Governance in Times of Crisis: the Muskrat Falls Case

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Executive Summary

This report examines the implications of the Muskrat Falls hydro-electric project on Newfoundland and Labrador's overall sustainability and recommends potential policy and governance directions to improve the province's long-term wellbeing. We consider the contextual factors that led to the construction of the Muskrat Falls Hydro-electric project. We reflect on the role that Churchill Falls played in the decision to move forward on Muskrat Falls, as well as the catalyzing role of the economic boom that Newfoundland and Labrador were experiencing. The role of charismatic leadership and a supportive public also form a strong contextual basis for the project moving forward.

We highlight that as problems began to emerge in the plan and economic conditions deteriorated, public officials and decision-makers continued to move forward on the project. Red flags were raised by independent bodies such as the Joint Federal-Provincial Environmental Assessment Review Panel and the Public Utilities Board, despite the limited scope of the reviews that they were directed to undertake. From the early days of project inception, concerns were also raised by several public intellectuals through blogs, reports, and media-work. Despite these early warning signs, management problems and expanding budgets were continually excused and minimized, leading to unprecedented financial vulnerability. These findings are discussed in greater depth and consideration in the Muskrat Falls Inquiry report but are outlined broadly within this work.

Additionally, we discuss the limited recognition of Indigenous rights and the subsequent Settler-Indigenous conflict that emerged because of the project. In particular, we discuss the implications of methylmercury contamination, the destabilization of the North Spur and the approaches that members of Inuit and Innu communities and their allies undertook to contest the project, including hunger strikes, litigation, and occupying the site. Recommendations from independent advisory bodies that supported Indigenous concerns were ignored or poorly integrated into project management.

We evaluate the impact of Muskrat Falls on the province's ecological, socio-cultural, economic, and political sustainability. Ecological sustainability considers the poor attention to climate change alternatives under the province's analysis. This experience mirrors that of BC with the Site C Hydro-Electric project. The limited options for analysis suggest a myopic and unsustainable approach to considering climate change and sustainability. The implications of methylmercury for downstream Indigenous communities also challenges claims about the ecological sustainability of the project. Socio-cultural sustainability is primarily considered through the impacts to the social fabric of Indigenous communities due to distrust in their food systems due to methylmercury contamination and the potential unravelling of their traditional way of life. Additionally, we consider the lack of legal mechanisms available for decision-makers related to Muskrat Falls, while Indigenous protesters have faced significant legal battles. Both consequences generate challenges for socio-cultural well-being. Economically, we consider the impacts to rate payers, taxpayers, the Federal government, and Indigenous governments because of this project. The level of provincial debt that this project will have generated is

