre - Community Fish Program - Improved Access Program - Traditional Learning/Lifestyle Program - Cree Language Program - Museum and Oral Histories Program - Residual compensation	- Keeyask Centre ($4M paid to date – TCN still reviewing plans) - Access program - Land Stewardship Program - Health Food Fish Program - Traditional Lifestyle Experience Program - Traditional Knowledge Learning Program - Cree Language Program - Traditional Foods Program - Museum and Oral Histories Program - Cash payment for residual compensation ($3M paid in 2009 – one time)

[86] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012; Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012; Cree Nation Partners, "Keeyask Environmental Evaluation: A Report on the Environmental Effects of the Proposed Keeyask Project on Tataskweyak Cree Nation and War Lake First Nation", June 12 2013.

2.3. Significance

Another inherent challenge in the EIS was the focus of the EISRG on regulatory determinations of "significance". In the EISRG document and the panels on aquatic, terrestrial, physical and socio-economic environment, the framework of analysis that was employed considered first whether adverse effects would be significant and secondly, whether the residual adverse effects remained significant after the mitigation measures were considered. We heard of adverse effects on VECs that were "significant", which became "neutral or not significant" in their residual adverse effects, through mitigation.

The EIS suggests for most VECs that mitigation can be done with such certainty that the residual adverse effects become insignificant. There are some important questions about the certainty with which this mitigation and adaptive management can be determined and whether this reversal from significant to insignificant is demonstrated or justified in the EIS.

In addition to uncertainty about the effectiveness of proposed mitigation measures, mitigation itself is limited in what it can achieve:

> MR. NEPINAK: ... you mentioned the Cree worldview and science. I'm really glad of the way that you kind of married the two. That's leads me to a question that I have been thinking about and not asking, and that's mitigating. Can you explain mitigating to me?
>
> DR. LUTTERMANN: Mitigation, has not been defined here? Me, I guess the root of the word, mitigation, like migraine, it really only means kind of fixing it up maybe halfway, right? It doesn't mean to completely compensate for an effect, or bring something back to the way it was before, but it means to try to lessen the effect to some extent, or the consequences of the effect.[87]

More fundamentally, there is no evidence that the Cree worldview adopts the same method of analysis of significance as the Western worldview or Environmental Regulatory process. For example, it is unclear that the Cree worldview would consider mitigation as a cornerstone in an analysis of residual significance, especially in light of uncertainty regarding the proposed methods of mitigation.

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[87] Nepinak and Lutterman, "Keeyask Hearing", December 5 2013 at pp 5319-20.

> From our perspective, there will inevitably be substantial adverse environmental impacts, despite good planning, research, design, assessment, monitoring and mitigation.[88]

This concern is exacerbated in this case considering that the EIS, and particularly the proposed mitigation measures and the existing environmental protection plan, may not fully incorporate the baseline ATK or mitigation and management ATK that was provided by the Cree Nations.

> [...] we acknowledge that our perspectives and knowledge have been brought into some parts of the EIS.[89]

Ramona Neckoway spoke to the CEC about impacts on her community of Nisichawayasihk Cree Nation, partners in the Wuskwatim hydroelectric generating station :

> But as a woman and as a mother and as a Cree person that lives and is from that territory, I really feel that I have an obligation and responsibility to remind southerners, to remind Manitobans, to remind Manitoba Hydro, and to remind us, even us the Cree, that the knowledge and our way of life and the knowledge of our elders and the way that we lived is important.
>
> I'm a grandmother. My grandson is four year old. As I sit here today, Wuskwatim is, you know, as far as I know the rapids are gone. I gave testimony in the other hearings that that was grandfather's trapline. As I sit here today, his trapline is gone. My grandson is born into debt, you know, because of the project development agreement. He is four years old. So by virtue of that agreement, we are in debt.[90]

It is clear that consideration of the potential impact of a project is not limited to what will be lost, although it is the focus of the environmental regulatory process. It is important to consider not only what is lost as an impact of a major project like the KGS, but what takes it's place – what can be gained. We must then consider <u>the acceptability and value</u> of what will be acquired through development.

> MS. CRAFT: ... why is the sight and sound of rapids important to you?
>
> MR. MASSAN: Because they sound pretty good when you are fishing along it. And then after that thing, you start hearing these humming noises now, like the rapids, the water is the sound of the rapids, and then they replace it with the sound of the power line, humming sound.[91]

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[88] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 125.

[89] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 94.

[90] Neckoway, "Keeyask Hearing" December 9 2013 at p 5516-7.

[91] Craft and Massan, "Keeyask Hearing" December 11 2013 at p 6099.

2.4. ATK and Monitoring

The two track approach adopted by the KHLP, appears to inevitability intersect at some point in the future, including through monitoring of mitigation measures planned for in the Environmental Protection Program and particularly at the Monitoring Advisory Committee which oversees the Environmental Protection Plan.

ATK monitoring plans are planned as part of the Environmental Protection Program. These remain to be developed by the Cree Nations. Manitoba Hydro has committed to funding the ATK monitoring plans and negotiations are ongoing about the future development and implementation of each of the four ATK monitoring plans. There are no plans to finalize the Monitoring Plans until the Project is licensed.[92]

A strong feature of the Keeyask EIS is the opportunity for the KCNs to be "directly involved in monitoring implementation by leading the Aboriginal traditional knowledge monitoring program and working side-by-side with scientists as part of the technical science-based monitoring and participating in the Partnership's Monitoring Advisory Committee."[93] The MAC is a good opportunity for community based deliberations and learning. The EIS states that the "KCN's involvement and ATK will be utilized along with technical science and recognized as an integral component of the monitoring"[94] and that their involvement would occur in two ways: "leading the ATK monitoring program, and working side-by-side with scientists as part of technical science based monitoring. [95]

Fox Lake Cree Nation has stated their standard of mitigation will exceed those that are required by the regulators and western science.

> ... going forward for our monitoring programs, we are -- we have a higher standard than what the regulators say, so that's why I say we don't discount the science

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[92] See: Northover, "Keeyask Hearing", November 27 2013 at p 4134 -5.

[93] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary" June 2012 at p 39.

[94] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 8-11.

[95] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 8-47.

> because we were part of some of those studies, but I think we will have a higher standard in our monitoring programs.[96]

Where there is disagreement or difference between the conclusions drawn from the ATK and western science, the partners plan to proceed to the monitoring phase with that difference in mind. This may means that the partners will be faced with two baselines of data from which to approach monitoring activities. There may also be two perspectives that emerge on the effectiveness of mitigation measures as the monitoring takes place.

There is no described process for coordinating, harmonizing or resolving differences in ATK and western science. The approach suggested by the partners is to deal with different ways of knowing on a "case by case basis", primarily through review and discussion at MAC.[97]

> MS. MAYOR: And in fact, that's the exact role that MAC has been designed to play, to bring together all of the information from the communities, from their monitoring programs, bring them together with western science, the experts on both sides, bring them all together and discuss how to deal with these problems that arise if they haven't already been anticipated?
>
> DR. FITZPATRICK: Yes. And that's why MAC is such a positive feature. But we brought forward that example because that was a long learning process to resolve an issue that the elders identified very quickly in the process. And resolution is still ongoing from the last independent monitoring agency report. And so if there is a clearer process, a base process in place that can then be modified to be specific to this, it would shed some light on how outstanding issues would be resolved. How will -- should the information between two bodies of knowledge or different communities have differing outcomes, what will be done to resolve that? Just a base process, that can be modified, and hopefully not take as long as it took the parties in the Northwest Territories. Hopefully we can learn from them so that we can achieve it in a more expeditious fashion.[98]

To resolve conflict between ATK and western science in the adaptive management and mitigation phases of project development, Dr. Fitzpatrick suggests a place based approach "that takes into consideration the nuances and the needs of specific communities and cultures involved, and the design of the project itself."[99]

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[96] Anderson, "Keeyask Hearing", November 27 2013 at p 4108.

[97] Northover, "Keeyask Hearing", January 6 2014 at p 6509.

[98] Mayor and Fitzpatrick, "Keeyask Hearing", December 12 2013 at pp 6186-7.

[99] Fitzpatrick, "Keeyask Hearing", December 12 2013 at pp 6155-6.

2.5. Cree Language

There are some, although not many Cree words used in the EISRG. The EERs employ some Cree words. Words themselves carry particular meaning and knowledge. Elder Linklater explained that history, future and law is contained in the language.

> My language Nehethowewin, it means I speak from the four winds, I speak from the four directions. And that means when I speak that I speak the truth and speak with honesty. And language, my language is so precious to me. My history is embodied in my language. My future is embodied in my language. I am the ancestral law, which is contained in my language. I am the future law contained in my language. It is so precious to me [...] These laws that I talk about are contained in the language.[100]

The KCNs have expressed the importance of language and in particular language retention and learning. They have included language programs as part of the offsetting programs.

To the extent possible, the ininimowin language should be incorporated into the documents related to the KGS, as directed by the KCN partners.

2.6. Recommendations

- CAC supports the recommendations of the Kaweechiwasihk Kay-tay-a-ti-suk, that the Noschimik Atikok to be recognized as a distinct group of resident caribou that are near the Keeyask project.
- CAC supports the recommendations of the Kaweechiwasihk Kay-tay-a-ti-suk, that that Aboriginal traditional knowledge and western science work together to recognize and protect the Noschimik Atikok.
- That the KHLP develop a mutually agreeable process for resolving disputes between ATK and WSK, prior to licensing, construction or operation. (e.g. a place based approach to resolving disputes between ATK and western science)
- To the extent possible, the ininimowin language should be incorporated into the documents related to the KGS, as directed by the KCN partners.
- For future EIS, it would be helpful to understand if the technicians and experts in WSK had any training on methods of including ATK in their analysis and conclusions. If ATK is to have a "distinguishable voice", it would be beneficial to include information about how the ATK informed the WSK in the EIS and technical reports.

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[100] Linklater, "Keeyask Hearing", December 12 2013 at p 6372.

3. PARTNERSHIP AND RECONCILIATION (KWAYASKONIKIWIN)

"But then, again, it is business, right, it is business. Let's put business and our people together."[101]

3.1. A Difficult decision

For the First Nations, the decision to enter into partnership was made with trepidation and deliberation. The Cree Nations have had to reconcile their worldview in which they see themselves as keepers of the land/Askiy with their participation in destruction of the land through development.

> You know, it feels like we, the Cree, are entering into these agreements under stress, we want jobs, we want some of the conveniences, we want access to benefits that the south enjoys as a course of, you know, your day-to-day. But it seems like we are getting into these agreements and I wonder, do we really know the full impact of what we are getting into? You know, for me it seems like through these agreements we are being forced to help destroy and damage our land. And in doing this, it is like we are breaking our own natural laws.[102]

The Cree Nations have expressed their moral dilemma in entering into partnership with Manitoba Hydro to develop the Keeyask GS. This moral dilemma is also rooted in the troubled history and long legacy of Manitoba Hydro in Northern First Nations.

> [W]e have a dark history with Hydro, and I think that would be something we'd have to discuss within the community and amongst ourselves. Because I know some of our members still do not trust Hydro. And so I think that is something that would have to be done within the community, a decision to be made, if there was no formal apology. And personally, I think for people to move forward and heal, I think that would only help.[103]

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[101] Moose, "Keeyask Hearing", December 9 2013 at p 5468.

[102] Neckoway, "Keeyask Hearing", December 9 2013 at p 5519.

[103] Anderson, "Keeyask Hearing", November 6 2013 at pp 2271-2.

Since the late 1950's, members of all four KCNs have been observing, experiencing, and discussing the effects of hydroelectric development. In their EERs, each make reference to how Project construction and operation will affect the land their environment in profound ways – in terms of worldview, culture, and their deep relationships with *Askiy*.

In the end, however, all decided to partner with Manitoba Hydro on this Project, and did so for two main reasons. First, they hoped to be in a position to influence Project design and management, and thereby reduce adverse effects on their territories and way of life. Second, they wanted to ensure that they would (i) be compensated for predicted impacts through suitable offsetting programs; and, (ii) benefit financially and economically from the Project by sharing in revenues and securing project-related employment.

> Through these agreements we have inserted our Cree Worldview into the environmental evaluation report. We have provided for protections against recurrent problems of the past, and we have negotiated benefits for our community in terms of training and employment and business opportunities which have been and will be of much assistance to our people, our youth and generations to come. Those generations to come also will be benefited by a flow of income coming to us as partners in the project, which not only will produce significant income for our people and our programs, but will be producing a stream of income which is ours to deal with as we see fit, not subject to overriding rules and regulations of governments other than our own. It is a form of independence, which we value and which subsequent generations will be proud to say resulted from the efforts of our community today and the foresight as shown in the way in which it has conducted itself in these negotiations and the ratifications of our partnership agreement with Manitoba Hydro.[104]
>
> [...]
>
> In fact, we support the project because for the first time we are a partner to the promotion of a hydroelectric project, and in that capacity we can minimize the adverse impacts.[105]

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[104] Spence, "Keeyask Hearing: Gillam", September 24 2013 at p 6.

[105] Neepin, "Keeyask Hearing: Gillam", September 24 2013 at p 15.

The decision to move forward on two separate tracks, while acting in partnership demonstrates the complexity of the relationship between the Cree Partners and Manitoba Hydro.

> So it was not with eagerness or absence of thought that we chose to become partners in a major hydroelectric project. Rather our pride in our history, culture and values makes us cautious and apprehensive as we approach this new phase in our history.[106]

3.2 Referendum

The First Nations voted through community referenda. Each KCN voted to become a partner in the Keeyask Project. The First Nations involvement in Keeyask was driven by the CNP, and TCN in particular. Fox Lake and York Factory were involved in negotiations, although with less certainty that they would ultimately become partners with Manitoba Hydro, as illustrated by the following quotes from York Factory members:

> Throughout these activities, our successive Chiefs and Councils took a neutral position regarding whether or not YFFN would participate in Keeyask. This was a different approach than that taken by TCN and WLCN, who signed an Agreement in Principle (AIP) for Keeyask in 2000 with Manitoba Hydro, and formed the Cree Nations Partners (CNP) to negotiate the JKDA.[107]

> I never felt comfortable with the situation we went into, where Tataskweyak Cree Nation (TCN) was the main First Nation negotiating with Manitoba Hydro. We were put in a situation where we felt that we were either a part of it, or we were out of the deal. A lot of people didn't [still don't] understand that this thing was going to happen whether we liked it or not. You either watch it happen, or become a part of it. With us being partners, we have a limited voice. Our only real benefit is for our children, and their children after that. We did this for our children and future generations.[108]

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[106] Neepin, "Keeyask Hearing", November 6 2013 at p 2360.

[107] York Factory First Nation, "Kipekiskwaywinan: Our Voices", June 2012 at p 98.

[108] Ted Bland, York Factory First Nation, "Kipekiskwaywinan: Our Voices", June 2012 at p 24.

Although the four First Nations received support for their Chief and Council to sign the JDKA and AEAs, voter participation did not result in a majority of the voices of York Factory First Nation or Fox Lake Cree Nation explicitly endorsing the signing of the documents.

In a first round, the participation rate was under 37% for YFFN and FLCN. YFFN votes in favour represented approximately 30% of the community voting to support their Chief and Council in the signing of the JDKA and AEA.

The FLCN proceeded to a second referendum on the same question, with an increased voter turnout to 47% of eligible voters. Approximately 44% of the total membership of the FLCN voted to support their Chief and Council in the signing of the JDKA and AEA. Chief Spence expressed that Fox Lake Cree Nation had "overwhelmingly accepted and ratified the two agreements" and "overwhelmingly affirmed the project in a democratic process."[109]

Regardless, the majority of positive votes required to proceed with the JKDA and AEAs had already been achieved by having a positive referendum vote in Tataskweyak. The ratification vote for the Joint Keeyask Development Agreement (JKDA), required a KCN majority vote based on band populations would be required for the Keeyask Project to move forward. While TCN's 'Yes' vote did not guarantee that Keeyask would be built, it meant that the Keeyask Project could proceed towards the preparation of the Keeyask EIS and application for environmental licenses. Since TCN's population represented 60% of the overall KCN population, it represented a KCN majority on its own.

TCN's ratification vote occurred several months before the FLCN and YFFN referendums. Consequently, it becomes clear in their respective evaluation reports that, upon voting, FLFN and YFFN members were influenced in their decision-making by the fact that TCN had already signed on and the Project could thus move forward with or without their involvement.

3.3 Dissent

Some members of the First Nations have and continue to express their dissent and discontent at the decision to enter into partnership. Each of the KCNs expressed that dissent within the community would be considered as the partnership proceeds.

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[109] Spence, "Keeyask Hearing: Gillam", September 24 2013 at p 5-6.

Victor Spence explained that "Our people choose through a referendum to be part of this process. Yes, there are voices out there that question why. We honour and respect that voice, but that doesn't mean we exclude them in this process."[110]

Chief Spence:

> [...] we value and support those who have questions, comments, challenges or criticisms of what has been done, and the nature of the arrangements that have been made.
>
> [...]
>
> We welcome those who have opposing views. In fact, the purpose of the Commission's hearing today in our home and traditional territory is to allow our members to express themselves freely and fully on all such matters. Please do not hesitate to engage with the Commissioners from your hearts and minds with integrity and concern for the future. We must all remember that we are stewards of this land and this environment, and nothing is more important to us than its preservation and the continuance of its ability to support and maintain our people. [111]

3.4. Treaty 5

Elder Linklater explained that the customary laws were respected at the time of treaty making.[112] This included obtaining the consent to enter into the land, a promise to share equally with each other and to adopt one another.[113]

Together with all of the Treaty terms, my grandfather accepted His Majesty's request for consent to enter our land N'tuskenan. He also accepted and made a mutual promise to share equally with

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[110] Spence, "Keeyask Hearing: Gillam", September 24 2013 at p 5.

[111] Spence, "Keeyask Hearing: Gillam", September 24 2013 at p 7.

[112] Linklater, "Keeyask Hearing", December 12 2013 at p 6240.

[113] In accordance with the customary law of the tawinamakewin, his Majesty needed our consent to open our land to settlement. And our consent is required before any changes can be made to the terms of our Treaties : Linklater, "Keeyask Hearing", December 12 2013 at p 6243.

each other, and to provide support in times of need and also promised to adopt and protect the families of each other.

The Treaty promised a sharing of the land and resources amongst indigenous people and the Crown.

> The terms of Treaty 5, adhesion to Treaty 5 established a solemn promise that the lands within our ancestral lands and traditional territories would be shared forever between the Treaty nations and the Crown and with the settlers and others entering into our traditional lands.[114]

> Our Treaty relationship is not frozen in one moment in history, but must evolve and adapt as events take place, as challenges take place in our lives. Today in order to honour the spirit and intent of the Treaties, we must now ensure that the resource revenue sharing, benefit sharing and resource access agreements with our nations were a condition of any government approvals or licences related to energy, water, mining and natural resource developments within our traditional lands.[115]

Elder Linklater also testified that the treaty contains terms for support of economic pursuit, food sovereignty, education. Housing was also promised in the treaty. Although the negotiations and partnership are with Manitoba Hydro, an agent of the Crown, many of the terms are not on the table with respect to Keeyask – namely education and housing – they are considered to be beyond the confines of the Partnership.[116]

> If you look at the Treaty medal, that handshake in that Treaty medal, that's very significant for my people. It symbolizes the mutual commitments of the Crown and our Treaty nations to respect each other, and to build a nation together as long as the sun shines, the grass grows and the waters flow.
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> [...]

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[114] Linklater, "Keeyask Hearing" December 12 2013 at p 6240-1.

[115] Linklater, "Keeyask Hearing" December 12 2013 at p 6243.

[116] During cross examination, Ms Kinley identified challenges relating to underfunding of on-reserve schools: Kinley, "Keeyask Hearing", November 5 2013 at pp 2092-93.