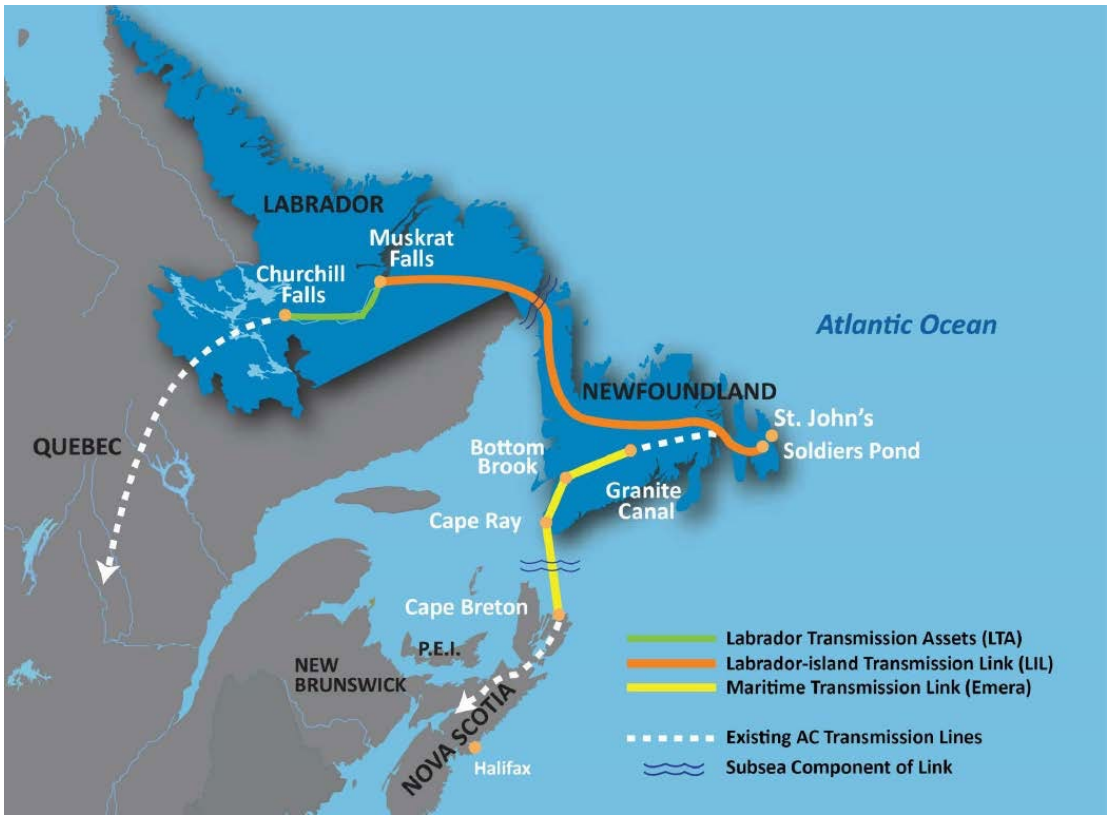
unsustainable and may in fact be so insurmountable that the province could face insolvency in the near future. In political sustainability terms, we discuss the continual utilization of inquiries and reviews to de-escalate and re-target political failures. The Muskrat Falls Inquiry, as well as other reviews similarly undertaken in NL's history, are useful in compiling independent data and evaluating concerns. However, they have limited judicial consequences, nor do they necessarily change political culture.

We provide several recommendations to consider for moving towards a more sustainable future. These include:

- Economic recommendations around avoiding insolvency and accepting the province's comparatively limited capacity to support mega-projects without funding from private and Federal partnerships. The case remains that the price of Muskrat Falls hydropower is likely uncompetitive on the Eastern seaboard and NL may have a significant power surplus. We suggest focusing economic development on diversified industries that consume power and follow existing successes, like aquaculture, mining, and tourism. To draw major power users, corporate power rates will likely need to be subsidized.
- The use of independent oversight like the Public Utilities Board must be strengthened, as well as legal recourse for those that do not exercise proper due diligence in provincial decision-making. We advocate the widespread use of alternatives analysis and the integration of adaptive management approaches. We highlight that if legal structures only supported criminal charges for those peacefully protesting on their traditional territory, without penalties for those that have driven NL towards insolvency, then structures must shift.
- We also call upon NL to integrate FPIC and better partner with Indigenous communities in future economic development to ensure mutual benefit and shared decision-making mandates.
- Finally, we recommend that NLers refocus on democratic processes, re-evaluating the culture from "patriotic correctness" towards accountability, as we have seen in Iceland post-banking crisis. Valuing rigorous journalism, as well as respecting public dissent and criticism, plays an important role in creating this shift in the provincial political culture.