> It is particularly important when considering and settling -- setting terms and conditions for major resource developments that the affected Treaty First Nations, the proponent, regulatory parties and all of the Canadians share in the responsibility to uphold the Treaty terms and the honour of the Crown, and to recognize and respect the treaty and human rights of our people.[117]

While the CEC may not be required by its terms of reference to consider the Crown's consultation with respect to potential impacts on Treaty and aboriginal rights, the fact remains that the treaties and aboriginal rights of the Cree Nations inform at least in part the worldview of the Cree and are an important part of understanding the terms of resource and land use in Cree territory.

There is very little discussion of Treaty and aboriginal rights in the EIS or in the CEC proceeding. The JKDA indicates:

> 24.3.1. Nothing in this JKDA is intended to alter aboriginal or treaty rights of any of the Keeyask Cree Nations or other aboriginal peoples recognized and affirmed under section 35 of the Constitution Act, 1982 (Canada). In respect of the Keeyask Project, each of TCN, War Lake, York Factory and Fox Lake has expressly consented to this JKDA and the transactions contemplated by this JKDA on the terms and conditions set out herein, which consent will not survive a termination of this JKDA by Hydro.[118]

Despite good intentions, it must be clear, prior to licensing, that potential impacts on treaty and aboriginal rights will not be unduly impacted. Potential impacts must be accommodated. Where they cannot be fully accommodated, due consideration should be given to whether the Cree can be adequately compensated, for example through resource revenue sharing. This determination should be made prior to a license being granted and should continue in the face of unforeseen impacts.

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[117] Linklater, December 12 2013 at p 6234.

[118] "Joint Keeyask Development Agreement between Tataskweyak Cree Nation and War Lake First Nation operating as Cree Nation Partners, and York Factory First Nation, and Fox Lake Cree Nation, and The Manitoba Hydro-electric Board", May 29 2009 at s. 24.3.1.

3.5. Not just a business deal

It is difficult to conceive of the KHLP partnership is "just a business deal". Whether one considers it from as western perspective or based on the Cree worldview centered around relationships, partnership is a relationship.

Both Manitoba Hydro and the KCNs have expressed the importance of mending past relationships.

> When we adopt people or a whole family under the customary law of wahkotowin, we become responsible for the protection and the well-being of that person or family, and everyone becomes a relation of the other.[119]

3.6. Responsibility in Relationship

With relationships come responsibility:

> I agreed to speak here today to serve as a reminder that development is impacting us. By us I mean the Cree in the north. I'm from Nisichawayasihk, but I also have family and kinship connection into Tataskweyak and into Fox Lake. The course of that development impacts us all.[120]

3.7. Reconciliation

The YFFN has expressed that their decision to become partners, and their continued participation in the planning of Keeyask, has resulted in a processes of reconciliation for the community. Interestingly, it remains unclear whether a formal apology has been made to the Northern First Nation communities for the impacts of past hydroelectric projects. [121]

> MS. ANDERSON: So I think that for Fox Lake, the resource users are the people who use that area. You know, it would be very affected, the rapids will be silenced, and we have to come to terms with that in our own way as resource users and as a

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[119] Linklater, "Keeyask Hearing" December 12 2013 at pp 6239-40.

[120] Neckoway, "Keeyask Hearing", December 9 2013 at p 5517-8.

[121] Cole, "Hearing Transcript", November 6 2013 at p 2270.

> people. So we will attempt to continue to value that area, knowing that what was there before, as with the past projects, many – like I keep saying like we understand the damage that has been done to our land. But, yes, we still are coming to terms with that and we will continue to work on that. Thank you.[122]

Mr. Bland from the York Factory First Nation made numerous references to this desire to move forward as part of a larger reconciliation process.[123]

> York Factory has begun a process of reconciliation. And we have started this a couple of years ago, and we recognize that being partners with Manitoba Hydro is a step in a direction, and not everybody was on board with that. When people had an opportunity to speak about the impacts that they have felt, it was emotional for a lot of people. And not everybody agreed to move forward, but a majority of people acknowledge that there was impacts, acknowledge that this is not something that we can hold onto in our hearts. And I would absolutely think an apology would benefit and help the First Nations move forward.[124]

This desire to achieve reconciliation is similar to that expressed by the Nisichawayasi Nehethawuk in relation to the Wuskwatim project. Despite recognizing that the "construction and the operation of the Wuskwatim project is inherently inconsistent with the great binding law", the "Nisichawayasi Nehethawuk have taken every step to ensure that the construction, operation and environmental protection and monitoring of the Wuskwatim project will apply Kihche′othasowewin, including the customary law principle, Kwayaskonikiwin, reconciliation."[125]

For this reason, the Wuskwatim project incorporated Cree legal principles into the construction operation and environmental protection and monitoring of the project. In order to achieve reconciliation, Cree legal principles were incorporated in the following ways:

> Kwayaskonikiwin is applied to establish harmony between Kihche′othasowewin and the Wuskwatim project. Incorportate customary law principles into all aspects of the

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[122] Anderson, "Keeyask Hearing", November 6 2013 at p 2249.

[123] Bland, "Hearing Transcript", November 6 2013 at p 2417.

[124] Bland, "Keeyask Hearing" November 6 2013 at p 2270-1.

[125] Linklater, "Keeyask Hearing", December 12 2013 at pp 6253-4.

> Wuskwatim project; project related agreements, licence terms and conditions, heritage resource protection, environmental protection, project monitoring. Fully engage and incorporate ethinesewin, which means wisdom and traditional knowledge of Nisichawayasi Nehethawuk. Ensure the exercise of Nehetho Tipithimisowin, the exercise of Nehetho sovereignty. In order to apply Kwayaskonikiwn to the Wuskwatim project, Nisichawayasi Nehethawuk are working to incorporate Kihche′othasowewin into the Aniskowatesewe Ketapahchekewe Othaschekewin, heritage resources protection plan; Aski Ketapahchekewe Othaschekewin, environmental protection plans, and nanakachechikewi Othuschikewina, monitoring plans.[126]

There is no reset button. Past impacts cannot magically disappear. If the KHLP is proposing to move forward in partnership that is "transformative" and "paradigm shift". This in itself connotes much more than a business arrangement but an attempt at acts of reconciliation. It will be up to the partners to determine whether that reconciliation is achieved through the construction of the KGS and future projects, if those proceed.

3.8. Recommendations

- In order to manage the expectations between the partners and to inform the members of the partner Cree Nations, the KHLP should clarify if this is a transformative relationship or strictly business.

- Prior to licensing, that the Minister conduct consultations with the potentially affected aboriginal people to ensure that potential impacts on treaty and aboriginal rights will not be unduly impacted. Potential impacts must be accommodated. Where they cannot be fully accommodated, due consideration should be given to whether the Cree can be adequately compensated, for example through resource revenue sharing. This determination should be made prior to a license being granted and should continue in the face of unforeseen impacts.

[126] Linklater, "Keeyask Hearing", December 12 2013 at p 6254.

PART II: Evaluating Impacts

1. EVALUATIVE CRITERIA

1.1. The licensing decision

Few would claim that the *Environment Act* provides material guidance when it comes to licensing decisions. But the Commission's Terms of Reference expressly incorporate the more helpful *Principles of Sustainable Development*.[127]

Reading the Principles of Sustainable Development together with the *Environment Act* and taking into account federal regulatory precedent, it is recommended that the Clean Environment Commission should address the following criteria:

- Has the Proponent demonstrated that the project will not have significant adverse environmental, economic, human health and social effects?
- Has the Proponent demonstrated that the Project will make a net positive contribution to sustainability?[128]

These proposed criteria are consistent with the principles of stewardship, prevention, enhancement and reclamation which underscore the Principles of Sustainable Development.

As detailed in the analysis of Dr. Gibson and Dr. Gaudreau[129], a critical first step in any sustainability analysis is the prevention of significant adverse effects. Under the stewardship principle, the assessment of any project necessarily involves a consideration of its positive benefits for current and future generations as measured against "tomorrow's effects". Potential

[127] The Commission's recommendation shall incorporate, where appropriate, the Principles of Sustainable Development and Guidelines for Sustainable Development as contained in Sustainable Development Strategy for Manitoba : see Minister of Conservation and Water Stewardship, "Terms of Reference Clean Environment Commission Keeyask Generation Project (the Project)", November 14 2012.

[128] In outlining these criteria, CAC MB acknowledges that they are driven by Western legal perspectives and accept that criteria and outcome under the Cree Worldview might be different. The KHLP does suggest that "[...] the approach to "significance" inherent in the *Principles of Sustainable Development* does fit well within the worldview of the Keeyask Cree Nations." : Keeyask Hydro Limited Partnership, "Responses questions by the CEC" January 3 2014 at p 2.

[129] Gaudreau and Gibson, "Framework for Sustainability-based Assessment for the Keeyask Hydro Project", November 4 2013 at p 27. As stated by Dr. Gibson, " [...] the basic idea of sustainability assessment is that the objective is to ensure that undertakings make a positive contribution to sustainability as a higher test than merely mitigating significant adverse effects." : "Keeyask Hearing", November 14 2013 at p 3187.

benefits should include an enhancement of long term productive capacities [130] as well as endeavours to repair degradation and damage to the environment.[131]

Dr. Gibson and Gaudreau detail how this assessment can best be made within the analytical rubric of net positive contribution to sustainability.[132] They cite numerous federal precedents which have adopted this core criteria for analysis.[133]

The juxtaposition of an analysis of significant adverse effects with a consideration of a net positive contribution to sustainability is consistent with the approach adopted by at least two Cree elders in this proceeding.[134] Dr. Noble, author of a leading text book on impact assessment[135], also adopts this analysis for the purposes of this proceeding:

> But given that the region has already been substantially altered by hydroelectric development, and that it is agreed past alterations have been cumulatively significant, one could also argue that any further development must be also considered cumulatively significant and should not proceed unless net positive contributions to the sustainability of the sub-watershed including its ecological functions and people, can be demonstrated.[136]

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[130] Gaudreau and Gibson, "Framework for Sustainability-based Assessment for the Keeyask Hydro Project", November 4 2013 at p 28.

[131] Gaudreau and Gibson, "Framework for Sustainability-based Assessment for the Keeyask Hydro Project", November 4 2013 at p 28.

[132] Gaudreau and Gibson, "Framework for Sustainability-based Assessment for the Keeyask Hydro Project", November 4 2013 at p 66.

[133] Voisey's Bay Nickel Mine; Gold Copper Mine in Keness North; Whites Point Quarry; Marine Terminal; Mackenzie Valley; Lower Churchill Dam. See : Gibson, "Keeyask Hearing", November 14 2013 at pp 2365-6.

[134] "Keeyask will be the fifth generating station on the Nelson River. We can no longer live off the lands and waters in the way we used to. With this project we have a realistic hope that Keeyask can help us strengthen our identity and to improve the social and economic hardships that we struggle with daily, while being constructed and operated in an environmentally sustainable way, with appropriate mitigation and monitoring measures to ensure ongoing respect of the environment." : Spence, "Keeyask Hearing", November 6 2013 at p 2413. "The lands, the waters and the resources have provided for us in the past. We can't exercise our traditional pursuits as in the past because the waters have changed. And yet these waters and their power could once again help to provide for our people." : Rosenberg citing Beardy November 12 2013 at pp 2874-5.

[135] See Noble, *Introduction to Environmental Impact Assessment: A Guide to Principles and Practice*. Don, Mills Ontario: Oxford University Press 2010.

[136] Noble and Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment", November 5 2013 at p 18.

1.2. Residual effects

In its January 3, 2014 response to the Questions of the Commission, the KHLP suggested it might not be necessary to undertake an assessment of whether the project is likely to lead to residual significant adverse effects. However, as Ms Cole candidly conceded in cross examination, the primary focus of the Response to the EIS Guidelines was on residual adverse effects:

> In terms of the effects assessment, "The focus of the assessment was to understand the potential residual effects, both positive and adverse, for all of the 38 VECs considered in the assessment" with "a conclusion reached in terms of significance."[137]
>
> In terms of cumulative effects, "the focus was on determining whether or not there was a significant residual adverse effect that was likely to occur."[138]

Leaving aside speculation on the motive behind the less than fervid KHLP embrace of the central focus of its analysis, there can be no doubt that significant residual effects analysis must be part of any good practice EIS. It is demanded by the principle of prevention and by the obligation of candor owed to all Manitobans.

This duty of candour was eloquently expressed by Elder D'Arcy Linklater:

> Stated plainly it is contrary to our customary law to intentionaly obstruct the flow of a river and knowingly alter water, fish, animals and habitat, and to knowingly create hardships for human beings that make a living from that land and that water. In accordance with our customary law, **we must acknowledge the obligation we all hold to carefully identify and to reconcile the irreversible adverse effects of the diversion and control and damming of our rivers and lakes to produce hydropower**. This sacred obligation is expressed in our customary law, Kwayaskonikiwin, meaning the duty to restore balance. [emphasis added][139]

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[137] Cole, " Keeyask Hearing", October 24 2013 at p 825.

[138] Cole, " Keeyask Hearing", October 24 2013 at p 827.

[139] Linklater, "Keeyask Hearing", December 12 2013 at p 6247.

1.3. Weighing the Western Evidence

In assessing the evidence of any western scientific expert, consideration must be given to the expertise of the specific expert, their independence and the analytic consistency of their factual findings and their overall conclusions.

In assessing the experts retained by CAC MB, the Commission is asked to recall that the scientific experts retained by CAC MB are among the leaders in their field. They have served a diversity of clients including business, government and non government organizations and are not primarily reliant upon CAC MB as a source of business. They also remained above the fray during the course of the hearing and played no role in assisting the cross examination of other witnesses by their legal counsel.

A number of key concerns arise in assessing the weight to be given to the evidence of the western experts retained by the KHLP:

- **Expertise**:
    - In some cases, the witness retained by the KHLP appeared to lack expertise in the subject on which they were asked to present evidence. For example, while there can be no doubt that Mr. Berger is a formidable expert on birds, there is little in his curriculum vitae to suggest expertise with regard to boreal woodland caribou. He has not authored a single peer reviewed article on the subject matter. His discomfort in the subject area was palpable during cross examination.
    - In one other case, the KHLP simply did not produce an expert in a core subject area. The most notable omission of expertise relates to the area of cumulative effects analysis where the proponent failed to present an expert in rebuttal to Dr. Noble and Dr. Gunn. Notwithstanding his physical presence at the hearing, the proponents concede that Dr. Hegman played no role in the development of their cumulative effects assessment.
- **Independence**
    - An unusual facet of this proceeding was the prominent role played by a number of the KHLP consultants in assisting their legal counsel in cross examination. The Commission can take note of the role played during cross examination by witnesses such as Mr. Davies and Dr. Ehnes. It is open to the CEC to conclude that this

enthusiastic participation in cross examination suggests a blurring of the role between independence and advocacy for certain witnesses.

- **Over Enthusiastic Proclamations of Scientific Certainty :**
  - The blurring of the lines between independence and advocacy might also be discerned in the over enthusiastic proclamations of certainty made with regard to a number of effects of the proposed Keeyask project. As will be detailed later in this argument, these claims of certainty stand in marked contrast to the more sober estimates of the leading experts retained by the participants.
  - While the enthusiasm of the KHLP witnesses is understandable given their long association with the project, it casts a pall of credibility over their conclusions.
- **Analysis Not Undertaken**
  - There are many commendable aspects of the Keeyask EIS especially as compared to the Bipole III analysis. However, an improvement in comparison to Bipole III does not override fundamental gaps in analysis.
  - As noted by independent experts such as Drs. Gunn, Noble and Schaefer there are central elements of a prospective cumulative effects analysis that are simply not undertaken in any meaningful manner. It also is strongly arguable that essential components of good cumulative effects are not really examined. The failure to examine the implications of the river hydrological system upon core landscape features such as riparian habitat stands as a prominent example of these omissions.

2. CUMULATIVE EFFECTS

"[T]he Keeyask Project will cause additional effects to an already substantially altered environment."[140]

2.1. Have we reached a cumulative effects tipping point?

Whether one adopts Elder Linklater's language of "irreversible adverse effects" or the more poetic imagery of Elder Spence,[141] the conclusion by Dr. Noble and Dr. Gunn that there have been "cumulatively significant" impacts of hydro-electric development upon the land, waters and people of the Nelson River would seem inescapable.

Despite the conclusions of Cree Elders and community witnesses, the KHLP has persisted with the analytic fiction that no significant cumulative effects exist post mitigation.

In examining the assertions by the KHLP, it is important to recognize the profound limitations of the Cumulative Effects Analysis undertaken. More critically though, it is essential to distinguish between positional assertions of no significance and the core factual conclusions within the EIS. When that analysis is performed, the frail edifice underlying the conclusion of no significance cannot be sustained.

2.1.1 Limitations of the CEA Analysis Undertaken by the KHLP

It is an unfortunate reality that Dr. Hegman was not involved in the EIS analysis undertaken by the KHLP. Similarly, the KHLP chose not to rely on much of the literature by leading experts in the field such as Hegman, Dunker, Ross and Noble.[142] The failure to engage a leading

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[140] Noble & Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment", November 5, 2013 at p 13.

[141] "We can no longer live off the lands and waters in the way we used to [...]" : Spence, "Keeyask Hearing", November 6 2013 at p 2413.

[142] Cole comment: "Keeyask Hearing" at p 818. As just a few examples of the literature not relied upon please see: Hegman, "Alchemy to Reason, Effective Use of Cumulative Effects Assessment in Resource Management" , 31 Environmental Impact Assessment Review 5, 2011 at p 484. Dunker and Greig, "The Impotence of Cumulative Effects Assessment in Canada: Ailments and Ideas for Redeployment Environmental Management" 37, 2006 at p 153. Ross and Therivel, "Cumulative Effects Assessment, Does Scale Matter?", 27, 2007 at p 365. Gunn and Noble, "Conceptual and Methodological Challenges in Integrating SEA and Cumulative Effects Assessment,", 31 Environmental Impact Assessment Review 2, 2011 at p 154. Also see: Cole, "Keeyask Hearing", October 24 2013 at pp 822 – 825.

practitioner of cumulative effects analysis and to be alive to the core literature of modern cumulative effects analysis had fatal ramifications for the credibility of the CEA analysis undertaken by the KHLP. As detailed by Drs Gunn and Noble the KHLP presented an analysis that was undermined by:

- temporal future limits that were often vague or unspecified;
- prospective analysis that was weak; with little to no 'futures' assessment;
- limited data/reasoning to support its conclusions;
- explicit data uncertainties which could not be reconciled with the conclusions; and,
- a regional study area that effectively minimized effects.

In particular, Drs. Gunn and Noble noted that the analysis undertaken by the KHLP was weakened by conclusions about potential cumulative effects that simply did not "add up"[143] as well as by its failure to conduct a meaningful prospective analysis for important subject matters such as wetlands and priority plants. [144] Despite an extensive cross examination, the KHLP did not challenge the assertion of Gunn and Noble that no meaningful prospective analysis was conducted in terms of wetlands and priority plants. [145]The KHLP also did not present Mr. Hegman as a rebuttal on these key issues. The decision by the KHLP not to challenge these core elements of the conclusions of Drs. Gunn and Noble must be regarded as an implicit admission.

As noted in the 1999 Practioner's Guide, "CEA tends to be concerned with larger scale VECs such as within entire [...] watersheds."[146] As noted by Drs. Gunn and Noble as well as by Dr. Lutterman, this was a notable omission of the KHLP analysis. The implications of this omission were best described by Dr. Lutterman:

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[143] Noble and Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment" Powerpoint presentation November 2013 at p 37.

[144] See for ex: Noble and Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment" Powerpoint presentation November 2013 at p 23.