Introduction

Newfoundland and Labrador (NL) is attempting to survive the worst economic crisis in its history as a province and much of this economic crisis relates to the Muskrat Falls hydro-electric project. The Muskrat Falls Hydro-electric project constitutes a dam and 824 megawatt (MW) hydroelectric plant at Muskrat Falls on the Churchill River, Labrador, as well as high-voltage direct current (HVdc) transmission line between Muskrat Falls and Soldiers Pond, on the Island of Newfoundland (the Labrador-Island Link or LIL) and a high-voltage alternating current (HVac) transmission line between Muskrat Falls and the generating plant located at Churchill Falls (the Labrador Transmission Assets or LTA). In conjunction with the development of the Project, Emera Inc. (a Nova Scotia utility) constructed a high-voltage transmission line between the Island of Newfoundland and Nova Scotia (the Maritime Link or ML) to enable energy generated in this province to be transferred to Nova Scotia. The overall project was initially estimated in 2010 to cost $6.2 billion (McCarthy 2010). Muskrat Falls is currently projected to cost $13.1 billion (CBC News 2020b), more than twice the original estimate. The project completion date was originally set for 2017 (The Canadian Press 2014) and has yet to come online. The failures- cost overruns, missed deadlines and fractured management and consultative practices- illuminate the numerous accountability challenges. and exacerbates conflicts between the province and Labradorian Indigenous communities.



The Muskrat Falls Project and Maritime Link

The shambles generated from Muskrat Falls is part of a large, complex web of decisions that has put NL in a financial and governance crisis. The dramatic drop in the provincial government's royalty revenues from post-2014 oil price declines and demand volatility has impacted the provincial treasury. As a result of this decline, NL has had fewer resources to support its public infrastructure and weather the mounting storm of debt that Muskrat Falls generated (Gushue 2017). The current Covid-19 pandemic has further exacerbated these problems. The Muskrat Falls project provides a critical point for examining provincial decision-making and learning important lessons for the future. These other concerns relate more broadly to national and global problems manifesting themselves, often more acutely, to the detriment of the province. Muskrat Falls emerged as a NL born and bred initiative that profoundly shapes the ability of the province to navigate into an economically, socially, and environmentally sustainable future.

In this report, we investigate the critical failings of NL's public policy and democratic processes. We need to do the painful work of identifying what went wrong holistically so that we can move towards better decision-making. Generating full-spectrum sustainable futures will require considerable effort to implement more effective accountability structures and checks and balances. It will also ensure that projects are contributing to NL's long-term sustainability. By "full-spectrum sustainability," we mean the social, economic, and environmental well-being of all the people of NL, and that of future generations (Foley et al. 2020). We want to use these insights to consider how we can build a more economically, socially, and environmentally sustainable NL and ensure that decisions made in the future benefit the well-being of all NLers.

In the following sections, we will examine the Muskrat Falls problem in greater depth. Our analysis will consider the contextual elements, namely the offshore oil boom and bust, that severely impacted NL's capacity to manage the project and also, the decision-maker bias towards the project stemming from the inequities of Churchill Falls development. We will discuss the perspectives of stakeholders on the conflict, as well as the role of institutions in the decision process. We will also consider the perspective of rightsholders in Labrador and the socio-political impacts that Indigenous communities encountered throughout the province. Our analysis will consider the implications of the project on NL from a governance perspective and consider how more sustainable decision making can be undertaken for major projects in the future.

The Context

The Muskrat Falls project has generated a fiscal crisis in Newfoundland and Labrador. However, it is important to recognize that NL was already in a period of fiscal deterioration prior to the inception of the project and that the historical impact of previous hydro-electric projects coloured the perspectives of decision-makers that wished to rectify prior wrongs. In the following section of the report, we will briefly overview how NL's finances deteriorated from over-spending and falling offshore oil revenues. We also review the history of the Churchill Falls project which highlight the numerous attempts to move forward the Upper Churchill projects, including Muskrat Falls.

The Fiscal Deterioration of NL

Since becoming a province of Canada in 1949, Newfoundland and Labrador have lagged most other provinces. Being relatively more dependent on natural resource industries, it also tends to go through more major boom and bust[1] cycles. Its relatively weak economy had also meant it was generally more dependent on intergovernmental transfer payments from the federal government. From the start, in 1957, of the federal government's equalization program, which was designed to help provincial governments with below average revenue-raising capacity, NL was a recipient. That is to say, NL had 'have not' status.