[145] The KHLP also did not challenge Drs Gunn and Noble's conclusions on no prospective analysis relating to water quality and sedimentation.

[146] Hegmann et al., "Cumulative Effects Assessment Practitioners Guide" Prepared for Canadian Environmental Assessment Agency, 1999 at p 12.

> But when we are looking at an environmental assessment for a hydroelectric project, which creates a dam and a reservoir in a system which has already, already has several dams and reservoirs and downstream effects, I believe that in order to understand over the long-term the health of many different species potentially, we have to understand resilience. And if you have a species that are depleted in one area of the river system, and then depleted in another area, and another area, and you have fragmentation on top of that, we are reducing the resilience of populations of species across the whole landscape . . . So I think from a long-term conceptual perspective, looking at health of populations over time in a system like this with multiple hydro projects that selectively affect certain types of habitat, that it is a logical way to approach cumulative effects assessment. And if we don't do that, even though we do have data from other parts of the system, if it is not put together and understood in some kind of a comprehensive analysis, I believe that we might be -- we probably would be missing an understanding of several important cumulative effects.[147]

It is this failure to explore the implications of the Keeyask project upon a watershed already profoundly impacted by previous Hydro developments that underlies the recommendation of Dr. Gun and Dr. Noble that a regional cumulative effects assessment is necessary prior to the Keeyask licensing decision.[148]

2.2.2. Beyond the technical analysis to irreversible adverse effects

As set out in Appendix A to this submission, the KHLP have used an astonishing array of adjectives to characterize the cumulative ongoing effects of past and current projects on the existing environment. The historic and ongoing effects of projects have been described by the KHLP as:

- substantial
- considerable in quantity
- significant within the every day common meaning of the word
- a major change
- considerably disruptive and
- life altering

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[147] Lutterman, "Keeyask Hearing", December 8 2013 at pp 5288-9.

[148] Noble and Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment" Powerpoint presentation November 2013 at p 37.

Witnesses for the KHLP have described the implications of these projects as having "changed a way of life forever."[149] To the people of Shamattawa , the effects of 55 years of hydroelectric development are seen as "devastating to the Cree in terms of the biophysical environment, socio-economic circumstance, and in cultural terms."[150]

Fundamental to Gunn and Nobles' cumulative effects analysis is an effort to escape the semantical barrage of adjectives undertaken by the KHLP in order to explore the true nature of the cumulative effects of the project.

Drs. Gunn and Noble start with the recognition that:

> A cumulative environmental effect is based on the understanding that each individual disturbance or impact, regardless of its magnitude, can represent a high marginal cost to the environment and/or society.[151]

In arguably the most important analytic element of this proceeding, they detail the implications of historic and ongoing activity upon the water, land and people of the Nelson River. While elements of their analysis are set out more conclusively in Appendix B, a selected series of quotations assists in understanding the basis for their conclusion that residual significant effects will be engaged by the construction and operation of Keeyask.[152]

2.2.2.1.Aquatic Environment

The aquatic environment of the Nelson River where the Project will be constructed has been substantially altered by hydroelectric developments, in particular the Churchill River Diversion (CRD) and Lake Winnipeg Regulation (LWR), and the construction of the Kettle GS. Effects of the Project will be super-imposed on this disrupted environment. [emphasis added]." [153].

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[149] Anderson, "Keeyask Hearing", November 4 2013 at p 1900.

[150] Henley, "Keeyask Hearing", November 7 2013 at p 2447.

[151] Noble and Gunn, "Review of KHLP's Approach to the Keeyask Generation Project Cumulative Effects Assessment" Powerpoint presentation November 2013 at p 4.

[152] See Appendix B.

[153] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 6-54.

2.2.2.2. Terrestrial Environment

The terrestrial environment in the area to be affected by the Project has been substantially altered by past hydroelectric developments, linear developments (including transmission lines, highways, and rail lines), forestry and mining exploration, and other agents of change, and continues to experience those effects today [emphasis added]."[154]

2.2.2.3. The People

The Project is located close to communities that have been greatly affected by past hydroelectric and other developments. Each of the Keeyask Cree Nations has documented the history of its people, and the profound effect that hydroelectric development over the past 55 years has had on its relationships with the environment, changing its way of life and culture [emphasis added]."[155]

2.2.2.4. Traditional lands and practices

A sizeable portion of CNP's major waterways in their homeland ecosystem are no longer able to sustain their traditional ways due to alterations from hydroelectric development [emphasis added]."[156]

2.2.3. An already substantially altered region

Recognizing the already profound impacts of existing projects, Dr. Noble make the point that even minor incremental effects must be considered cumulatively significant:

> Or the region has already been substantially altered, the EIS seems to suggest that very directly. They have been significant alterations. So anything else that happens, no matter how small must, therefore, be significant as well if it's already been significant. And let's really think carefully about the decisions we make in terms of approving projects before we do, you know, a regional cumulative effects assessment, or unless we can really assure that this project will have some overall net

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[154] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 7-23.

[155] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary" at p 37.

[156] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 6-20.

> positive contributions, and that means undoing some of what has been done in terms of substantial alterations.[157]

Of course, the impacts of Keeyask are from incremental. As Elder Linklater points out, it is contrary to Cree customary law to "intentionally obstruct the flow of a river"[158] and the Keeyask project has profound implications for habitat degradation, fragmentation and for the people and animals who rely upon the lands of the Nelson River.

It is important to note that the lengthy cross examination of the KHLP did not challenge Dr. Noble on his conclusions with regard to the residual significant adverse of superimposing a project of this magnitude upon a profoundly disturbed ecosystem. The KHLP also chose not to challenge Dr. Noble's conclusions in this regard through rebuttal evidence. The failure of the KHLP to challenge these conclusions must be regarded as an important admission of significance.

2.3. The Risks of Over-confidence in Mitigation

Within the CEA Practitioner's Guide there is a salutary warning with regard to the risk of overconfidence. As Hegman et al point out:

> Significance may appear to decrease as the perceived effectiveness of mitigation measures increases.[159]

Drs. Gunn and Noble present the same insight with regard to the Keeyask EIS as they wonder whether:

> [...] too much confidence is placed in proposed mitigation of direct effects, given highly disturbed state of the region?[160]

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[157] Noble, "Keeyask Hearing", November 12 2013 at pp 2717-8.

[158] Linklater, "Keeyask Hearing", December 12 2013 at p 6247.

[159] Hegmann et al., "Cumulative Effects Assessment Practitioners Guide" Prepared for Canadian Environmental Assessment Agency, 1999 at p 44.

[160] Gunn, "Keeyask Hearing", November 12 2013 at p 2704.

The concern with the exhuberant over-confidence displayed by the KCN analysts is not unique to Drs. Gunn and Noble. As set out in Appendix C to this submission, a number of independent experts have raised fundamental concerns with the inordinate certainty expressed by the KHLP.

Dr. Peake a leading expert on lake sturgeon who has supervised the research of a number of persons currently working with Manitoba Hydro offers the following cautions in terms of Lake Sturgeon:

> [...] there appears to be a degree of over-confidence with respect to (1) the ability of a Manitoba-based hatchery to successfully rear large numbers of juvenile lake sturgeon in a consistent manner, and (2) in the likelihood that fall-stocked fingerling lake sturgeon will successfully integrate into the existing population.[161]
>
> The Proponents have [...] suggested that this [YOY] habitat can be created with low to moderate certainty. However, [...] it seems much more likely that the probability of overall success with respect to juvenile proliferation in engineered habitat is low to very low.[162]
>
> [...] it seems that the Proponents prediction of moderate to high probability of an increased lake sturgeon population is very optimistic [...].[163]

Councillor George Neepin, a thoughtful and candid witness from the Fox Lake Cree Nation, readily acknowledged that the effects of hydro development cannot be swept away with an argument of mitigation:

> This is not to say, as we testified, for example, at this Commission's hearings on Bipole III, that we achieved all of our goals or that the terms of the limited partnership or adverse effects agreement are fully consistent with all of the things we might like to have had included; or for that matter, that all of the potential impacts on our lives will have been defended, mitigated or compensated. [164]

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[161] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 2.

[162] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 6.

[163] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 6.

[164] Neepin, "Keeyask Hearing", October 21 2013 at p 170.

2.4. Inevitable Outcomes: The superimposition of a major project upon a profoundly disturbed ecosystem.

Taking into account the evidence of Cree Elders and Cree leaders as well as the unchallenged expert opinion of Drs. Gunn and Noble in this regard, CAC MB urges the Commission to find:

- the environment has already been significantly altered by previous development;
- it continues to be affected today ;
- Keeyask and other future projects will be superimposed on an already stressed environment; and,
- the project will cause significant residual adverse effects.

3. STURGEON

3.1. Compounded Cumulative Effects – Sturgeon and Hydro-electric generating stations

The risk of residual significant adverse effects are particularly pronounced for Lake Sturgeon. For this endangered species[165], the material adverse effects of historic and current hydro operations are likely to be exacerbated by Keeyask and other future hydro projects.

As documented in *Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations*[166], the population status of lake sturgeon within most reaches of the Nelson River is either critical or cautious with low or only moderate prospects of recovery.[167]

While Dr. Schneider-Vieira is not a sturgeon specialist, she was designated by the KHLP to speak on sturgeon issues. Dr. Schneider-Vieira confirmed the description of the Gull Rapids area as a compromised environment and noted that within the study area " these are very depleted populations." [168]

Historically, the biggest threat to sturgeon populations was over fishing. More recently, habitat degradation or loss associated with dams has become a particularly acute threat.[169] As noted by Fisheries and Oceans Canada:

> The most important current threats to survival and recovery of Lake Sturgeon in DU3 are habitat degradation or loss resulting from the presence of dams/ impoundments and other barriers, mortality, injury or reduced survival resulting

[165] COSEWIC designated.

[166] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2).

[167] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2) at p 19.

[168] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1380.

[169] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2) at p 1.

> from fishing, and population fragmentation resulting from the presence of dams/ impoundments and other barriers.[170]

Fisheries and Oceans analysis highlights the threat of damage to habitat and sturgeon life cycles in the area between the Kelsey and Kettle generating stations (MU3):

> Activities that damage or destroy functional components of habitat or key life cycle pose a very high risk to the survival or recovery of Lake Sturgeon in Mus 1, 4 and 5, **moderate to high risk** in Mus 2 and 3 and a moderate risk in MU 6. [emphasis added]" [171]

Notwithstanding the warnings posed by Fisheries and Oceans Canada, the KHLP propose to impose another major blockage upon the Nelson River raising the risk of further habitat degradation and the certainty of significant additional fragmentation.

Risks to lake sturgeon flowing from habitat degradation are well detailed in the written and oral evidence of Dr. Peake . Concerns relating to habitat fragmentation are highlighted in the unchallenged expert evidence of Dr. Dick.

3.2. The particular vulnerability of young of the year

Dr. Peake is concerned that the life cycle stage that is most inherently vulnerable (young of the year) also faces the highest uncertainty in terms of the potential to mitigate risk.

In evidence unchallenged on this point, Dr. Peake's oral testimony highlighted the inherent vulnerability of sturgeon young of the year. He pointed out that even with a healthy population in pristine habitat, the fingerling population faces a high (red) mortality risk.[172] Notwithstanding the limitations in terms of her expertise, Dr. Schneider-Vieira also confirmed that the period from egg to age one is the most vulnerable for lake sturgeon in terms of factors affecting survival.[173] As succinctly conceded by Dr. Schneider-Vieira:

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[170] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2) at p 2.

[171] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2).

[172] He also noted the moderate to high risk of larvae: Peake, "Lake Sturgeon Mitigation at the Proposed Keeyask Hydro Facility: Concerns and Advice for the Proponents" Powerpoint Presentation at p 23.

[173] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1388.

- young of the year are relatively more fragile and more likely to suffer mortality;
- they require more specificity in terms of habitats and food; and,
- if the proper habitat and food are not available, they will die.[174]

3.3. Low probability of young of the year habitat restoration

Compounding the inherent vulnerability of young of the year is the material threat that their habitat will be destroyed by Keeyask and the high uncertainty in terms of whether this habitat can be restored. As acknowledged by Dr. Schneider-Vieira, Manitoba Hydro's efforts to create habitat for young of the year are experimental. There are no successful examples of creation of young of the year nursery habitat for lake sturgeon.[175]

Based upon his significantly greater expertise, Dr. Peake observes that "this habitat is exponentially more complex, fragile, and difficult to create and maintain."[176]

While applauding the willingness of the proponent to create YOY and juvenile habitat to compensate for disturbed areas, Dr. Peake concludes that "the probability of overall success with respect to juvenile proliferation in engineered habitat is low to very low."

A core element of his argument related to the issue of site fidelity. His concern was focused on the uncertainty of whether YOY fish and juveniles would find and use the new habitat. As Dr. Peake discussed:

> Juveniles tend to be very site -- they have very strong site fidelity. So in the nursery area where they drifted out on, they will stay there for many years growing. And even if that habitat declines in quality, or there is so many fish, and we saw this in the Winnipeg River, there is so many fish that there is not enough food to go around, if there is more habitat a couple of kilometres downstream, or a few kilometres downstream, they won't say to themselves, this habitat isn't good, I'm going to look for better stuff, they won't do that. They will stay in the nursery habitat that they

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[174] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1388.

[175] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1389. Dr. Schneider-Vieira conceded in cross examination that " [...] it's associated with a higher degree of uncertainty." : October 29 2013 at p. 1390-1.

[176] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon", October 2013.

> have chosen, to their detriment, and we demonstrated that on the Winnipeg River. [177]

The concern that young of the year sturgeon site fidelity may undermine the success of of efforts to restore young of the year habitat is not unique to Dr. Peake. It is shared by Dr. Barth who served as a back row consultant on lake sturgeon for the KHLP but who was not presented as a witness. Indeed, Dr. Barth was a co-author of the leading paper on site fidelity which concludes that:

> This study has shown that in large rivers sturgeon exhibit high year round site fidelity and rarely move through rapids [...] Further suitable areas of juvenile lake sturgeon habitat could exist but may be underexploited [...] due to high site fidelity.[178]

While the KHLP undertook an extensive cross examination of Dr. Peake, they never tested his conclusions regarding site fidelity. Nor did they bring rebuttal evidence on this point. The failure of the KHLP to challenge this central evidence of Dr. Peake's work must be seen as an implicit admission.

Another area of concurrence between Dr. Peake and Dr. Barth's written work is recognition of an ongoing knowledge gap related to young of the year fish.[179]

Taking into account the inherent vulnerability of young of the year, the great uncertainty associated with efforts at their habitat remediation and ongoing knowledge gaps in terms of this life cycle, CAC MB concurs with the conclusion of Dr. Peake that the:

> proponents should consider the placement of juvenile habitat a worthwhile experiment (no more no less) and have no expectations with respect to success. [180]

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[177] Peake, "Keeyask Hearing" , November 13 2013 at p 2994.

[178] Peake, "Keeyask Hearing", November 13 2013 at p 2994.

[179] Barth et al., "Home range size and seasonal movement of juvenile lake sturgeon in a large river in the Hudson Bay drainage basin." 140 Transactions of the American Fisheries Society (2011) at p 1640 (CAC Exhibit 003).

[180] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1373.

3.4. Understated uncertainty related to stocking

While the KHLP maintains a bold facade in terms of the certainty associated with stocking mitigation efforts, that position is belied by its concessions during cross examination and by Dr. Peake's seasoned voice of experience.

Under cross examination, the KHLP witnesses confirmed their efforts to obtain spawning females were challenged because of population depletion. As Dr. Schneider-Vieira candidly acknowledged:

> there are very few females in the areas that we are targeting, and we are not getting the very large females [...]."[181]

While making valiant efforts to sustain the proponents' claims of certainty, Ms Matkowski did concede that:

> there are times within the Manitoba hatchery where partial or complete die offs have been known to occur.[182]

Unfortunately, the KHLP declined to produce the survival rate at the Grand Rapids hatchery for the last 10 years.[183] However, the KHLP did acknowledge that even in the most recent year, it had a "very low" survival rate with regard to the Burntwood hatchery. [184]

The direct evidence of Dr. Peake also was telling. Based on 12 years of experience, Dr. Peake is a sturgeon hatchery pessimist[185] especially in terms of the Manitoba experience:

> there really isn't the track record of consistently successful sturgeon production in Manitoba as there is down in the States. It is essentially really difficult to raise sturgeon here, it is incredibly labour intensive [...] they require 24 hour care. They are very prone to inexplicable die-offs [...] Despite a lot of effort, a lot of expense,

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[181] Schneider-Vieira, "Keeyask Hearing", October 29 2013 at p 1373.

[182] Matkowski, October 29, 2013, 1373, 1374. She noted that points where partial or complete die off has been known to occur is at the stage when one is weaning month old fish from live brine shrimp to frozen blood worm (Matkowski, October 29, 2013, 1374/1375) and when one is weaning the 10 day old yolk sack fry on to live brine shrimp : Matkowski, "Keeyask Hearing", October 29 2013 at p 1376.

[183] Matkowski, "Keeyask Hearing", October 29 2013 at p 1377.

[184] "And so we had a low survival rate on those fish.": Matkowski, "Keeyask Hearing", October 29 2013 at p 1378.

[185] " I'm not usually a pessimist, 12 years of raising sturgeon will turn you into a pessimist [...]": Peake, "Keeyask Hearing", November 13 2013 at pp 2978-9.

> survival rates have been quite variable from year to year, ranging from very good to zero in some cases. Depending, you know, there might have been a year where you just couldn't get eggs and milt because the weather was horrible or the fish weren't available, so right off the bat you were beat before you even got started.[186]

In terms of the prospects for survival of stocked fall fingerlings, Dr. Peake conclusions in terms of the prospects for a "relatively high risk of mortality at this stage"[187] were supported by the concession by the KHLP that prospects for fingerling stocking were superior to those for fingerlings.[188]

Based on their review of the record as a whole, CAC MB joins with Dr. Peake in concluding that there appears to be a degree of over-confidence in the KHLP response to the EIS Guidlines with respect to (1) the ability of a Manitoba-based hatchery to successfully rear large numbers of juvenile lake sturgeon in a consistent manner, and (2) in the likelihood that fall-stocked fingerling lake sturgeon will successfully integrate into the existing population.

3.5. An unsatisfactory response to habitat fragmentation

As pointed out by Fisheries and Oceans Canada, among the most important current threats to survival and recovery of Lake Sturgeon in the Keeyask region is "population fragmentation resulting from the presence of dams/impoundments and other barriers."[189]

The unchallenged evidence of Dr. Terry Dick expressly points out the importance of maintaining continuity within the river system:

> [...] ATK says that the fish move through all the rapids along the lower reaches of the Nelson River. And there is a reason for that biologically. Because you -- it is a bet

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[186] Peake, "Keeyask Hearing", November 13 2013 at p 2964-5.

[187] "So, because there is a lot going on with fingerlings, because they have to transition to the new food, because they have to continually adapt to larger food, I would say that there is a relatively high risk of mortality at this stage.": Peake, "Keeyask Hearing", November 13 2013 at p 2954.

[188] "We are finding from our research right now that stocking yearling fish gives us a much greater success rate, the fish are that much larger. They are stocked in the summer when they have warmer water,higher metabolism and they are able to establish themselves better" : Matkowski, "Keeyask Hearing" October 29 2013 at p 1384.

[189] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2) at p 2.

> hedging strategy in genetics -- what you want are some big fish, some big males that move around and spread their sperm around. It is a very standard biological phenomenon. So having continuity ensures that you are going to have as great a genetic diversity as possible.[190]

The advice of Fisheries and Oceans Canada suggests that mitigation efforts focused on fragmentation should consider the possible need for fish passages in the design of new dams and the modernization of existing ones. It also suggests consideration of the adjustment of water management operating conditions of dams/impoundments and other barriers for those currently in place especially in order to improve spawning operations.[191]

The importance of this issue was highlighted by the elders from York Factory First Nation in their call to investigate and improve both fish passage options and operations at the Kelsey Generation Station.[192]

In light of the documented threat to lake sturgeon survival by fragmentation and the demonstrated importance of continuity, CAC MB must express its disappointment with the scant details in the Response to the EIS Guidelines directed at mechanisms to address fragmentation as well as to improve the operation of existing facilities to facilitate spawning.

CAC MB believes that the limited examination of mechanisms for fish passage and of mechanisms to adjust the existing operations of Manitoba Hydro suggests that critical information related to the survival and enhancement of Lake Sturgeon is not before the Commission.[193]

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[190] Dick, "Keeyask Hearing", December 12 2013 at page 6329.

[191] Fisheries and Oceans Canada, "Recovery Potential Assessment of Lake Sturgeon: Nelson River Populations (Designatable Unit 3)" 2010 (CAC Exhibit 2) at p 12. CAC MB acknowledge efforts to adjust the operations of Keeyask during spawning.

[192] Beardy, "Keeyask Hearing", December 12 2013 at p 6227.

[193] Dr. Lutterman spoke extensively of efforts on the Columbia River to explore an analysis of the total effects of Hydro operations and of possible operational trade-offs in order to enhance habitat. See: Lutterman, "Keeyask Hearing", December 5 2013 at pp 5295 – 5297.

3.6. White Sturgeon and the Cautionary Tale of the Columbia River System

There can be little doubt that the KHLP and the Province have some positive aspirations in terms of restoring the Lake Sturgeon population of the Nelson River. But these aspirations face two significant risks.

The first is that their best wishes for lake sturgeon will run afoul of the compounding effect of imposing another major barrier in a profoundly disturbed river system. If habitat degradation and fragmentation related to dams are acute threats to the survival of the species, the KHLP is tempting misadventure by creating another major barrier.

The second major risk relates to the inherent uncertainty associated with attempting to achieve the recovery of complex species in complex eco-systems. As Dr. Lutterman noted in the context of the Columbia River and the white sturgeon:

> there has been significant multi-jurisdictional work done on recovery of white sturgeon in this river system, which also has multiple dams and impoundments [...]. But the lesson from this, [...] [is] there has been substantial effort, and they are quite concerned that the objectives are not being achieved. And one of the reasons is a complete failure to really understand what is limiting recruitment. And so whether habitat is a limiting factor, there is a complete or virtual failure of recruitment in many parts of this river.[194]

3.7. Recommended Findings of Fact with Regard to Sturgeon

CAC Manitoba recommends that the CEC make the following findings of fact

- based upon current conditions, the conservation status of lake sturgeon within large portions of the Nelson River system is critical. The outlook for lake sturgeon between Kelsey and Kettle is cautious;
- the young of the year life cycle constitutes the most vulnerable stage for lake sturgeon;
- among the primary contributors to the existing vulnerable state of lake sturgeon are:
  - habitat degradation and destruction related to hydro-electric development and other factors;
  - habitat fragmentation related to hydro-electric development and other factors;

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[194] Lutterman, "Keeyask Hearing", December 5 at 2013 pp 5295-97.

- construction of Keeyask will heighten the risk for lake sturgeon in the Nelson River Watershed due to habitat degradation associated with construction and operation of Keeyask and habitat fragmentation associated with the imposition of a further major barrier within a highly compromised eco-system;
- In terms of fragmentation, no meaningful proposals for mitigation are currently proposed for existing barriers or future barriers;
- In terms of habitat degradation, the KHLP has overstated the certainty of habitat recovery. The greatest uncertainty in terms of habitat mitigation relates to the most vulnerable "young of the year" population;
- Given the experimental nature of the proposed restoration of young of the year habitat, the prospects for habitat restoration are best described as highly uncertain ; and,
- In terms of stocking, the KHLP has overstated the prospects for success.

4.CARIBOU

4.1 Boreal woodland caribou and the "rediscovery" of the Nelson-Hayes herd

In many ways, the dialogue of uncertainty reached its nadir in this proceeding with the refusal by the KHLP western scientists to accept the evidence of First Nation elders that boreal woodland caribou reside within the Keeyask study area.

Elder Noah Massan underscored the intensity of this dialogue in following exchange with legal counsel for the KHLP:

> And right away I said that's woodland caribou because I shot some there maybe 10 years ago, I shot two there. And the following year my cousin in 304, Larry Beardy's son shot one in Butnau Lake. He knows too the caribou was bigger. He didn't know what it was. But his dad told him that's a woodland caribou. Because as a user, I get to see stuff there, you know. So you can't prove -- you have to be there to see these things. But next time I kill a caribou, I'm going to bring it to you, if you are around. I will take pictures of it.[195]

Based on the teachings of his father and his father's father and taking into account more than fifty years of personal experience, Elder Massan was able to conclusively state that woodland caribou are in the Keeyask impacted area. He was there "to see these things." He did not have to rediscover the Nelson Hayes herd. He knows they have always been there.

Dr. Jim Schaefer has not been to the study area. But as one of Canada's foremost experts on the sedentary ecotype or boreal woodland caribou, he was able to conclude that "more likely than not, boreal caribou occupy the Project area."[196] Dr. Schaefer relied upon six major pieces of evidence to conclude that the evidence is largely consistent with the Project area as part of boreal caribou range:

- The behavioural and demographic traits of summer resident caribou including isolated calving distribution, harem breeding, and low population density.

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[195] Massan, "Keeyask Hearing", December 10 2013 at p 5824.

[196] Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at p 9.

- The timing of open water in the vicinity of the Project which places the Keeyask area within the range of boreal caribou.
- The distribution of sedentary caribou in Ontario as informed by recent telemetry tracking which provides additional indication of sedentary caribou occupancy.
- The size and morphology of antlers on resident male caribou.
- Historical experience with the Nelson-Hayes herd, an identified local boreal woodland caribou population which was identified as residing in the Project area. While overlap with migratory caribou may cloud the ability to recognize the Nelson-Hayes herd, historic observations are consistent with the Project area as suitable for sedentary caribou.
- Traditional knowledge distinguishing mistikoskaw utikuk from migratory or coastal caribou.

Placed in the unfortunate role of western scientific witness on behalf of the KHLP was Mr. Berger, a scientist well know for his work on birds and fur bearing mammals. Lacking both the intimate connection to traditional lands of Elder Massan and the status as a boreal woodland caribou expert of Dr. Schaefer, Mr Berger was placed in the difficult position of ascribing scientific certainty to an area of study in which he was manifestly uncomfortable.

Based on his limited expertise and his demeanour, CAC MB gives little weight to the advice of Mr. Berger relative to the existence of a boreal woodland herd. Given the general concordance between traditional knowledge and Dr. Schaefer's conclusions as the only woodland caribou expert presented, CAC Manitoba conclude that more likely than not boreal caribou (mistikoskaw utikuk) occupy the study area.

4.2 Is the boreal woodland population likely to experience significant adverse effects?

Given how little is known of mistikoskaw utikuk by the Western Scientists in the employ of the KHLP it is astonishing that the Response to the EIS Guidelines displays such a degree of certainty in terms of the effects of the project in combination with other prospective human and natural events.[197]

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[197] As noted by Dr. Schaefer, the KHLP concludes that the residual effects of the Project on caribou are anticipated to be "adverse``, ``small`` to ``medium`` in extent, ``long term`` in duration, and ``small`` in magnitude. Moreover, these assessments are considered to have "a moderate to high degree of certainty", even ``high confidence`` with respect to habitat availability, core areas, and regional intactness : Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at p 12.

Taking into account the particular vulnerability of this species to human and natural disturbance as well as key data and analytical gaps, a more cautious approach to the analysis of residual cumulative effects would have been well advised.

4.2.1 The particular vulnerability of boreal woodland caribou

Given their relatively low reproductive rate, boreal woodland caribou are considered the least resilient of North American deer.[198] With a central element of their survival strategy being the evasion of predators[199], low density during calving is pivotal to calf survival.[200] The species is noted for its avoidance both of human disturbance[201] and of fire disturbed habitat. As conceded by the KHLP witness:

> One of the reasons they avoid burn areas, recent burn areas, is because moose tend to flourish in those recent burn areas. The moose end to attract more predators.[202]

In the context of climate change, there is a concern that greater weather variability, may increase the frequency and severity of wild fires and "the variability of those changing climate conditions can certainly add stressors to caribou populations when they occur."[203]

4.2.2. Accepted Best Practice in assessing the viability of boreal woodland caribou

As a SARA protected species, boreal woodland caribou are acutely vulnerable to both human and natural disturbance. Habitat loss is recognized as a key agent of decline of boreal woodland caribou.[204]

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[198] Berger, "Keeyask Hearing", October 31 2013 at p 1852.

[199] Berger, "Keeyask Hearing", October 31 2013 at p 1852.

[200] Berger, "Keeyask Hearing", October 31 2013 at pp 1859, 1861, 1875. Spacing out during calving reduces the search efficiency by wolves, and bears and improves the prospects of calf survival: Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at p 3.

[201] Another thing that we have learned about caribou is that they often avoid industrial disturbances. And the extent of the disturbances is often well beyond the strict bounds of the project : Schaefer, "Keeyask Hearing", November 13 2013 at p 3089.

[202] Berger, "Keeyask Hearing", October 31 2013 at p 1857.

[203] Berger, "Keeyask Hearing", November 25 2013 at p 3417-8.

[204] See also Schaefer, "Keeyask Hearing", November 13 2013 at pp 3098-3100.

Environment Canada modelling focusing on the synergistic effects of human disturbance and fire is recognized best practice in assessing risk to this species at risk from loss of habitat.[205] A key element of this analysis is an examination of the relationship between caribou population stability and the proportion of range disturbed by fire and human activity.[206] In essence, the more disturbed the environment, the less likely stable or growing population of the SARA protected population.[207]

In assessing caribou population stability, annual breeding survival rate and the annual recruitment of females are key factors.[208] In terms of assessing habitat disturbance, the model that best described that relationship was a combination of human disturbance and fire disturbance with their combined influence being greater than the sum of their individual contribution.[209]

In describing cumulative effects, an essential element of Environment Canada was prospective fire modelling looking at the likelihood of future fires and natural forest recovery.[210]

4.3. Major data and analytical gaps

While the KHLP purported to rely upon Environment Canada best practice as one of the key inputs to their confident assertions that the effects upon boreal woodland caribou were small, the pressures of cross examination, the evidence of Dr. Schaefer and above all the inquiries of the Commission itself has led to a marked scramble away from Environment Canada Best Practice.

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[205] Environment Canada, "Scientific Assessment to Inform the identification of critical habitat for Woodland Caribou (Rangifer tarandus caribou), Boreal Population in Canada" 2011 : "Nearly 70% of the variation in boreal caribou recruitment across 24 study areas spanning the full range of boreal caribou distribution and range condition in Canada was explained by a single composite measure of total disturbance (fire + buffered anthropogenic), most of which could be attributed to the negative effects of anthropogenic disturbance." at p 63.

[206] Berger, "Keeyask Hearing", October 31 2013 at p 1880.

[207] Berger, "Keeyask Hearing", November 25 2013 at p 3392.

[208] Berger, "Keeyask Hearing", November 25 2013 at p 3387.

[209] Berger, "Keeyask Hearing", November 25 2013 at p 3390.

[210] Berger, "Keeyask Hearing", November 25 2013 at p 3395.

At a high level, the initial claims by the KHLP that their analysis was in accord with Environment Canada best practice are undermined by the absence of recruitment and mortality data and the failure to prospectively model future fire effects.

While an analysis of recruitment and breeder survival rate is an essential element in order to understand population trends, the KHLP witness was forced to reluctantly concede that they lacked specific information related to recruitment and did not possess a high level of detail in terms of mortality.[211]

The KHLP also neglected to conduct the prospective modelling of future fire impacts that is an essential element of Environment Canada best practice. During cross examination, the KHLP agreed that they did not did undertake a prospective habitat dynamics model that included a prospective look at fire akin to the analysis of Environment Canada.[212] They also acknowledged that they did not conduct a more simplistic analysis using Monte Carlo simulations of the prospective impact of fire combined with other disturbances.[213]

In the view of Dr. Schaefer who serves as an advisor to the Environment Canada Scientific Assessment, the failure to prospectively model the impact of fire upon habitat is fatal to the reliability of the KHLP analysis. In his view

> One cannot [...] provide a meaningful evaluation of the prospects for caribou habitat without it.[214]

Taken together, these admissions by the KHLP establish that it lacked the data to examine population stability and that it failed to perform an essential element of cumulative effects best

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[211] In terms of recruitment, "with respect to the 20 to 50 animals, and more animals that may be located within our area of interest, we do not have that specific level of information." (Berger, November 25, 2013, p. 3413). "[w]e don't have a high level of detail as to what the recruitment and mortality might be for this particular population, and there is some level of uncertainty [...]: Berger, "Keeyask Hearing", November 25 2013 at p 3411.

[212] Berger, "Keeyask Hearing", November 25 2013 at p 3401-2.

[213] Berger, "Keeyask Hearing", November 25 2013 at p 3404.

[214] Schaefer, "Caribou and the Keeyask Generation Project : A revised model of fire hazard" December 13 2013 (CAC-036): "This dynamism needs to be incorporated in the assessment of the Project and the prospects for forest-dwelling caribou. Indeed, although there is "unavoidable uncertainty" (TE SV 2.5.4.4) with respect to the occurrence of a large fire, such a hazard needs to be modelled, not just monitored. Wise boreal forest management means buffering for uncertainties. Forest fires will occur; their consequences to caribou habitat will be long-term. Precaution is needed to avoid foreclosing on future options." " Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at pp 10-11.

practice. These fundamental gaps in terms of data and analysis are compounded by ongoing uncertainty regarding the extent of the boreal woodland caribou range.

These are not trivial oversights. The Commission, the Keeyask Cree Nations and the Manitoba public should be entitled to rely upon assertions by the KHLP that they undertook a meaningful analysis is accordance with Canadian best practice.[215]

The flaws in the KHLP analysis undermine the certainty of its conclusions. As observed by the MMF independent expert:

> The final summary for caribou, I believe they concluded a moderate to high confidence or certainty [...],but I think here we can safely say there is high uncertainty. [216]

These absence of core analytical data throws into doubt any expectation that impacts of adverse effects upon boreal woodland caribou can be mitigated. As noted by the expert for the MMF,

> With mitigating we need data, you know, and we need to be able to measure that the mitigation is effective, and also have some thresholds and triggers to understand when we have reached a point that we are going to see that negative response in wildlife.
>
> And so in this case, we don't really know what that trigger is. We could pass it, and we wouldn't, we just simply wouldn't know. We don't have the understanding.[217]

4.4. The Potential for residual significant cumulative adverse effects

Dr. Schaefer eloquently described the implications of the potential effects of Keeyask:

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[215] It is noteworthy that when Dr. Schaefer conducted his revised modeling of the prospective impacts of fire, he concluded that "these new results imply a [...] still appreciable level of risk due to fire." Of course, Dr. Schaefer's core point is that this a more sophisticated analysis needs to be undertaken by the KHLP before concclusions as to the risk to boreal woodland caribou can be drawn. As he notes, it is "the modelling that is crucial." : Schaefer, "Caribou and the Keeyask Generation Project : A revised model of fire hazard" December 13 2013 (CAC-036).

[216] Stewart, "Keeyask Hearing", December 3 2013 at p 4860.

[217] Uncertainty will have an effect on our confidence in the ability to mitigate and manage effects on summer resident caribou : Stewart, "Keeyask Hearing", December 3 2013 p 4858-9.

> The Project is planned to occur on an highly altered landscape that may be disturbed further in near future from additional industrial projects and forest fires. The EIS acknowledges some habitat loss for caribou – estimated at 0.5% of the RSA (CEC Rd 2, Table 3). Although the Project contribution may be "small", these disturbances in aggregate may propel the caribou population into the Moderate or High risk categories.
>
> Whether such risk is acceptable is a societal decision. Nonetheless, it is worth underscoring that piecemeal approaches to boreal forest management in the past have represented a failure to conserve caribou.[218]

4.5 The scramble away from best practice

Dr. Schaefer's conclusions were drawn based upon his understanding of the level of intactness in the study area. As a consequence of inquiries posed by the CEC, the KHLP updated its calculation of undisturbed habitat in the region following the 2013 fire and without Keeyask or other future projects. [219]

Leaving aside any cumulative effects analysis, the KHLP concluded that:

> In all cases, these results are below the desired 65% undisturbed habitat for a woodland caribou population according to the current Environment Canada (2011, 2012) habitat intactness model. This suggests that the persistence for a possible boreal woodland caribou local population would either be "not self-sustaining 1" (Zone 5) or "as likely as not self-sustaining 2" (Zone 6 or Pen Islands Evaluation Area), depending on its range.[220]

The crossing of the threshold in terms of habitat disturbance suggests even more uncertainty in terms of the beleagured population of boreal woodland caribou in this region. As Dr. Ehnes has confirmed on behalf of the KHLP:

> in seeking to forecast the effects of disturbances upon already disturbed environments [the] analytic or forecasting process is inherently difficult to forecast in the short-term or in detail.[221]

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[218] Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at p 13.

[219] KHLP Response to Undertaking #10 – Provide Updated Fire Information December 31, 2013.

[220] KHLP Response to Undertaking #10 – Provide Updated Fire Information December 31, 2013.

[221] Ehnes, "Keeyask Hearing", October 24 2013 at p 855.

No doubt feeling "burnt" by its initial claims that it was adhering to Environment Canada best practice, the KHLP used the bulk of its response to attempt to distance its self from Canadian best practice. CAC MB would note that the submissions of the KHLP on this point should be examined with the same care as their initial evidence on this subject matter. A more considered evaluation of the KHLP scramble away from best practice is set out in Appendix D to this submission.

4.6. Recommended Findings

Relying upon the insight of traditional elders as well as the advice of Dr. Schaefer, CAC MB recommend the following findings to the Commission:

- More likely than not, summer resident caribou or mistikoskaw utikuk are boreal woodland caribou;
- The certainty of the KHLP analysis is undermined by key data and analytical gaps including:
    - the absence of recruitment and survival data necessary to understand the stability and trends of the population
    - the failure to conduct prospective modelling of fire impacts consistent with Environment Canada cumulative effects best practice
- The KHLP lacks the information to undertake an assessment of risk consistent with best Canadian practice in that it:
    - is unable to assess the relationship between recruitment and mortality as a mechanism to understand population stability
    - failed to undertake prospective modelling of fire impacts in conjunction with human effects
- The certainty expressed by the KHLP in terms of the potential for residual significant cumulative effects cannot be relied upon.

5. THE LAND

5.1. Substituting for a Homeland, Mourning, Loss of Place and the Silencing of the Rapids

A central theme in the Keeyask EIS has been the implications of the project upon the individuals and the families most intimately connect to their traditional lands. Notwithstanding the good intentions of the Adverse Effects Agreement, there has been a powerful voice in this hearing suggesting a significant loss to traditional land users that cannot be readily compensated or mitigated.

The written word, the English language and a Western world view impair the ability of any outsider to fully reflect the significance of these issues. However, the voices of community leaders and community members offer important insight to this sense of loss.