However, this economic situation changed quickly with the emergence of an oil boom. The Hibernia offshore oil field, located off the Grand Banks, began production in 1997, followed by the development of additional offshore fields, Terra Nova and White Rose. This production corresponded with a global increase in the commodity's price (Heritage Newfoundland and Labrador 2009). When Danny Williams became Premier in 2003, the price of crude oil was US$29.12 a barrel. By 2010, it had skyrocketed to US$90.01 (Marland, 19). For context, "The industry accounted for 35 per cent of the provincial GDP in 2007, up from 13 per cent in 1999 and 24.3 per cent in 2004" (Heritage Newfoundland and Labrador 2009). This resource boom moved NL from a "have not" province to a "have" status (Dodd 2012, 5). By 2008, the economic boom and the dramatic rise in oil royalty revenues had pushed the provincial government's revenues so high that it no longer qualified for equalization. Revenues were further enhanced by Williams's spat with the federal government over the benefits sharing from offshore oil, a conflict that led in 2005 to concessions from then Prime Minister Paul Martin. NL would receive compensation for lost equalization payments for several years after ceasing to be a have-not province (Atlantic Accord 2005).

Provincial oil royalties jumped from $88 million (2% of total revenue) during Roger D. Grimes last year in office to $2.4 billion in the year Williams departed (35% of total revenue). At the time, NL had the strongest growth in the provincial well-being index and ranked second only to Alberta. In overall well-being, this strong economic position supported Williams' popularity (Marland and Kerby 2014). The public service expanded significantly over this period in NL. By 2016, 25% of NL's workforce was employed in the public service, compared to the national average of 20% (Calabrese 2016). As the National Post noted under the oil boom, "…from 2005 to 2014, per capita government spending grew to $14,912 from $11,536, a 29 per cent increase. It was during this abundant period that the bright idea of Muskrat Falls was put to the people with resounding support" (Doughart 2020). Subsequently, the province kept expanding provincial spending, even as oil revenues began to fall (Doughart, 2020).
By 2016, the province had backslid with the steep decline in oil prices. Unemployment hit 14.4%, with young men as the hardest hit demographic, while the government deficit expanded significantly (Gillis 2016). As a result, by 2019 the province had the highest per capita public debt of all provinces. Meanwhile, Muskrat Falls had received government approval in late 2012 and was

[1] Boom and bust refers to periods of high economic productivity followed by low levels of economic productivity, often occurring in resource extraction dominant economies

soon beset with cost overruns and failure to keep to schedule. The continued justification of the project was founded on, in part, a bias towards the project stemming from an inequitable distribution of benefits from the Churchill Falls hydro-electric project.

Failure of Churchill Falls for Newfoundland & Labrador

Muskrat Falls has been subject to political, public and media debate since 2007, but the challenges the plan faces are a part of a longer continuum that stems back to the Churchill Falls hydro-electric project and subsequent attempts to develop other generating stations on the Lower Churchill. As Feehan and Baker note,

> The perceived injustice of the [CF] contract resonates in Newfoundland political culture, being characterized as another case where the province's resources have been exploited by outsiders. Still, Canadians generally and especially Quebeckers are no doubt weary of on-going complaints about the contract. It has been approximately 40 years since the contract was signed. Many may ask if it is not time to move on rather than dwell on the past (2007).

The impact of the Churchill Falls project and contract were so significant that their undercurrents still influence policy decisions today. We argue that decision-makers were affected by this history in their decision to move forward with the Muskrat Falls project, despite mounting provincial challenges and red flags arising from public accountability measures. These influences were present in negotiations with Quebec and promoted attempts to generate NL-centric development approaches. The following brief history outlines the development of Churchill Falls, negotiations surrounding the project, and the push to develop the Lower Churchill projects, including Muskrat Falls.

The hydro-electric power of the Churchill River has been a major focus of economic development and political debate since before confederation. Labrador has been considered a "resource hinterland" of the Island for over 100 years. Gidengil asserts that resource hinterlands have limited political power, stating, "In Canada's peripheral regions, the lack of autonomy that is the hallmark of dependency is reflected in residents' perceptions that little can be done to influence the political process" (1990). Discussions of centre-periphery resource regions illuminate that Labrador's primary consideration by the provincial island "centre" is for resource exploitation. Labrador is as a resource region to be utilized for economic gain. The population has also been treated as less important politically than those on the Island. The development of the Churchill River is one example of how Labrador is treated as a resource hinterland within the province. The "internal colonial" relationships between the Island's political/economic centre and Labrador as a resource pool suggests that Labrador exists to be exploited by the Island. This periphery experience has resulted in the political and social marginalization of Labrador Indigenous communities (Nunatsiavut, Innu, and NunatuKavut). Throughout Canada Indigenous communities are the primary populations in hinterland resource regions. They continue to struggle from the aftereffects of colonialization, have limited access to political power, and face disproportionate negative impacts from

development. In essence, Labrador has been treated as a colony for the province to exploit for economic gains.

Similarly, NL itself has also been seen as a resource hinterland throughout its history by both the British and the rest of Canada, which has contributed to NL's feelings of "outsiderness" and "estrangement" from the rest of the country. This framing is crucial to the Churchill Falls narrative, as NL is desperate to exploit Labrador's natural resources, but has routinely been foiled in its attempts to gain political and economic power.

In NL, political history demonstrates the need to control Labrador's resources as vital to the Island's development. The 1926/27 border dispute over Labrador was in part to control the vast hydro-electric potential of the Churchill system. The case hinged on what was defined as "coast." In a 1763 proclamation, the British ceded Newfoundland "the coast" of Labrador. NL successfully argued in this case that the coast referred to "the crest of the watershed of the rivers flowing into the Atlantic Ocean", an argument that was consistent with international law at the time. This argument ensured that NL had control over the resources of Labrador which was foundational to their economic policy at the time (Churchill 2018). However, Quebec's desire to access and control Labrador never lessened. Over 50 years later, during negotiations under Premier Frank Moores, Quebec suggested that the Labrador boundary be moved to give Quebec seven to ten thousand square miles of territory. Alternatively, NL could give control of the headwaters to Quebec. In the latter scenario, the land would remain NL's, but Quebec could develop the rivers that emptied into the St. Lawrence for hydro-electric generation. This proposal was rejected (Churchill, 2019) but the proposition by Quebec is indicative of the perceived value of the region's hydro-electric resources.

The history of Churchill Falls begins with Joseph R. Smallwood, who was premier from 1949 to 1972. He believed that major industrial and natural resource development, including hydro-electric development on the Churchill system, was essential to NL's economy and future (Loo 2019, 272). However, the vast hydro-electric resources were bordered by Quebec, meaning that transmitting the power from Churchill Falls to market efficiently would require transmission lines through Quebec, putting Quebec in an advantageous negotiation position (Churchill 2018).

In 1952 Smallwood began courting investors for the project in England, having not found sufficient interest in North America (Feehan 2014). The British Newfoundland Company (BRINCO) was founded in 1953. The Churchill Falls Labrador Corporation Company (CFLCo.), a subsidiary of BRINCO, was created 15 years later, with the mandate to develop Churchill Falls' hydroelectric potential. The viability of the project was dependent on access to the North American energy market, leading to Quebec's imposition of terms if the power was to pass through its territory. This challenge created a stalemate in the negotiations. This impasse led Smallwood to urge BRINCO to investigate the Anglo-Saxon route, or the Atlantic route as BRINCEO described it, which would by-pass Quebec altogether. Starting in 1964, the Anglo-Saxon route's ability to transmit power from Churchill Falls through Labrador, Newfoundland, Nova Scotia, and New Brunswick into New England was studied. The cost was found to be prohibitive at the time (Churchill 2018). This Anglo-Saxon route is the current trajectory for

Muskrat Falls power and thus has been identified as an expensive, if viable option, to bypass Quebec and transmit power to market.