Ms Anderson speaking as a KHLP spoke eloquently of the particular effect on resource users of the silencing of the rapids and of the challenges in coming to terms with the damage to their lands:

> So I think that for Fox Lake, the resource users are the people who use that area. You know, it would be very affected, the rapids will be silenced, and we have to come to terms with that in our own way as resource users and as a people. So we will attempt to continue to value that area, knowing that what was there before, as with the past projects, many --like I keep saying like we understand the damage that has been done to our land. But, yes, we still are coming to terms with that and we will continue to work on that.[222]

Mr. Spence highlighted the sense of mourning and anger felt by those who are connected to the land and to the water and who feel its injury:

> And I don't know if I can speak enough today, tonight on this occasion to tell you the hurt that I carry within me, that I carried all my life because of Manitoba Hydro. (Cree spoken) My soul hurts and is dying. I feel as though I'm mourning everyday while being on the lake and the land. You can't understand that because you don't want to go past that door. And you can't. I like to see you try. To live the life we live as First Nations people being as connected to the water and the land as

[222] Anderson, "Keeyask Hearing", November 5 2013 at pp 2248-9.

> we are. You killed the land. You killed the water. You killed the fish. You killed the Indian. Ininiw. Do you understand that? I come here with a rage built up inside me for so long that I can't hold it back anymore.[223]

In a more academic vein, Dr. Macdonell made the point that the Adverse Effects Agreements were primarily directed at the community use of resources rather than at those whose sense of place makes them particularly vulnerable to injury.

> the Adverse Effects Agreements are treating their -- it's more of a community use of resources. There's definitely, any time you have a project like this, there may be individuals that are affected more than others. The Adverse Effects Agreements are I think addressing the overall community needs in terms of resource use.[224]

Focusing on the inadequacy of trying to compensate or substitute for a homeland, Ms McIvor highlighted the reality that traditional land users are about the relationship to the land that the Creator gave them to live on and to care of it.

> Traditional land uses has been passed on from generation to generation in our culture. Each family has their own territory. And to impose this on them will create conflict between families. That's what Hydro is trying to do to us, is to find another trapline for us. But every family member in our community has their own traditional land use. We can't go and impose on them [...] But this is not a trapline issue, we have been given very few choices and all very poor. First of all, [...] if we find another suitable trapline area, it will never substitute for our homeland, where we have always been [...] Anyone who understands Cree culture would never say to a Cree person, just pack up and move on. That would degrade who we are because we are about the relation to our land. The land of the creator gave to us to live on and take care of it.[225]

Speaking on behalf of Shamattawa, Mr. Henley pointed out that resource use activities were about a livelihood as a people. He pointed out the inadequacy of monetizing an intimate element of Cree culture:

> Shamattawa has said to me directly, we will not be valuated by the production from our traplines. These activities on the land are part of the Cree culture. People go there, hunt, fish and trap, and they don't do it primarily to make a few hundred dollars a year. They go there because it's part of their Cree culture. They have done

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[223] Spence, "Keeyask Hearing", November 14 2013 at pp 3358-9.

[224] MacDonell, "Keeyask Hearing", November 6 2013 at p 2257.

[225] McIvor, "Keeyask Hearing", November 14 2013 at pp 3354-5.

> it in the past, they are doing it now, and with your assistance, they will do it in the future. This is about their livelihood as people and their activities on the land.[226]

This sense of risk to the "livelihood as people" is what Drs Buckland and O'Gorman were speaking of when they stated that:

> The major risks are related to local harm and livelihood disruption, which would affect the Keeyask Cree Nation partner communities in a holistic fashion including socio-culturally, economically, politically, and psychologically. Economic benefits cannot compensate for these harms.[227]

The voices of Cree elders such as Noah Massan and traditional land users such as Robert Spence and Janet McIvor evoke a powerful sense of a connection to the land and to a way of life that is under profound threat. CAC MB would recommend that the Clean Environment Commission make the following findings:

- a significant adverse effect of the Keeyask project is the loss or diminishment of the connection to the land and to the waters of traditional land users;
- while the Adverse Effects Agreements may seek to address the overall community need in terms of resource needs and compensation programs and may seek to replace some of the income lost by these programs, they cannot make whole the loss of place flowing from the injuries to traditional lands;
- the loss of traditional land users and the injury to the "livelihood as a people" is a significant residual adverse effect of the project.

5.2. Implications for the relationship with land

The reports of the Fox Lake Cree Nation and the York Factory Cree Nation paint a compelling portrait of the ongoing impacts of Hydro-electric development upon their community's relationship with one another and with their land. The Cree Nations acknowledge both the implications of Keeyask as an additional effect upon an already highly disrupted environment as well as the burden the partnership agreement places upon their relationship with their lands:

- FLCN asserts that hydro development has had major, long-term consequences on our people and Aski. Our people do not view dams in isolation from past projects

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[226] Henley, "Keeyask Hearing", November 7 2013 at p 2451.

[227] Buckland and O'Gorman, "A Community Economic Development Assessment of the Keeyask Model" November 18 2013 at p 5.

and see the Keeyask project as an additional hydro development in our already highly disrupted environment.[228]

- The reversal of seasonal river flows and other changes to the natural cycles of Aski has negative effects on the relationship between our people and Aski. No longer able to rely on our Aski Keskentamowin (traditional land and water knowledge), we became increasingly disconnected from our culture and traditional pursuits, which had grave adverse healthy and social impacts. [229]

- Hydro development was, in and of itself, an event powerful enough to fray the community fabric. The connection and responsibility of people to one another and to the land was destroyed. The resulting chaos unravelled community cohesion which had remained intact until the mid- 1960s.[230]

- We are deeply anguished about what our partnership decision means to our sacred, respectful relationships with the land and how we are now party to adding to the damage to the land and water.[231]

However, CAC MB note the sense from some communtiy member that the Keeyask agreement may be a vehicle in which their communities begin to review their relationship with traditional lands. Elder Victor Spence has been a thoughful advocate suggesting the potential for renewal:

> Keeyask will be the fifth generating station on the Nelson River. We can no longer live off the lands and waters in the way we used to. With this project we have a realistic hope that Keeyask can help us strengthen our identity and to improve the social and economic hardships that we struggle with daily, while being constructed and operated in an environmentally sustainable way, with appropriate mitigation and monitoring measures to ensure ongoing respect of the environment.[232]

A similar views has been expressed by William Beardy:

> the lands, the waters and the resources have provided for us in the past. We can't exercise our traditional pursuits as in the past because the waters have changed. And yet these waters and their power could once again help to provide for our people.[233]

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[228] Fox Lake Cree Nation, "Environmental Evaluation Report" June 2012 at p iii.

[229] Fox Lake Cree Nation, "Environmental Evaluation Report" June 2012 at p iii.

[230] Fox Lake Cree Nation, "Environmental Evaluation Report" June 2012 at p 72.

[231] York Factory First Nation, "Kipekiskwaywinan: Our Voice", June 2012 at p 13.

[232] Spence, "Keeyask Hearing" November 6 2013 at p 2413.

[233] Rosenberg citing Beardy, "Keeyask Hearing", November 12 2013 at pp 2874-5.

5.3. Recommendations

In terms of the cumulative effect of the Keeyask Project in combination with other ongoing and future effects, CAC MB recommend that the Commission conclude that:

- the historic and ongoing effects of hydro-electric development have been to profoundly disrupt the relationship of the Cree Nations within their communities and with their traditional lands;
- the outcome of the choice to enter into the Keeyask Partnership with its resultant impacts upon traditional waters and land is uncertain with the potential to exacerbate existing damage to the relationship or to renew it.

6. METHYLMERCURY

6.1 Methyl Mercury – Inadequate Assessment and the Balancing of Competing Risks[234]

As noted in the expert evidence of Dr. Gordon Brown and Mr. Karl Breese, the methyl mercury analysis in this proceeding was undertaken in the context of a situation where "many KCN members have indicated they had (already) either stopped, or decreased the eating of fish and traditional foods (due to concerns about mercury)."[235]

It was also stated that:

> TCN (Tataskweyak Cree FN) formally expressed concern over high concentrations of Hg in Split and Clark lakes. Therefore has been a reduction in domestic fishing and consumption of country foods as people are afraid to eat fish [...], resulting in an increase in store bought food. This concern was voiced by all KCN communities.[236]

The complex issues related to methyl mercury engage an important issue of balancing competing risks.

From one perspective, it is important to take a science based precautionary approach to alleviate the risks associated with methyl mercury consumption especially for vulnerable populations. Taken from a different viewpoint, there is an existing loss of confidence in the integrity of the existing food supply. An overly cautious approach may have unfortunate health outcomes in that community members may be deterred from making healthy food choices.

The approach adopted by the KHLP has been unfortunate both scientifically and from a community health perspective. Important community data relating to mercury in hair or in blood has not been obtained. Consumption estimates which are a central element of risk estimates

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[234] Unless otherwise stated, all analysis in this section is drawn from the written export reports of Dr. Gordon Brown and Mr. Karl Breese : "Review of Keeyask Partnership Human Health Risk Assessment Associated with Mercury in Fish" November 2013.

[235] Brown and Breese, "Review of Keeyask Partnership Human Health Risk Assessment Associated with Mercury in Fish" November 2013 at p 2.

[236] Brown and Breese, "Review of Keeyask Partnership Human Health Risk Assessment Associated with Mercury in Fish" November 2013 at p 12.

would appear to be out of step with data from other communities. Important hair concentration modeling was not undertaken.

In contrast, Dr. Brown and Mr. Breese conducted a more sophisticated analysis including an additional hair concentration modelling exercise as an important tool to identify uncertainty. Their evidence raises concerns about the accuracy of the KHLP consumption estimates. If the consumption estimates of the KHLP are accurate, then the evidence of Dr. Brown and Mr. Breese suggests that methyl mercury concerns extend to the offset lakes.

In short, the evidentiary record with regard to methyl mercury risk is unsatisfactory. If consumption estimates are accurate, then the consumption of fish from the offset lakes cannot be recommended. If consumption estimates are material overstated and consumption volumes approach those of other Manitoba First Nation studied, then the information from the KHLP materially overstates the risk to the community.

The Commission can play an important role in public dialogue by adding clarity to the discussion.

6.2. Recommendations

Based upon the evidence of Dr. Brown and Mr. Breese, CAC MB would ask the Commission to make the following conclusions:

- Given the many shortcomings in the analysis of the KHLP as well as the more robust and careful analysis of Dr. Brown and Mr. Breese, the analysis of Dr. Brown and Mr Breese is to be preferred.
- Statements made in the Keeyask HHRA that highly conservative exposure assumptions may have substantially overestimated risks of fish consumption have been confirmed.
- In particular, assumed fish consumption rates, based on consumer information provided by local communities, are the major contributor to predicted health risks.
- Health risks predicted in the HHRA for existing conditions also exists in the "offsetting" lakes (e.g., Moose Nose and Recluse), indicating that risks may exist regardless of where the community harvests fish.

- The data have shown that present average mercury concentrations in study area lakes are below the commercial guideline of 0.5 – 1.0 ppm, are similar to or lower to mercury concentrations measured in other (un-impacted) Canadian lakes, and are similar or lower to mercury concentrations measured store-bought fish.

- While consumption recommendations were removed from the final HHRA, fish in Gull Lake and Stephens Lake can safely be consumed based on guidance provided by Health Canada (2007, 2010) and Manitoba government (2013).

- Overall, the benefits of modest fish consumption (1 to 2 servings per week) outweigh the risks among adults and excepting a few select fish species, among women of childbearing age. This illustrates the importance of targeted fish consumption advice to ensure that non-target consumers (i.e., males or older women) do not reduce their fish consumption unnecessarily.

- Prior to making recommendations on how post-impoundment risks will be managed among community members, the existing risks to the community should be more fully characterized to help ensure that the management of risk does impact the nutritional benefits of wild fish consumption.

- In this regard, collection of data on distributions of actual fish consumption rates, and measured mercury in blood/hair of consumers of fish from impacted and offset lakes will be needed.

7. HEALTH IMPACT ASSESSMENT

"Health is more broadly defined to include our physical, social, cultural, and spiritual wellbeing. We know that the environment should be like in order to provide all the things that we require to be healthy."[237]

7. 1 Introduction

There are two main reasons to consider the potential health impacts and outcomes of the KGS. The first relates to the potential health impacts on the workers in the construction and operation phases of the KGS. The second is to assess the potential health impacts, both positive and negative on the First Nations people of the Nelson River that will be affected by the KGS.

Habitat Health Impact Consulting (HHIC)was retained by CAC to review the EISRG for potential impacts on community health issues and found that the EERs contained no formal HIA. Not unlike other environmental assessments, the EISRG contained only indicators of health:

> [W]e reviewed the EIS documents to assess the degree to which those health impacts had been addressed. [...]
>
> We had to dig around to find places where health was addressed. But on the whole for an environmental impact review, it was quite good. Much better than what we have seen in the past, better than what we saw last year in Bipole.[238]

Yet the field of HIA is increasingly accepted at the national and international levels by a wide range of actors, including multinational corporations. At the core of HIA is the recognition development projects such as the KGS, have effects on human health. As stated by Dr. Lee from HHIC:

> Many, although not all, of these health effects are secondary to direct changes cause by the project – for example, changes in air quality , in wildlife availability or in the demographic makeup of towns. However, **the health effects are themselves a lens through which affected stakeholders often view the benefits or costs of the project**.[239]

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[237] Fox Lake Cree Nation, "Environment Evaluation Report" , September 2012 at p ii.

[238] Lee, "Keeyask Hearing", November 26 2013 at pp 3619, 3629.

[239] Habitat Health Impact Consulting, "Review of Community Health Issues in the Keeyask Generating Project Environmental Impact Statement, October 2013 at p 1.

In reviewing the human health assessment conducted by the Partnership, HHIC summarized their findings in a report which focused on eight broad areas:

- Economic change,
- infectious disease,
- diet and nutrition
- injury and safety, stress,
- mental well-being,
- emergency medical response,
- health care provision and
- Aboriginal peoples

7.2 What was in the EIS

Dr. Lee was complimentary of the KHLP approach to elements of a Health Impact Assessment in that the EIS:

- adopted a broad definition of health (including framing things in a Cree concept of well-being and looking at determinants of health perspective from an aboriginal perspective, the mino-pimatisiwin concept of well-being);
- contained information on health outcomes and outcomes such as injury, diabetes, traffic, mental health, physician visits, what have you, as well as health determinants, prime traditional resource use and racism;
- predicted potential health impacts associated with alcohol and drugs, violence, STIs, contamination, mental health, emergency and health care services;
- included the KCNs community perspectives on health and well-being (included health determinants among Aboriginal populations, cultural indicators, Aboriginal perspectives on health and well-being, key community concerns);
- proposed mitigation measures that are protective of health.[240]

[240] See Habitat Health Impact Consulting, "Review of Community Health Issues in the Keeyask Generating Project Environmental Impact Statement, October 2013 at pp 6-14; Lee, "Keeyask Hearing", November 26 2013 at pp 3629-3631.

7.3 Omissions from the EIS

Dr. Lee noted that there were some omissions from the EIS in terms of the potential impacts on health relating to the following.

7.3.1 Missing baseline data

7.3.1.1 Baseline data on food insecurity was not provided.

Health risks and negative impacts associated with changes in food availability were not specifically addressed in the EIS.[241] Economic growth can not always be expected to result in alleviation of food security.

> DR. LEE: No. Food insecurity is not universal across the community. So there are individuals in any one community, or rather households that are more food insecure. And economic change in a community doesn't necessarily impact everybody equally. So you can actually have, particularly in a boom/bust type cycle, you can actually have worsening food security, due to things like competing cost for housing and housing affordability. Sometimes the prices in local stores can go up. So for people who receive the money, sometimes food security can improve.
>
> Although if costs go up, they might not improve as much as you might expect. And especially in areas where there is a significant proportion of the diet that is country food, then the economic change is countered in some cases by other impacts on traditional food sources.[242]

Traditional and country food is beneficial to health and that it must be *available, accessible and acceptable*.[243] Food security requires that country foods be locally sourced and widely available.[244] Lack of access to country food can have implications for mental health and well-being of individuals, as well as their physical health.[245] The proposed mitigation measures through the offsetting programs to access country foods away from the community may continue to raise food security concerns. Dr. Lee suggested that more data on food insecurity would be required to make a determination.

> MR. WILLIAMS: Keeping in mind the issue of food security, does flying to a new different area to fish and hunt raise any concerns in terms of food security requirements?

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[241] Habitat Health Impact Consulting, "Review of Community Health Issues in the Keeyask Generating Project Environmental Impact Statement, October 2013 at p 9.

[242] Lee, "Keeyask Hearing", November 26 2013 at p 3736.

[243] Lee, "Keeyask Hearing", November 26 2013 at p 3622.

[244] Lee, "Keeyask Hearing", November 26 2013 at pp 3774-5.

[245] Lee, "Keeyask Hearing", November 26 2013 at pp 3736-7.

> DR. LEE: Definitely. I mean, not knowing the particulars of how that program could work, I mentioned before that I actually was concerned to see that it is a fly-in situation. Because food insecurity is a sporadic thing and it is not universal across the community, I would want to know who it is that is actually accessing the offsetting program, how consistently they are accessing it, and the distribution of food back into the community from the offsetting lakes to know that food insecurity is actually being addressed. And again, without much data on food insecurity at all, I don't really know if that has been addressed.[246]

7.3.1.2. Community-level indicators of alcohol and drug misuse were not provided.

There was discussion of alcohol and drug misuse, but there was no baseline data, which given the fact that's one of the major concerns and one of the major areas where we would expect to see an impact, it would be nice to see some baseline data.[247]

7.3.1.3. Baseline data on sexually transmitted infections was not provided.

There was no baseline information in the EIS on STIs.

7.3.1.4. Baseline data on injury as a result of motor vehicle accidents was not provided

Injury is fairly important because that's actually, in Aboriginal communities across Canada, that's where the highest burden of disease currently is.[248]

7.3.2. Economic change

Dr. Lee explained that the health benefits of higher income were discussed but not specified in the EIS. Increases in disposable income can result in activities that are deleterious to health – Dr.Lee notes that the activities and the health effects should be listed. With respect to the potential positive impact on health and wellness, Dr. Lee suggests that examples could have been given.[249]

Economic change "is often where some of the biggest health impacts derive from."[250]

> This is often where a lot of the concern in local communities is. It is also where a lot of the emphasis to go forward with projects comes from. Because employment and income do have a very strong benefit to individual health. But with that economic

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[246] Lee, "Keeyask Hearing", November 26 2013 at p 3775.

[247] Lee, "Keeyask Hearing", November 26 2013 at p 3631.

[248] Lee, "Keeyask Hearing", November 26 2013 at p 3635.

[249] Habitat Health Impact Consulting, "Review of Community Health Issues in the Keeyask Generating Project Environmental Impact Statement", October 2013 at p 7.

[250] Lee, "Keeyask Hearing", November 26 2013 at p 3620.

> change, with that employment income, there is also a commensurate increase in drug and alcohol use and prostitution and crime. So you have the two balancing conflicts, and in health those play out quite strongly. The trend towards the harmful aspects to health tends to be stronger in areas where there's rapid change. We have done a lot of work in communities that have a boom/bust type cycle where the negative impacts of economic change on health are often fairly significant.[251]

7.3.3. Equity

The distribution of impacts on different income groups were not thoroughly addressed which is problematic since Equity is a key value of HIA and a determinant of health. Inequity was not specifically addressed in the EIS.

> the distribution of benefit across a community is important to know who is actually getting the gain and who is getting the risk from a health perspective. That's one issue. The other issue is inequity itself is a health risk. Communities that have more levels or higher levels of inequity, actually have poorer health outcomes. Inequity and distribution of wealth was not actually something that came up that we could see with regards to health.[252]

Where there are potential impacts that will increase health and equity between people, those should be considered as part of the analysis.

> ... knowing how the project is going to affect health inequity is important. If the goal isn't just to mitigate specific risks but to actually improve health and to reduce inequity, I would have liked to have seen that to be more front and centre in the report.[253]

7.4. Aboriginal People's Health

Dr. Lee discussed aboriginal people's health as one of the omissions from the EIS. In particular, while the EIS noted that changes in the physical environment will affect the transmission of

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[251] Lee, "Keeyask Hearing", November 26 2013 at pp 3620-1.