As it turned out, in 1966 Hydro-Québec and CFLCo reached a letter-of-intent agreement under which Churchill Falls would be developed by CFLCo, with the bulk of the energy to be sold to Hydro-Québec. Between 1966-1969, the contract between BRINCO and Hydro-Québec was finalized. BRINCO and CFLCo. financial positions deteriorated during this time as construction proceeded and this inhibited CFLCo.'s negotiating capacity. The construction of Churchill Falls created significant economic benefits, including local employment (Smith 1975). BRINCO and CFL Co.'s position as private enterprise ensured that there were no costs to the province of Newfoundland, benefitting taxpayers. However, these benefits were not equally dispersed, as they did not benefit the Inuit and Innu of Labrador. It is important to note that the Indigenous communities that had traditional, unceded territory in this region were not consulted on the project, received no financial benefits, and lost an important ecosystem for their traditional economic and spiritual practices (Natcher, Felt, and Procter 2012; Alcantara 2007). Hydro-electric dams have been shown to create significant disruptions to ecosystem functions at the site (Ezcurra et al. 2019; Bawden et al. 2014; Carver 2013), but also downstream towards communities (Carver 2012; McLachlan, 2016). Both world wide and specifically in Canada, researchers have demonstrated that seasonal flows, water levels, capacity for species migration, etc. are all significantly impacted by upstream hydro-electric dams (Baird, et al 2016; Mosher and Martini 2009; Bakker and Hendriks 2019). The concerns of Labradorian Indigenous communities were given limited consideration in the project, just as they had been during any other resource ventures (Higgins 2008).

The Upper Churchill hydro-electric project was completed in 1974. During the build, no forms of consultation, benefit sharing or discussions of impact were employed to ensure benefit to the Innu or Innuit, despite Churchill Fall's cultural and traditional economic importance to the communities. The Crown was not required at that time to undertake these types of negotiations. Conflicts with the Cree over the James Bay hydro projects in 1971 identified similar concerns and generated a strong Indigenous call for restitution (CBC Digital Archives n.d.). However, similar movements were not happening in Labrador. As Samson notes, "With no consultation or forewarning, the Newfoundland provincial government authorized the flooding of 65,000 square miles of the beloved Meshikamau area, rendering it useless for hunting or fishing, and reducing the massive waterfalls Innu called Patshetshunau ('steam rising') to a dribble" (p.9). The Upper Churchill dam altered the ecosystem entirely, including the loss of caribou calving grounds (Schmelzer et al, 2004: 35) and potential methylmercury poisoning by increasing methylmercury concentrations in the reservoir (Teisserenc et al. 2014). Those Indigenous residents that were dependent on country foods to live faced major challenges as a result, and were left with no consideration from the Crown and without the benefits that were derived from economic development in this region (Natcher, Felt, and Procter 2012).

By the time the contract was finalized, the terms were far more favourable to Hydro-Québec than those of the letter-of-intent. In particular, provisions for negotiations of a contract renewal, after 40 years, was replaced by an automatic renewal for 25 years at a lower price,

and Hydro-Québec's ownership in CFLCo went to 34.2% under financing arrangements (Feehan and Baker, 2007). The power from Churchill Falls provided Quebec with lucrative sales in the Northeastern US. Additionally, allowed Quebec an extremely cheap source of power for its development. By the mid-1970s, Churchill was saving Quebec rate payers $300 million per annum in hydroelectric costs. In 1980, the value of the development was estimated at $583 million per year to Quebec (Churchill, p. 8). Additionally, the power from Churchill allowed Quebec to delay the construction of other hydro-electric projects.