[252] Lee, "Keeyask Hearing", November 26 2013 at pp.3632-3.

[253] Lee, "Keeyask Hearing", November 26 2013 at pp 3636-7.

cultural knowledge, the impacts of acculturation through changes in cultural landscapes was not discussed, nor was the potential effect on the mental health of the KCNs.[254]

> "Health in many ways has to be defined by the people who are experiencing it. So it is hard for me to say what makes one community healthy or not healthy, that's sort of up to the individuals in it... a lot of it has to come into autonomy, the ability to actualize and to achieve your basic needs and then beyond... It is not simply just a safe environment and elimination or control of actual health risks, or low levels of disease. It has more to do with the ability to actually live a full and healthy life..."[255]

The health benefits of traditional culture and spirituality were noted in the EIS but not extensively discussed. "This actually is a health issue"[256]

The EIS notes loss of traditional medicines and knowledge of resource habitation that could result in negative effects on health and wellness. Dr. Lee recommends listing those potential adverse effects.

These concerns were reflected in Karen Anderson's words:

> Earlier I mentioned that we were being displaced and removed from our homes and homeland. There were restrictions on the land, you know, for hunting, gathering and fishing, no access to traditional areas. There were alcohol and drug-related issues, crime and justice issues. Our burial sites were flooded or disturbed. There was a lot of discrimination. People experienced this on a personal level from employment, from services in the community, from government and in the school. There was a lot of -- many women experienced abuse and violations. Our children, they experienced discrimination within the school and even recreational activities. So all our people, Fox Lake people experienced racism from all levels of services and government. The feelings of separation from the land, the challenges to live in balance, to live mino-pimatisiwin today run far deeper than a sense of economic loss. The inability to live mino-pimatisiwin has resulted in not only a disconnect with ourselves and the land, but ourselves as an individual, families, and community. Families find themselves unable to communicate with each other, unable to pass on important traditional and social teachings as our language is no longer spoken by children and grandchildren.[257]

Health concerns can flow from the stress of a loss of way of life, through generations that are experiencing the loss in different ways. The individual health outcomes are varied and the direct cause can be difficult to pin point.

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[254] Habitat Health Impact Consulting, "Review of Community Health Issues in the Keeyask Generating Project Environmental Impact Statement", October 2013 at pp 11, 13-4.

[255] Lee, "Keeyask Hearing", November 26 2013 at p 3744.

[256] Lee, "Keeyask Hearing", November 26 2013 at p 3636.

[257] Anderson, "Keeyask Hearing", November 4 2013 at pp 1902-3.

> I know on a population level that when a community has lost control, or has a lack of control over outcomes or over life, and has chronic stress, that there are major health concerns, particularly for children that grow up in the area of stress. So as an epidemiologist, I can speak to what you can see on a population level. As a clinician, it's more difficult, because you can see an individual that is highly stressed, that has lost access to traditional food sources, or to their family's usual hunting grounds. And it's hard -- I can get into the stories and I can hear the stories. It's hard for me to pick out individual health outcomes for that. I can understand in the field where it might go, but on an individual level it is always hard to pick out causation, if you know what I mean.[258]

Collectively, the loss of a way of life, cultural and traditional ways of sustenance can have cause health impacts, affecting both the physical and mental health of individuals and communities.

> DR. LEE: In my experience, and again this goes to my clinical experience, I have travelled a lot and worked a lot through Canada. I would say that maintenance of culture, maintenance of traditional food systems, maintenance of an active relationship with the land is actually a huge part of what to me seems to be a healthy community. I get that in a sense from talking to patients. I also get in a sense from what I'm actually seeing in the clinic or in the emergency room or lab tests or what have you. I can't necessarily back that up with any epidemiologic studies, but I can speak to that after 20 years of travelling around and working in various communities.[259]

7. 5. Infectious disease transmission

Diseases associated with water quality, crowded living conditions, poor sanitary conditions or cooking facilities at work camps were not addressed in the EIS. Mitigation measures related to control camp-related diseases were not explored and that mitigation measures related to the spread of STIs were not explored.

7.6. Cumulative effects

While some cumulative effects of past and current projects were noted, there were gaps in the information for consideration of cumulative assessment of future projects or activities including:

- Infrastructure and services
- Community health
- Mercury and human health (explored under the HHRA external review)

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[258] Lee, "Keeyask Hearing", November 26 2013 at p 3626.

[259] Lee, "Keeyask Hearing", November 26 2013 at p 3745.

- Public safety and worker interaction
- Travel, access and safety
- Culture and spirituality

7.7. Conclusion / Recommendations

CAC Manitoba makes the following recommendations:

- That an external, publicly available audit of the project be completed 5 years and 10 years post construction (as recommended for BP3).
- Develop a Cumulative Effects Monitoring Plan as part of the Environmental Protection Program
- That KHLP and/or Manitoba Hydro provide explanations as to how the Research and Development program explicitly connected to the scientific or management uncertainties
- That KHLP document its organizational learning outcomes and the ensuing management adjustments, if there are any, whether these are from an AM, whether these are from an adaptive management program in an EA, the external research that it funds, or within the context of the environmental management system"
- That the budget for the Monitoring Advisory Committee be established to reflect the broad mandate of the MAC
- That the budget for the MAC include funding for the MAC to hire independent technical advisors
- That a dispute resolution mechanism or process be established for the MAC, by agreement of the KHLP, prior to construction or operation
- That in addition to being informed, the public be provided with an opportunity to participate in the evaluation and adjustment phases of adaptive management.

8. SUSTAINABILITY

8.1. Preliminary Net Positive Contribution to Sustainability Analysis

In their written and oral evidence, Drs. Gibson and Gaudreau provided an extensive framework for a preliminary analysis of whether the Keeyask project makes a net positive contribution to sustainability. In establishing that framework, they made it clear that a final determination was not possible in the absence of understanding of the Need for the Project as well as an comparative examination of reasonable Alternatives including the alternative of not proceeding.

In a parallel piece of work, Drs. Buckland and O'Gorman considered the achievement and challenges of the Keeyask from a community development perspective.[260]

In developing its final position for this proceeding, CAC MB made extensive use of the preliminary net positive contribution to sustainability analysis developed by Gibson and Gaudreau as well as the community economic development of Buckland and O'Gorman. In the discussion which follows, CAC MB will not make an ultimate determination in terms of whether the proponent has met its onus. Instead, it will use the insight garnered from both the sustainability analysis and the community development analysis to outline some of the opportunities and challenges of the proposed Keeyask partnership.

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[260] Drs. Buckland and O'Gorman's Report offers a thoughtful critique of the partnership and it's socio-economic benefits and impacts, based on a theoretical model and literature relating to community economic development. That theoretical model and literature considers development and draws from the indigenous perspective on development and goes beyond the indigenous context. The report does not give a voice to a marginalized group or a minority group within the First Nation. It considers and weights the potential socio-economic impacts upon northern and aboriginal residents in the Keeyask region, while observing what the potential socio-economic benefits that will flow. Where it does reflect voices of dissent or marginalizaiton, it is done to help illustrate the probative questions relating to the proposed socio-economic impacts and benefits analysis put forward by the KHLP. It is presumably less robust than the internal discussions that took place confidentially amongst the First Nations partner communities but it does provide some level of analysis and insight for the benefit of the public which should be concerned about the sustainability and ethical nature of the production of power in Manitoba. See : Buckland and O'Gorman, "A Community Economic Development Assessment of the Keeyask Model: A report for the Clean Environment Commission Hearing", November 13 2013.

8.2. The Keeyask Cree Nations - Strengths and Barriers

Prior to turning to opportunities and challenges posed by the Keeyask partnership, it is helpful to outline some of the particular strengths of the Cree Nations as well as particular barriers that they face.

The KCN possess strengths in terms of their intimate connection to their traditional territories, their rich culture, the skills and innovation they have developed in both traditional and non traditional enterprises and the resilience and energy of their people

However, they face key barriers in terms of basic infrastructure such as housing and education as well as in access to basic social services such as child care.[261] As pointed out elsewhere in this report, the legacy of colonialism, racism and environmental degradation from external forces also impose substantial burdens. Another key barrier is restricted access to capital and to reliable, sustainable revenue streams.

8.3. Opportunities through the partnership agreement

In reviewing the record, CAC MB have identified eight core opportunities which they understand to be at the heart of the desire of the Cree Nations to participate in the Keeyask project:

- the importance of having a meaningful voice in projects that have a material impact upon their community;
- enhanced capacity through a variety of mechanisms including the negotiation of the JKDA and AEA, the development of community based training capacity through HNEITI, the operation of businesses engaged in the Directly Negotiated Contracts and the environmental mitigation and management roles in the post project period;
- enhanced skills and jobs for community members through training, employment opportunities and work experience;

[261] During cross examination, Ms Kinley identified challenges relating to underfunding of on-reserve schools. She also identified shortage of day care spaces which impaired the ability of persons to take training and to assume full-time job opportunities: Kinley, "Keeyask Hearing", November 5 2013 at pp 2092-93.

- potential revenue streams for community members and the community through employment income, business income and investment income;
- the synergistic benefits in training, employment, business income and investment revenue that may flow from the much larger Conawapa project;
- the potential for more positive health outcomes which might flow from increased jobs and income with the potential to reduce poverty and inequality;
- the potential for enhanced cultural and socio-economic practices flowing from the Adverse Effects Agreements including increased connection to their traditional lands, traditional ways and traditional foods as well as enhanced access to lingustic programs
- a material step towards reconciliation as discussed elsewhere in this report.

8.4. Challenges to the Partnership

Recognizing the opportunities presented by the project, there also are key challenges, risks and uncertainties which were addressed in some detail both in cross examination and by Drs. Buckland and O'Gorman. Given the voluminous evidence with regard to these uncertainties, the more detailed discussion of these points is set out in the accompanying footnotes.

8.4.1. risks to jobs and revenues

Among the most critical economic challenges, risks and uncertainties are:

- a mismatch between the labour force demands of the project and the community skill set with the hottest demand being in the area where the Keeyask Cree Nations had the shortest supply;[262]

- material barriers to enhanced skill development relating to challenges within the education system, the end of HNTEI and the absence of a current replacement program which suggest a relatively small growth in the trained labour force despite rapid population growth;[263]

- the likelihood that construction related jobs will be skewed towards less skilled, lower paying positions with over half of the total employment years coming from construction support;[264]

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[262] The designated trades were is the single highest component of the estimated demand for the project and coupled with supervisory positions accounted for well over half the Keeyask positions. These also tend to be the higher paid positions : Kinley, "Keeyask Hearing", November 5 at 2013 at pp 2080-1. Yet, in "the designated trade area there are not a huge number of people who are available to take those positions." In terms of training " if we look at the HNTEI program, only 13 per cent of the Keeyask population who took it were in the designated trades." : Kinley, "Keeyask Hearing", November 5 2013 at pp 2082-83. Of the total Keeyask Cree Nation labour force available in 2014, only 85 persons were within the designated trades : Keeyask Hydropower Limited Parternship, "Keeyask Generation Project: Environmental Impact Statement: Supporting Volume Socio-Economic Environment, Resource Use and Heritage Resources: Table 3-5: Keeyask Cree Nations Keeyask Employment Model Skills by Job Category (2014, 2021)", June 2012 at p 3-32. As Ms. Kinley conceded, the largest demand was in the designated trades where there was only a relatively small percentage of the KCN labour force: Kinley, "Keeyask Hearing", November 5 2013 at p 2081.

[263] During cross examination, Ms Kinley identified challenges relating to underfunding of on-reserve schools, and students not taking the science and math courses required for hydro-electric jobs, (Kinley, "Keeyask Hearing", November 5 2013 at pp 2092-3. She confirmed that despite a young and and rapidly growing labour force, the growth of trained employees for the KHLP projects would be relatively small growth of only 35 persons between 2014 and 2021: Kinley, "Keeyask Hearing", November 5 2013 at p 2085. Ms Kinley also concluded that a key driving factor underlying the relatively low growth in the trained labour force available is the fact that there is less training opportunities and they are tending to be offered in places far away: Kinley, "Keeyask Hearing", November 5 2013 at p 2085. The KHLP has acknowledged the existing gap between the end of HNTEI and the start of construction: Keeyask Hydropower Limited Partnership, Response to CEC Question, January 3 2014 at p 100.

[264] Ms Kinley has confirmed that over half the person years of employment associated with the project that flow to the KCN people will be associated with construction support and those position tend to be the lower paying jobs: Kinley, "Keeyask Hearing", November 5 2013 at p 2102. Table 3-22 confirms that over half of the employment years will flow from construction support: Keeyask Hydropower Limited Parternship, "Keeyask Generation Project: Environmental Impact Statement: Supporting Volume Socio-Economic Environment, Resource Use and Heritage Resources: Table 3-22: Construction Phase EStimated Employment Participation by KCNs Members in the Keeyask Generation Project - High Employment Estimate (Person-Years)", June 2012 at p 3-95.

- with the KCN accounting for less than 15% of the total number of employment years, the risk that expectations in terms of construction jobs, employment duration and tenure may be lower than anticipated by community members;[265]

- the risk that Conawapa may not proceed thereby depriving communities of anticipated synergistic employment opportunities and revenue streams;

- the uncertainty of when the promised operational jobs will be realized;

- the risk that business income may be lower than anticipated;

- the risk of a Wuskwatim like disaster for anticipated investment revenue and the potential for an unsustainable debt load for future generations;[266]

- the reality that if the preferred dividend stream is elected rather than the common unit option the likely benefits appear to be much lower thereby reducing the capital available to the community for infrastructure investments;[267]

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[265] Table 3-22 in the Socio-Economic Supporting materials confirms that even with the high employment estimate roughly 14% of the total person years of employment will inure to the KCN: Keeyask Hydropower Limited Parternship, "Keeyask Generation Project: Environmental Impact Statement: Supporting Volume Socio-Economic Environment, Resource Use and Heritage Resources: Table 3-22: Construction Phase EStimated Employment Participation by KCNs Members in the Keeyask Generation Project - High Employment Estimate (Person-Years)", June 2012 at p 3-95. As Ms. Kinley conceded, if it turned out that everyone in the KCN with a designated trade at 2014, got a job with Keeyask, in effect, this would be the equivalent of one person year of employment for each of them : Kinley, "Keeyask Hearing", November 5 2013, pp 2101-2. In Question 33.1 of the January 3, 2014 Response to the Questions of the Clean Environment Commission, the KHLP confirmed that the average rate of turnovers among northern Aboriginal hires on Wuskwatim was 41%.: Keeyask Hydro Limited Partnership, "Responses questions by the CEC" January 3 2014 at p 104.

[266] As Ms Kidd Hansther confirmed that the Wuskwatim partnership lost money in 2012/13 and is expected to lose money for a number of years. In her words, "there is a recognition that the projections for the Wuskwatim project have not have not been what we anticipated, we or our partner. They ratified the deal in 2006. There had been considerable market changes, export prices being the most dramatic, cost of construction." : Kidd-Hantshcer, "Keeyask Hearing" October 22 2013 at pp 362-63. She conceded "There could be years where neither Hydro nor the partners receive any distributable cash from the project" and that in the event of a bad year, there could be a cash call : Ms Kidd-Hantshcer, "Keeyask Hearing", October 22 2013 at pp 365-66.

[267] Drs. Buckland and O'Gorman presented a low and high estimate of preferred dividence income ranging from a little over $1 M annually to over $4 M annually: Buckland and O'Gorman, "A Community Economic Development Assessment of the Keeyask Model: Presentation for the Clean Environment Commission Hearing", November 26 2013 at pp 9 and 10. This information was not tested during cross examination. In their written report, they cited the response to PUB-1-078 c), in which Manitoba Hydro estimated preferred distributions declared based upon its 'most likely' economic assumptions, capital costs and export/energy prices. Distributions from 2022 through 2039 ranged from $5 million to $8 million annually.

8.4.2. Uncertain results in terms of equity

In reviewing the Response to the EIS Guidelines, CAC MB have observed that the equity implications of project not well canvassed. In particular, they note that:

- given the potential for unequal distribution of effects and benefits within the community, the KHLP has not established that improved health outcomes will be a result of the project;[268]
- it has not been established that there is an equitable sharing of hydro-electric resources within our province;[269]
- given the relatively small share of construction years of employment as well as the material uncertainties associated with investment income, it has not been established that balance will be achieved in terms of the benefits flowing outside of the region versus the benefits within the region. This suggests a real possibility of an unequal division of benefits between the South and the KCN;
- it has not been established that there is an equitable share of the benefits of the hydro-electric resources between the Province and the communities and resources users who rely upon the Nelson River;

8.4.3. Uncertain human and environmental consequences

Among the most critical human and environmental challenges, risks and uncertainties are:

- the risk that a massive influx of workers will bring material negative social and health influences and overstrain the community's capacity to adjust;
- the reality that development will directly create another barrier in the Nelson river, directly flood material amount of land and indirectly impair significant associated areas ;

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[268] This is particularly the case given that there will be those who may disproportionately feel the adverse effects within the community such as those displaced from traditional lands. There also will be those who may enjoy less benefits including those do not secure employment or whose employment is only of a temporary nature.

[269] In particular, there are those who are excluded from the hydro-electric grid and who are forced to face more expensive rates for diesel electricity. As well, the Keeyask Cree Nation members are likely to pay higher monthly bills due to the poor insulation in their homes and high heating costs.

- the reality that the project will disconnect some traditional land users and the species they rely upon from their traditional lands either directly through flooding or indirectly through the chilling effects of increased human activity;
- the reality that the traditional lands can no longer sustain the communities in the way the once did and the further loss of use of the lands and waters of the Nelson River necessitating the uncertain remedy of the offset programs;
- the risk of a further loss of confidence in the ability of the ecosystem to sustain its people potentially leading to unhealthy food and lifestyle choices;
- the risk that core species such as sturgeon and boreal woodland caribou will be further threatened or lost;
- the risk that the Nelson River will pass a cumulative effects tipping point and no long be able to sustain itself.

8.5. Sharing of Water Rentals

8.5.1. Overview

Recognizing the potential inequity in benefits of the hydroelectric resources both, CAC MB is proposing that:

> The Province of Manitoba should take steps towards the equitable sharing of the resources flowing from Hydro development by dedicating a designated percentage of the water rental fees associated with hydro-electric activity to those communities who share the resources and whose treaty and aboriginal rights may be affected by the use of the Nelson River for hydro-electric development.[270]

The sharing proposal is based upon the recognition of:

- the fundamental interest of First Nations in the traditional lands and waters of the Nelson River and their ongoing right under Treaty to share in these resources as recognized and affirmed by Cree Law and s. 35 of *the Constitution Act of 1982*;

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- the fundamental interests of indigenous resource users in the traditional lands and waters of the Nelson River as recognized and affirmed under s. 35 *of the Constitution Act of 1982*,
- the expected future deleterious effects of Manitoba Hydro's integrated operations on the lands, waters and people of the Nelson River.

Sharing of the water rental fee, may be seen as a way to provide some recompense to Cree Nations who choose not to purchase a higher risk investment interest in the project. It also may provide opportunities to Cree Nations who have been excluded from the opportunity to participate in resource development agreements due to luck of the geographical draw.

8.5.2. Background - The Current Model of Resource Development

In both the Wuskwatim and Keeyask Hydro-electric Generating Station projects, MB Hydro has entered into a business arrangement with Northern Manitoba First Nations in which they invest in the project and in turn receive the right to share in the profits and losses associated with the generating station.

These limited partnership arrangements have been a key vehicle for Manitoba Hydro to secure First Nation support for these projects. Given the human and environmental legacy of past Hydro projects, it is generally conceded that Hydro would not be able to undertake these projects without the support of affected First Nations residing in the immediate area of the proposed project.

While the business arrangements may sound good on paper for the First Nations, they do not always turn out well in reality. The NCN became a significant partner in Wuskwatim only to find the project bedevilled by cost overruns and dramatically lower export revenues. A project which was once thought of as a sure money maker is looking at significant losses for the first years of its operation. NCN borrowed heavily to invest in the project. Contrary to expectations, it is not enjoying project dividends but running the risk of higher debt.

From an equity perspective, the partnership arrangements are often sold to First Nations and the public as way to develop local economies and to enable the communities most affected by hydro development to share in the benefits of existing projects. However, the arrangements have been criticised as forcing the First Nations to incur unacceptable levels of risk. From a choice perspective, First Nations have been offered few if any alternatives in terms of revenue benefits other than owning part of the project.

8.5.3. Are there other models to offer some share in hydro-resource developments?

Assuming that many Manitobans would accept the premise that those most affected by Hydro flooding and habitat disruption should receive some benefit, there are a number of possible sources of revenue.

One option is the ownership path. Another option would be to provide affected First Nations with a share of the water rentals from any particular project. Theoretically, the water rental fee recognizes Province ownership of water power and capture some of the societal costs of generating water power.

It is strongly arguable that the people of the Nelson River suffered the greatest adverse effects of hydro development. By virtue of their treaty relationship, it also could be argued that they have a treaty right to share in the resources. The opportunity to share in water rentals of new Hydro development may be seen as an appropriate approach to revenue sharing. It also may provide some revenue benefits to first nations reluctant to invest in higher risk Hydro investments.

9. ADAPTIVE MANAGEMENT

All I ask is, if we are going to move, let's move together.[271]

9.1 Adaptive Environmental Management

9.1.1. Adaptive management as a way of addressing uncertainty

Adaptive management attempts to address the uncertainty that is inherent in resource management in a purposeful and deliberate manner, rather than ad hoc approach.[272] Uncertainty is expected for a project of this scale.

In the context of the Project,

> adaptive management is a planned process for responding to uncertainty or to an unanticipated or underestimated Project effect. It is the application of information learned from monitoring actual Project effects and comparing them with predicted effects. If there is a variance between the actual and the predicted effects, a determination will be made as to whether modifications are required in existing mitigation measures, other actions are necessary to address the variance or, in cases where there may be no mitigating options available, the appropriate information is disseminated in a timely manner.[273]

However, apart from the above-quoted extract, the adoption of an adaptive management approach is rarely mentioned in the EIS. Indeed, while the claim is made in the Executive Summary that "adaptive-management plans are in place to address issues that might arise in the

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[271] Moose, "Keeyask Hearing" December 7 2013 at p 5464.

[272] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at pp 2-3; Fitzpatrick, "Keeyask Hearing", December 12 2013 at p 6126.

[273] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement : Response to EIS Guidelines", June 2012 at s. 8.

future", there is little evidence in the rest of the EIS to back this up.[274] Rather, the focus is very much on monitoring the predicted effects of the Project and, even then, the decision to do so appears driven primarily by the differences that exist between Cree and technical science perspectives on the nature and extent of the predicted adverse effects.

As stated by the EIS, "variations in predicted and actual results identified through monitoring will be assessed by the Partnership and regulatory authorities for follow-up actions such as mitigation adjustments and adaptive management."[275] Yet it remains unclear as to what those "adaptive management" measures would be and what options are open to Hydro and the Partners in the event of unexpected adverse effects.

9.1.2. Adaptive management in the EIS-RG

A preliminary analysis of the Partnership's approach suggests certain improvements relative to the Bipole 3 documentation. There was a recognition of uncertainty and a strong commitment to adaptive management as a way "to address unanticipated and unforeseen effects."[276] The model adopted by the KHLP is consistent with the literature.[277] Those elements of the Environmental Management Plan that were available in draft (confirm they are all draft) form provided for opportunities for active experimentation.

- Uncertainty in resource management can emerge from a number of factors, including:
- variability in the natural environment;
- human impacts on the environment;
- lack of knowledge about many aspects of the ecosystems being managed;
- different social and political goals which impact resource management at any given time; and

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[274] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary", June 2013 at p 8.

[275] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement : Response to EIS Guidelines", June 2012 at p 8-6.

[276]Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Responses to Information Requests - CEC, Round 1", July 2013 at CAC-0061.

[277] Fitzpatrick, "Keeyask Hearing", December 12 2013 at p 6143.

- the potential for imperfect sampling techniques. Adaptive management is a systematic process for continually improving management strategies and practices by learning from the outcomes of operational programs.[278]

Adaptive management is cyclical and iterative in nature and depends on experimentation. Passive experiments use baseline and historical data to test a hypothesis. Active experimentation tests multiple things at once to achieve best management objectives. Both passive and active experimentations assist in making good management decisions. Where there is more uncertainty, active experimentation is likely favoured.

Drs. Diduck and Fitzpatrick were retained by CAC Manitoba to provide an analysis of adaptive management in the EIS-RG. At page 5 of their report, they included a list of best practice features in adaptive management Examples of considerations for best practice of adaptive management include:

- To what degree does the proponent ′s management strategy recognize and accept uncertainty and thereby create safe and rewarding conditions to experiment carefully?
- To what extent does the management strategy take a long-term, multi-scale, and integrative view of the environment?
- Are the right people involved for developing a deep nuanced understanding of ecological, social economic, and cultural contexts?
- Does the strategy explicitly address the multiple goals of stakeholders?
- Is planning transparent, open to scrutiny, and designed to encourage thoughtful and constructive debate?
- Are the right people involved for careful evaluation, and for promoting learning and innovation?[279]

Key elements that apply throughout the process are transparency, openness and the importance of involving the right people.

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[278] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at p i.

[279] See Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at p 4-5.

> adaptive management was developed as a highly scientific approach to reducing adverse impacts on the environment from a development initiative of some type. And as people started to realize that the complexity of the social, ecological interactions make things very uncertain, we need more forms of knowledge in the discussion. We need people with different ways of knowing about the complexities of human environmental interactions. So people started to think, well, we need more collaboration in adaptive management. We need more parties to participate.[280]

A review of the EISRG indicates that key pieces of the Environmental Management Plan were missing, including the Vegetation Rehabilitation Plan, the Terrestrial Mitigation Implementation Plan and the four ATK monitoring plans). The EPP does not provide for a cumulative effects monitoring plan.

While the intention of the proponents is to be adaptive, "there is less information about the processes and timelines by which it plans to make adjustments."[281] There are no plans in the Environmental Monitoring Plans or in the overall Environmental Protection Program to involve the public in making adjustments to monitoring (or mitigation). Adjustments to monitoring and mitigation are suggested to take place at the MAC.

The EIS lists a variety of research and development initiatives, yet there was little information in the EIS about how the proponent plans to learn and adapt based on the proposed research, or of any actual management adjustments to date. "Linking research with identified uncertainties, and/or areas where baseline information is not available would have strengthened the documentation, and would demonstration learning being done in a purposeful fashion (an important element of AM)."[282]

Independent oversight is increasingly employed in resource management and, for Keeyask, a number of factors suggest that such oversight should be considered for the Project. These are: a sizeable environmental footprint, especially upon consideration of other planned developments (Keeyask Transmission, Conawapa etc.); questions of trust between Hydro and the other

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[280] Diduck, "Keeyask Hearing", December 12 2013 at p 6198.

[281] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at 17, 20.

[282] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at 17, 20.

Keeyask partners; a lack of clarity regarding the implementation of monitoring programs; and, the overlapping mandate of the Crown in acting as both proponent and regulator for Keeyask.

9.2. Monitoring

9.2.1. Monitoring Advisory Committee (MAC)

The KHLP and parties agreed that the existence of a MAC is a positive feature of the proposed Environmental Protection Program. It will create an opportunity for ongoing ATK input into adaptive management.[283]

The stated goal of the MAC is to "improve an understanding of respect among the partners, foster an environment of sharing and collaboration in undertaking environmental stewardship activities, and will lead to the implementation of a more robust environmental protection program."[284]

Despite the stated goals, there are significant potential shortfalls related to the mandate and funding of the MAC. Little details were provided on the extent to which the MAC will be involved in interpreting or evaluating monitoring results.[285]

Effective oversight should include a clear mandate, independent authority, independent composition, adequate long term funding.The full potential of the MAC is limited because of lack of resources, capacity and authority.[286]

The MAC as it stands is simply a recommendatory body with no decision making authority. The MAC has an extensive mandate and must attempt to be both the clearing house for disagreement between ATK and Western science, a monitoring body of existing mitigation measures, as well as the committee proposed modification to mitigation where outcomes were not predicted. It also has an obligation to report back and educate the communities.

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[283] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at 11.

[284] Northover, "Keeyask Hearing", November 25 2013 at p 3522.

[285] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at p 14.

[286] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at pp 17 and 20.

Manitoba Hydro will have five representatives on the MAC. Collectively the CNP will have three representations (two from TCN and one from War Lake), YFFN and FLCN will have one representative each. This appears to create an imbalance of representation form the First Nations.

It became apparent in the hearing that there was a commitment to long term funding but the adequacy of that funding remains in question as negotiations on this issue have not yet concluded. In sum, the MAC process will be more ad hoc than purposeful, given that there is no process for resolving dispute.

9.3. Conclusions / Recommendations

Drs. Diduck and Fitzpatrick acknowledged that the framework of adaptive management that they suggested in Bipole III was employed in the Keeyask EIS-RG and that adaptive environmental management was often well considered in Keeyask.

However, a number of areas remain of concern :

- It is unclear whether the Monitoring Advisory Committee as currently constituted can serve as an effective oversight body;
- Hydro's general approach respecting the time needed between monitoring, evaluating and learning, on one hand, and making adjustments on the other, is unknown;
- Lack of transparency regarding the effectiveness of Hydro's environmental management system;
- Lack of public involvement in making adjustments to monitoring.

Dr. Diduck explained that adaptive management is limited in some circumstances, specifically when the nature of the project itself and the basic design features are not "sufficiently flexible to make adjustments in response to lessons learned."[287] He suggested that ultimately, the ability to adapt the proposed mitigation measures in a mega project is limited to "modifying around the edges."[288]

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[287] Fitzpatrick & Diduck, "Assessing Adaptive Management in the Keeyask EIS", November 6 2013 at p 10.

[288] See Diduck, "Keeyask Hearing", December 12 2013 at p 6201.

> I think there could be some impacts that come from the basic design, not sort of modifying things around the edges of a project, but from the basic design of a project, a mega project, perhaps like the one in this case, that if you can't adapt those key features, if there are adverse effects that flow from those features and you can't adapt them, so adaptive management can't be used.[289]

The AEAs should not be a mechanism to pass through risky projects which present a material risk of adaptation failure.

9.3.2. Recommendations

CAC Manitoba makes the following recommendations:

- That an external, publicly available audit of the project be completed 5 years and 10 years post construction (as recommended for BP3).
- Develop a Cumulative Effects Monitoring Plan as part of the Environmental Protection Program
- That KHLP and/or Manitoba Hydro provide explanations as to how the Research and Development program explicitly connected to the scientific or management uncertainties
- That KHLP document its organizational learning outcomes and the ensuing management adjustments, if there are any, whether these are from an AM, whether these are from an adaptive management program in an EA, the external research that it funds, or within the context of the environmental management system"
- That the budget for the Monitoring Advisory Committee be established to reflect the broad mandate of the MAC
- That the budget for the MAC include funding for the MAC to hire independent technical advisors
- That a dispute resolution mechanism or process be established for the MAC, by agreement of the KHLP, prior to construction or operation

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[289] Diduck, "Keeyask Hearing", December 12 2013 at p 6201.

- That in addition to being informed, the public be provided with an opportunity to participate in the evaluation and adjustment phases of adaptive management.

10. CONCLUSION

Hydro electric developments have an enduring effect upon all Manitobans. They enable us to keep the lights on and to keep our houses warm. They fuel our industry and business.

These many positives benefits have not been without a cost whether in terms of devastating social and cultural effects or substantial habitat degradation and fragmentation. Disproportionately, these costs have been borne by the people, lands and waters of the Nelson river.

Viewed through some lenses, the Keeyask project is an innovative response to the need for reconciliation and the desire for a brighter future. CAC MB has heard the message from the Cree Nation leadership that they are ready and anxious to proceed.

Yet in addressing the licensing issue, the CEC and the Province must address the seminal question of whether this tortured system can sustain yet another project. Unfortunately, many of the tools the CEC needs to complete the job are not there.

During the Bipole III process, the CEC made a wise recommendation in suggesting that licensing of future projects should not proceed in the absence of Regional Cumulative Effects Assessment. CAC MB believes that wisdom still applies today.

The issues are too important and the information is too incomplete to make a decision based on the current record.

PART III: Recommendations

1. RECOMMENDATIONS

"The terms of Treaty 5, adhesion to Treaty 5 established a solemn promise that the lands within our ancestral lands and traditional territories would be shared forever between the Treaty nations and the Crown and with the settlers and others entering into our traditional lands."[290]

The opening words of Elder Linklater reminded us of the importance of never being afraid to do what is right.

1. Key Findings and Recommendations

CAC Manitoba makes the following recommendations:

> The final licensing recommendation by the CEC and the licensing decision of the Minister should be deferred until there has been the opportunity for independent and transparent consideration of:

a) a Regional Cumulative Effects Assessment;

b) an Operational Review as proposed by the CEC during the Wuskwatim NFAT;

c) the PUB Need for and Alternatives To consideration of the Hydro Preferred Plan; and

d) Crown consultations with potentially affected Aboriginal people.

In recognition of:

a) the fundamental interest of First Nations in the traditional lands and waters of the Nelson River Watershed and their ongoing right under Treaty to share in these resources as recognized and affirmed by Cree Law and s. 35 of the Constitution Act of 1982;

b) the fundamental interests of Indigenous resource users in the traditional lands and waters of the Nelson River Watershed as recognized and affirmed under s. 35 of the Constitution Act, 1982;

c) the ongoing deleterious effects of Manitoba Hydro's integrated operations on the Nelson River watershed and its people;

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[290] Linklater, "Keeyask Hearing", December 12 2013 at p 6241.

The Province of Manitoba should take steps towards the equitable sharing of the resources flowing from Hydro development by dedicating a designated percentage of the water rental fees associated with hydroelectric activity to those communities who share the resources and whose treaty and Aboriginal rights may be affected by the use of the Nelson River for hydroelectric development.

2. Findings and recommendations on Cree Law

CAC Manitoba recommend that the Clean Environment Commission (CEC) make the following findings:

- That obstructing the flow of the Nelson River is a breach of Cree Law as stated by Elder Linklater: "It is contrary to Customary Law to intentionally obstruct the flow of the river and to knowingly alter waters, fish, animals and habitat and to knowingly create hardship for human beings"
- Acknowledge that the holders of Cree Law individually and collectively possess a level of expertise at least equivalent to that provided by Western scientific knowledge.

CAC Manitoba makes the following recommendations:

- Require Manitoba Hydro to consider and seek direction from their partners on the application of Cree customary law in the planning, construction, and operation phases of all hydro-electric development.
- Consider the application of Cree law procedural principles, processes and protocols in its future proceedings.
- That Cree customary law be incorporated into the terms of licences, permits and other authorizations relating to the KGS.

3. Findings and recommendations on ATK

CAC Manitoba recommend that the Clean Environment Commission (CEC) make the following findings:

Find that the value and contribution of traditional customary law is of equal importance and value to Western scientific knowledge.

- Find that knowledge holders of traditional customary laws are experts within the scope of their respective field of knowledge.

CAC Manitoba makes the following recommendations:

- That the KHLP develop a mutually agreeable process for resolving disputes between ATK and WSK, prior to licensing, construction or operation. (e.g. a place based approach to resolving disputes between ATK and Western science)
- To the extent possible, the ininimowin language should be incorporated into the documents related to the KGS, as directed by the KCN partners.
- That the ATK monitoring plans be drafted before issuing the license and that proper funding be allocated.
- ATK should be incorporated into both the analysis and conclusions in the EIS. A methodology for consideration of ATK and WS should be made explicit in future EIS.
- For future EIS, it would be helpful to understand if the technicians and experts in WSK had any training on methods of including ATK in their analysis and conclusions. If ATK is to have a "distinguishable voice", it would be beneficial to include information about how the ATK informed the WSK in the EIS and technical reports.
- It would seem prudent for modeling to be combined with ATK based around previous hydro developments in the region in order to reduce uncertainty around predictions for impacts on the physical environment.

CAC Manitoba endorses the following recommendations:

- CAC supports the recommendations of the Kaweechiwasihk Kay-tay-a-ti-suk, that that Aboriginal traditional knowledge and Western science work together to recognize and protect the Noschimik Atikok.

4. Findings and recommendations on Relationships and Reconciliation

CAC Manitoba makes the following recommendations:

- In order to manage the expectations between the partners and to inform the members of the partner Cree Nations, the KHLP should clarify if this is a transformative relationship or strictly business.

- Prior to licensing, that the Minister conduct consultations with the potentially affected Aboriginal people to ensure that potential impacts on treaty and Aboriginal rights will not be unduly impacted. Potential impacts must be accommodated. Where they cannot be fully accommodated, due consideration should be given to whether the Cree can be adequately compensated, for example through resource revenue sharing. This determination should be made prior to a license being granted and should continue in the face of unforeseen impacts.

- The Partnership reflects upon individual and collective experiences with the Keeyask process, that it articulates those experiences (both internally and publicly) and develops mechanisms by which the lessons learnt can be used to refine methodologies and process for ongoing or future collaborations.

5. Findings and recommendations on Treaty and Aboriginal Rights

CAC Manitoba recommend that the Clean Environment Commission (CEC) make the following findings:

- There has been no evidentiary basis for making a determination on potential impacts on Treaty and Aboriginal rights.

6. Recommendations on Net positive contribution to sustainability

CAC Manitoba makes the following recommendations:

- Amend legislation to state significance and net positive contribution to sustainability explicitly (legislate the standard)

- Statutory provision allowing for/mandating regional (strategic) cumulative effect assessment

- That for future assessments the CEC require proponents to adopt from the outset an integrated sustainability assessment framework that includes a full justification of need, a full and fair analysis

of alternatives, and application of an explicit set of sustainability criteria specified for the case and context; and

- That the CEC apply comprehensive and explicit set of sustainability criteria in its assessment of the Keeyask proposal as a first step; although it cannot provide a basis for concluding that the project is acceptable if the review does not include comparative evaluation of alternatives

7. Recommendations on Sturgeon

CAC Manitoba makes the following recommendations:

the Proponents should consider a program whereby only the largest (perhaps 10%) of fingerlings are stocked in the fall and the rest are kept over the winter to grow out, with stocking of these yearling individuals to occur in late spring or early summer

the Proponents should plan to uniquely mark ALL stocked sturgeon prior to release

all marks should be permanent and their identification should not be subjective

identifying marks should not overly stress, injure, maim or kill the fish

the subsequent monitoring program should evaluate survival, year class strength, and growth in marked hatchery as well as unmarked wild individuals

yolk sac fry should never be stocked into the Keeyask area but should be released in other appropriate areas of the Province when/if they are available

only passive integrated transponders (PIT tags) should be used to mark fish

fingerlings large enough to carry 8 mm PIT tags should be stocked in the fall

smaller fish should be retained in the hatchery, grown out over the winter, tagged with PIT tags and released in the spring

given the high uncertainty of success for young of the year habitat remediation, the Proponents should develop plans for alternative approaches

given the high uncertainty of success for young of the year habitat remediation, the Proponents should develop plans for alternative approaches

there should be a general monitoring program (not a small sample tagging program) to assess the frequency of lake sturgeon interactions with the facility, as well as impingement and entrainment events, so that the true impact of the facility on upstream populations is known

CAC Manitoba endorses the following recommendations:

> We, the Kaweechiwasihk Kay-tay-a-ti-suk recommend that the restoration of the former seasonal fish passage at the Kelsey generating station be considered. If it can be done, it should be done. We also recommend building a structure in the river to make a more natural flow of water at the discharge of the Kelsey generating station to improve habitat for Na May O and other fish. (Beardy," Keeyask Hearing", December 12 2013 at p 6227.)