Canada and Quebec's limited consideration of NL's interests mirrors the negligible respect that Smallwood and the Government of NL gave to the Labradorian Indigenous populations. When NL joined Canada in 1948, the Terms of Union did not contain any reference to the island's or to Labrador's Indigenous people. As Hanarahan notes, since this agreement, "the result is that funding of Indigenous programs and recognition of Indigenous rights has been sporadic, ad hoc and minimal" (2003). In 1948, NL used its power and claimed that Indigenous people did not exist within the province, and therefore their potential needs were non-existent. Comparatively, Quebec utilized its power- financially and geographically- to maximize their benefit with limited concern for the impacts to NL. NL behaved similarly with the Innu and Inuit of Labrador, but to a greater degree, by "erasing" their existence, and subsequent needs, in contract. The centre-periphery argument thus becomes double-headed: Labrador as a resource hinterland to the Island, and the province of NL as periphery to Canada. The implications of development on the Churchill River to the Innu and Inuit will be discussed in more depth in later sections of the report.

By the mid-70s, NL was beginning to reconsider the implications of the 1969 contract. The lack of an escalation clause meant that NL did not profit from the significant price increases in energy due to the 1970s and 1980s energy crises. In 1974, under the leadership of Premier Frank Moores, the government of NL began to publicly discuss the inequity of the contract. By 1976, the government solicited legal opinions and the terms of the contract were considered untenable.

Between 1972 and 2002, the contract for the Upper Churchill and development of Lower Churchill were major political points of contention for NL premiers. The province sought a greater share the profits from CFLCo, which by then had purchased all of Brinco's interest in it as well as BRINCO's water rights on the lower portion of the Churchill River, and also sought access to more of the power for NL. Litigation, the desire for Federal intervention, and inertia marked this period.

Litigation was used extensively against Quebec, particularly in re-negotiating the Churchill Falls contract. In 1979, Premier Brian Peckford, Moores' successor, attempted to garner fair judicial review of the contract as he believed there was a constitutional right to transmit hydro freely across Canada. Peckford petitioned Prime Minister Pierre Trudeau for Federal support. Peckford then pursued intervening in CFL Co.'s water lease through the proposed *Water Rights Reversion Act.* The purpose of this act was, "…to revert ownership and control of the Upper Churchill development to the Province. It purported to cancel all of CFLCo's water and land

rights, reverting the Upper Churchill development to provincial ownership" (Department of Natural Resources 2012). In 1984 the Supreme Court of Canada ruled the Act unconstitutional.

Other attempts to develop provincial approaches that would better protect NL's interest in Churchill Falls were undertaken and taken to court. These pieces of legislation focused on expanding NL's access and control of Churchill Fall's power for its own use. At the time of Moore's leadership, Quebec refused to allow NL to access more power for the same rate as the 1969 contract and judicial review did not change the terms of the contract. In 1981, the Labrador Power Strategy, which would build a transmission line to the Island, could not proceed given the steadfast refusal of Quebec to alter the terms of the Churchill Falls contract.

Throughout this period, various negotiations were undertaken with Quebec. They began under Moores in 1972 to develop Gull Island, a major hydroelectric site on the lower Churchill River. In 1989 under Clyde Wells there was a proposal to expand Hydro-Québec's service by building on the Lower Churchill to address the province's much criticized power outages, and under Tobin in 1996 where TV advertising was used to shame Hydro-Québec to facilitate negotiation and encourage power transmission to US markets. Throughout these negotiations, the Churchill Falls contract generated significant discord between the provinces, with Quebec holding true to their original negotiation position, and NL arguing the patent unfairness of the contract. Under Premier Brian Tobin's successor, Roger Grimes in 2002, a broader climate change case increased momentum behind the Lower Churchill project. Additionally, the de-regulation of the US electricity market increased opportunities for NL and Quebec, enabling them to capitalize on the Lower Churchill's potential. Grimes' joint proposal with Quebec was seen to perpetuate many of the contract failings that the Upper Churchill generated, including the lack of power recall, the role of Quebec as sole brokers of the power, along with the lack of transmission of power to the island. These conditions generated controversy and provided fodder for critics, including the Leader of the Opposition, Danny Williams. Ultimately, the prevailing negative public reaction prevented the agreement from being signed (Churchill 2018).