8. **Recommendations on Caribou**

CAC Manitoba makes the following recommendations:

> The proponent should undertake two years of radio-telemetry tracking of female resident caribou to resolve questions of the identity of the caribou and to assist in the determination of the extent of the population range of resident caribou
>
> Future assessments of boreal woodland caribou sustainability should comply with Environment Canada best practice

CAC Manitoba endorses the following recommendations:

- CAC supports the recommendations of the Kaweechiwasihk Kay-tay-a-ti-suk, that the Noschimik Atikok to be recognized as a distinct group of resident caribou that are near the Keeyask project.

9. Findings and recommendations on Human Health

CAC Manitoba makes the following recommendations:

- That prior to construction, the proponent conduct and study and gather baseline data on:
  - food insecurity
  - sexually transmitted infections
  - drug and alcohol misuse
  - on injury related to motor vehicle accidents
- That the proponent develop preventative measures for the spread of infectious disease in the workplace and in regard to crowded housing in communities.

- That the proponent develop a mitigation strategy for STI prevention in the workplace.
- That future EIS include the 8 broad areas of health effects.
- The future EIS adopt a broad definition of health (including framing things in a Cree concept of well-being and looking at determinants of health perspective from an Aboriginal perspective, the mino-pimatisiwin concept of well-being).
- That the CEC require a complete Health Impact Assessment be completed as part of the EIS

10. Recommendations on Mercury

CAC Manitoba makes the following recommendations:

- Prior to making recommendations on how post-impoundment risks will be managed among community members, the existing risks to the community should be more fully characterized to help ensure that the management of risk does impact nutritional benefits of wild fish consumption
- Require the collection of data on distributions of actual fish consumption rates, and measured mercury in blood/hair of consumers of fish from impacted and offset lakes

11. Socio-Economic Benefits and Effects

CAC Manitoba makes the following recommendations:

an improved version of the the HNTEI (Hydro Northern Training and Employment Initiative) should be developed to ensure more individuals in the KCNs are qualified to work on the Keeyask project and to gain skills in other sectors.

Hydro should be directed to explore mechanisms to improve energy affordability and energy efficiency in remote First Nations including Diesel communities such as Shamattawa.

an independent audit should be taken of Wuskwatim to determine whether promised benefits were received and to make recommendations to ensure equitable sharing in any future arrangement including considerations of investments in programs deemed by community members to be important for building long term economic opportunities

12. Findings and recommendations on Monitoring and Adaptive Management

CAC Manitoba makes the following recommendations:

- That an external, publicly available audit of the project be completed 5 years and 10 years post construction (as recommended for BP3).
- Develop a Cumulative Effects Monitoring Plan as part of the Environmental Protection Program
- That KHLP and/or Manitoba Hydro provide explanations as to how the Research and Development program explicitly connected to the scientific or management uncertainties
- That KHLP document its organizational learning outcomes and the ensuing management adjustments, if there are any, whether these are from an adaptive management program in an EA, the external research that it funds, or within the context of the environmental management system"
- That the budget for the Monitoring Advisory Committee be established to reflect the broad mandate of the MAC
- That the budget for the MAC include funding for the MAC to hire independent technical advisors
- That a dispute resolution mechanism or process be established for the MAC, by agreement of the KHLP, prior to construction or operation
- That in addition to being informed, the public be provided with an opportunity to participate in the evaluation and adjustment phases of adaptive management

13. Findings and recommendations on independent audits and environmental management system compliance

CAC Manitoba makes the following recommendations:

- That Manitoba Hydro provide their most recent environmental management system compliance audit

14. Findings and Recommendations on Process

CAC Manitoba recommend that the Clean Environment Commission (CEC) make the following findings:

- That the process of a CEC hearing is adversarial in nature

CAC Manitoba makes the following recommendations:

- That in future proceedings, the CEC make accommodations for Elders evidence as per the Federal Court Guidelines, particularly Part IV: Elder Testimony and Oral History (cas-ncr-nter03.cas-satj.gc.ca/fct-cf/pdf/PracticeGuidelines Phase I and II 16-10-2012 ENG final.pdf)

15. Other findings and recommendations

CAC Manitoba makes the following recommendations:

- For future proceedings relating to hydro-electric developments on the Nelson River, the riparian corridor should be considered as a VEC.

APPENDIX A: THE ADJECTIVES OF CUMULATIVE EFFECTS

They were substantial

"[...] there's no doubt that it was a substantial alteration."[291]

They were considerable in quantity

"[...] the term substantial was used, it is to denote considerable in quantity."[292]

They were significant within the every day common meaning of the word?

I'm now going to use the everyday common use of the term, that there is no doubt that these projects have had a significant impact on the communities that we're working with.[293]

They were a major change

I would say it's significant, and I think you've heard our partners tell you their story. This was a major change in their lives, past projects.[294]

They were considerably disruptive

I think it is fairly clear that with the Kettle Generating Station there, that it is disrupted environment that is different than what was there prior [...] I would say considerably.[295]

They were devastating

Yet 55 years of hydroelectric development is seen by members at Shamattawa as devastating to the Cree in terms of the biophysical environment, socio-economic circumstance, and in cultural terms.[296]

They had a profound effect

The Project is located close to communities that have been greatly affected by past hydroelectric and other developments. Each of the Keeyask Cree Nations has documented the history of its people, and the profound effect that hydroelectric

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[291] Cole, "Keeyask Hearing", October 24 2013 at p 834.

[292] Cole, "Keeyask Hearing", October 24 2013 at p 833. Also see Davies, "Keeyask Hearing", October 24 2013 at p 866.

[293] Cole, "Keeyask Hearing", October 24 2013 at pp 833-4 and 838.

[294] Cole, "Keeyask Hearing", October 24 2013 at p 834.

[295] Davies, "Keeyask Hearing", October 24 2013 at p 868.

[296] Henley, "Keeyask Hearing", November 7 2013 at p 2447.

development over the past 55 years has had on its relationships with the environment, changing its way of life and culture."[297]

They were life altering

The most detailed information is provided for the hydroelectric development era between 1957 and the present in order to depict how the construction and operation of these northern hydroelectric projects resulted in life-altering changes to the water, land and traditional way of life for First Nations members living in the Keeyask area.[298]"

They changed a way of life forever

So for us, there were three dams that were built in our area, plus some converter stations. So the mega hydro development over the years has had a damaging effect on the Fox Lake Cree, our way of life was changed forever. We no longer had access to the land. We were evicted from our homes. The waterways were changed or diverted. With that came, like private property signs were put up on different areas, gates were erected, we couldn't get to areas. The land was flooded. So the whole northern environment got changed. [299]

"Keeyask will be the fifth generating station on the Nelson River. We can no longer live off the lands and waters in the way we used to."[300]

The lands, the waters and the resources have provided for us in the past. We can't exercise our traditional pursuits as in the past because the waters have changed. And yet these waters and their power could once again help to provide for our people."[301]

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[297] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Executive Summary" at p 37.

[298] Keeyask Hydropower Limited Partnership, "Keeyask Generation Project Environmental Impact Statement: Response to EIS Guidelines" at p 6-7.

[299] Anderson, "Keeyask Hearing", November 4 2013 at p 1900.

[300] Spence, "Keeyask Hearing", November 6 2013 at p 2413.

[301] Rosenberg citing Beardy, "Keeyask Hearing", November 12 2013 at pp 2874-5.

APPENDIX B: EXCERPTS FROM DRS. GUNN AND NOBLE'S PRESENTATION

4.1.1 The EIS identifies adverse effects to aquatic environments

"The aquatic environment in the lower Nelson River, including the area to be affected by the Project, has been substantially altered by past hydroelectric development and continues to experience those effects today" (EIS Ch 7, p. 7-16).

"The aquatic environment of the Nelson River where the Project will be constructed has been substantially altered by hydroelectric developments, in particular the Churchill River Diversion (CRD) and Lake Winnipeg Regulation (LWR), and the construction of the Kettle GS. Effects of the Project will be super-imposed on this disrupted environment" (EIS Ch 6, p. 6-54).

The Keeyask Project "will affect open water levels for about 41 km upstream…[and] about 45 km^2 of initial flooding is predicted. This inundation, along with ongoing erosion, will affect water quality and terrestrial aquatic habitat " (EIS Ch. 7, p. 7-4).

4.1.2 The EIS identifies adverse effects to terrestrial environments

"The terrestrial environment in the area to be affected by the Project has been substantially altered by past hydroelectric developments, linear developments (including transmission lines, highways, and rail lines), forestry and mining exploration, and other agents of change, and continues to experience those effects today" (EIS Ch 7, p. 7-23).

"Priority habitat types that tend to occur along the Nelson River were also disproportionately affected by hydroelectric development, which flooded some reaches of the Nelson River and altered water regimes along its remaining length" (Ch. 7, p. 7-23 and 7-24).

4.1.3 The EIS identifies adverse effects to socio-economic environments

"The socio-economic environment in the area to be affected by the Project has been substantially changed by past hydroelectric developments, linear developments (including transmission lines, highways, and rail lines), forestry and mining exploration, and other agents of change, and continues to experience those effects today" (EIS Ch 7, p. 7-37).

"The Project is located close to communities that have been greatly affected by past hydroelectric and other developments. Each of the Keeyask Cree Nations has documented the history of its people, and the profound effect that hydroelectric development over the past 55 years has had on its relationships with the environment, changing its way of life and culture" (EIS Executive Summary p. 37).

4.1.4 The EIS identifies adverse effects to traditional use & culture

"A sizeable portion of CNP's major waterways in their homeland ecosystem are no longer able to sustain their traditional ways due to alterations from hydroelectric development" (EIS Ch. 6, p. 6-20).

"...more than 35 major generation, conversion and transmission projects have been undertaken by Manitoba Hydro in northeastern Manitoba affecting the traditional territories of the KCNs, their communities and members" (EIS Ch. 6, p 6-12).

"The most detailed information is provided for the hydroelectric development era between 1957 and the present in order to depict how the construction and operation of these northern hydroelectric projects resulted in life-altering changes to the water, land and traditional way of life for First Nations members living in the Keeyask area" (EIS Ch. 6, p. 6-7).

"Particularly influential have been the construction and operation of the four generating stations and the substantial water management projects of the LWR and CRD noted above, which taken together, have substantially adversely affected the land, water and traditional way of life of the KCNs" (EIS Ch 6, p. 6-13).

APPENDIX C: INORDINATE CERTAINTY

[...] good practice CEA, that appropriately outlines its level of confidence as well as limitations and uncertainties, is environmental assessment as it should always have been.[302]

The final summary for caribou, I believe they concluded a moderate to high confidence or certainty, I don't have the exact wording in front of me, but I think here we can safely say there is high uncertainty.[303]

"I am not fully convinced, however, by these conclusions, nor by their certainty. I sum up my conclusions with two points:

- The project is being assessed in the face of two major uncertainties [...]"[304]

So to go through documentation that always ends up somehow concluding no significant 1 effects are expected, that's not accepted. It's too predictable a conclusion. It happens too often. And it happens against, I think, data that would negate that general conclusion applied widely to everything. Now, we believe that there is evidence to review the overall conclusion of no significant effects, particularly with regard to resource use and planning in the York Factory resource management area.[305]

One of the main conclusions is that some of these VECs are minimal, insignificant, or can be remediated. Yet 55 years of hydroelectric development is seen by members at Shamattawa as devastating to the Cree in terms of the biophysical environment, socio-economic circumstance, and in cultural terms.[306]

Fifty-five years of hydroelectric development in Northern Manitoba have had profound effects that are acknowledged. However, the summary suggests that proponents of the project have mitigated, remediated, compensated for those

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[302] Cole, "Keeyask Hearing", October 24 2013 at pp 84708. See also Hegman, "Alchemy to Reason, Effective Use of Cumulative Effects Assessment in Resource Management" , 31 Environmental Impact Assessment Review 5, 2011.

[303] Stewart, "Keeyask Hearing", December 3 2013 at p 4860.

[304] Schaefer, "Caribou and the Keeyask Generation Project", November 2013 at p 12.

[305] Henley, "Keeyask Hearing", November 7 2013 at pp 2464-5.

[306] Henley, "Keeyask Hearing", November 7 2013 at p 2447.

effects, and any remaining effects are insignificant and acceptable. We disagree with this assurance because we know that Shamattawa was left out, and Shamattawa will and has experienced effects.[307]

[...] there appears to be a degree of over-confidence with respect to (1) the ability of a Manitoba-based hatchery to successfully rear large numbers of juvenile lake sturgeon in a consistent manner, and (2) in the likelihood that fall-stocked fingerling lake sturgeon will successfully integrate into the existing population.[308]

The Proponents have [...] suggested that this (Y of Y) habitat can be created with low to moderate certainty. However, [...] it seems much more likely that the probability of overall success with respect to juvenile proliferation in engineered habitat is low to very low.[309]

[...] it seems that the Proponents prediction of moderate to high probability of an increased lake sturgeon population is very optimistic [...].[310]

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[307] Henley, "Keeyask Hearing", November 7 2013 at pp 2422-3.

[308] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 2.

[309] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 6.

[310] Peake, "Proposed Keeyask Hydro Facility: Final Report on Concerns Related to Mitigation Plans for Lake Sturgeon" October 2013 at p 6.

APPENDIX D:COMMENTARY UPON KHLP RESPONSE TO UNDERTAKING #10

This commentary is limited by the record before the Commission as well as the fact that CAC MB was not in a position to call expert evidence with regard to this report.

This document from KHLP provides an update of the disturbance status of the Keeyask region based on the most recent fires. Because fire is also central to evaluating caribou habitat, it discusses the implications to caribou. In particular, it claims that the Environment Canada approach to assessing caribou habitat in the area may not be wholly applicable. While there is valuable information in the report, some statements demand closer scrutiny.

First, the document provides a possible glimpse of future forest conditions and claims that the proportion of area disturbed by fire is likely to decline in the near future : "Using past fire history as a predictor of future fire disturbance, the recent disturbance percentage is expected to continue fluctuating into the future, and to show an overall decline from the 2013 level."[311]

The statement, however, is unsubstantiated; it appears based on the notion that 1989- 1999 was an exceptionally intense period of widespread fires – events unlikely to be repeated in future – rather than a reflection of a fundamental change in the fire regime. However, this allegation is undermined by Mr. Berger's admission in cross examination of the growing concern within the literature of fire variability related to climate change.

Indeed, the evidence implies that the converse is more likely – heightened fire frequency owing to climate change. Citing six studies, for instance, *Environment Canada* (2012) concluded that (p.71) "the area burned by forest fires in Canada has increased over the past four decades, at the same time as summer season temperatures have warmed."[312] In the Keeyask region, more frequent and widespread fires in the future seem more likely than not.

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[311] at p 2.

[312] Environment Canada, "Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal population, in Canada", 2012 at p 71.

Second, with respect to critical caribou habitat, it is argued that the Keeyask region (like northern Saskatchewan) is an exceptional case; the Environment Canada (EC) critical habitat model may not be not completely appropriate because of the low degree of human-caused disturbance relative to natural disturbance.

While there is some merit to being cautious when extrapolating beyond the bounds of conditions that were used to derive the model, a few points are worth emphasizing:

- As noted in the document[313], the Keeyask region (presently with 11% anthropogenic disturbance) is marginally below the lowest value used in developing the EC model (12%). However, as predicted in the EIS, this value will rise to 13.3% with the approval of Keeyask and other future projects[314] – i.e., within the range of values of the EC model.
- Even more important are the implications of this uncertainty. While the document stresses the limitations of the EC model, Environment Canada[315] emphasized that the probability of persistence of the Saskatchewan population (SK1) was "unknown" and therefore recommended a schedule of studies to resolve that uncertainty – to collect population information for a minimum of 2 years on that caribou population. Uncertainties are a call to gather scientific evidence to fill those gaps.

As noted in Dr. Schaefer's evidence, there are some key uncertainties regarding the Keeyask project, especially with respect to Summer Resident Caribou.

- The document revisits some of the other attributes applied in the EIS to assess caribou habitat in the Keeyask region.[316] While linear feature density and wolf density are useful metrics (albeit with less direct, demonstrated links to demography than the EC model), availability of winter habitat has rarely been shown to be limiting to forest- dwelling caribou; the availability of calving and rearing habitat, as documented in the EIS, neglects the importance of space to forest-dwelling caribou and therefore is likely optimistic .

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[313] at p 15.

[314] see Table 4.

[315] Environment Canada, "Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal population, in Canada", 2012 at p 36.

[316] at p 3.

The document[317] relies heavily on the study by Dalerum et al. (2007)[318] to argue that "Caribou populations are resilient to the effects of fire owing to large home ranges."[319] Indeed, Dalerum and co-workers reported little effect of fire on caribou in northern Alberta, but this statement needs qualification:

- These authors analyzed site fidelity and demography for only 3 to 6 years post-fire. For caribou, such short-term studies are less likely to uncover impacts that longer term studies. The negative effects of fire on caribou – for roughly 50 years post-fire – are well established in the literature.[320]
- The redistribution of caribou following fire or other disturbances is also well documented. This, however, is likely to be a short-lived phenomenon[321], whereby space itself eventually becomes limiting, resulting in a population decline. [322]
- It is no surprise that caribou are resilient to the effects of fire. The species has persisted in a fire-prone ecosystem for centuries, and indeed, fire may be essential for the long- term maintenance of lichen resources. The crucial point – because forests less than 40- 50 years are unsuitable for caribou – is the frequency and extent of those fires[323], which can be exacerbated by human-caused disturbances.[324] The literature on this topic is large and compelling.

In sum, this document underscores the uncertainty associated with future forest conditions and the status of summer resident caribou in the Keeyask region. The conclusions are twofold:

A. the need for caution and

B. the need to fill some key information gaps regarding caribou in the Project area.

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[317] at p 3.

[318] Dalerum et al. "Wildfire effects on home range size and fidelity of boreal caribou in Alberta, Canada" 85 Canadian Journal of Zoology 2007 at 26.

[319] at p 3.

[320] Schaefer and Pruitt, "Fire Woodland caribou in southeastern Manitoba" 1991 116 Wildlife Monographs at 580.

[321] Fortin et al. "Movement responses of caribou to human-induced habitat edges lead to their aggregation near anthropegenic features" 181 American Naturalist 2013 at 827.

[322] Bergerud et al. *The return of Caribou to Ungava*, McGill Queen's University Press, 2008, Montréal.

[323] Schaefer and Pruitt, "Fire Woodland caribou in southeastern Manitoba" 1991 116 Wildlife Monographs at 580.

[324] Environment Canada, "Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal population, in Canada", 2012 at p 36.

APPENDIX E : COMMONLY USED ACRONYMS

AEM - Adaptive Environmental Management

CNP -- Cree Nation Partners

CNP EER -- Cree Nation Partners Keeyask Environmental Evaluation (January 2012)

EERs -- Environmental Evaluation Reports prepared by each of the CNP

EIS-RG -- Environmental Impact Statement REsponse to Guidelines

EIS -- Environmental Impact Statement (made up of the EIS-RG, CNP, FLC and YFFN EERs)

FLCN -- Fox Lake Cree Nation

FLCN EER - Fox Lake Cree Nation Environmental Evaluation Report (September 2012)

HIA -- Health Impact Assessment

MAC - Monitoring Advisory Committee

YFFN -- York Factory First Nation

YFFN EER -- Kipekiskwaywinan - Our Voices (June 2012)