Williams' opposition to Grimes' Gull Island agreement was key to his campaign during the 2003 provincial election, during which he promised a "coherent energy plan" for NL. Once in power, Williams' government initially by-passed negotiations on Labrador and went back to the drawing board, examining other opportunities for energy. In 2005, Williams issued the "*Request for Expressions of Interest and Proposals for Development of Lower Churchill Hydro Resource*". As a part of this process, any group could express interest and make a proposal. The government received 25 proposals, including a joint proposal from Ontario and Hydro-Québec, with many of the same reselling provisions as previous contracts and negotiations. The Williams government rejected the proposal and indicated that they would build the hydro-electric projects on the Lower Churchill themselves, with an application to Quebec to grant wheeling rights to North American markets (Churchill, 2019).

In 2007, the Williams' government also released the Energy Plan- "Focusing Our Energy", which includes discussions of the 1969 Contract and its 2041 expiration, as well the historic legal interventions and legislation enacted that attempted to wrestle control from Hydro-Québec. The document also discussed the urgent need for development of the Lower Churchill and the

need to manage the resource in a way that reaped maximum provincial benefit. It also stressed the need to create the transmission line to power the island, presuming it to be the most economical way to provide power (Churchill 2018; Government of Newfoundland and Labrador 2015).

Muskrat Falls Project Management & Nalcor

The current Muskrat Falls project stems from the 2007 comprehensive Energy Plan developed by the government of NL and Newfoundland and Labrador Hydro-Electric manages the province's energy resources. On May 8, 2006, Premier Danny Williams committed to developing the Lower Churchill, including both Gull Island and Muskrat Falls. This project became a prominent means of fulfilling the strategic needs for power in the province and allowing NL to become "masters of our own destiny." Importantly, the government of NL committed to "conduct a comprehensive study of all potential long-term electricity supply options in the event that the Lower Churchill project does not proceed." A new energy crown corporation, called Nalcor, was established to lead the Lower Churchill development with the 2007 Energy Plan as its mandate. Nalcor's purpose was to manage the development as a separate business unit than NL Hydro. Undertakings by NL Hydro were subject to extensive regulatory oversight, while projects that Nalcor took on were not (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020). Over time Nalcor's lack of oversight, combined with NL's limited public accountability mechanisms, resulted in significant problems.

In November 2013, once Nalcor had reviewed bids from prospective contractors, the overall cost of the proposal surpassed the initial Decision Gate 3 estimate by $600 million, bringing the project up to $6.99 billion before the project budgetary approval. That same month Nalcor confirmed in writing to the province's Finance Minister Thomas Marshall that the cost estimate remained at $6.2 billion, despite their knowledge that the contractors would exceed that amount. The report concludes that Nalcor's confirmation was "misleading" and that if accurate information had been provided, it would likely have caused the government to re-evaluate their decision (2020. P.26).

During the Inquiry, there was also information revealed that Nalcor submitted an inaccurate cost update to the Federal government and the Independent Engineer after months of Federal pressure just prior to releasing the inaccurate $6.2 billion estimate information to the province. Nalcor suggested that the project would cost an additional $300 million, but that the amount would be offset by a lower than average interest rate combined with $100 million in export sales. This cost projection ($6.531 billion) was used in the final budget estimate for Finance Agreements. Neither these officials nor Nalcor informed the Finance Minister. Some provincial civil servants were aware of the increase at the time, but they did not communicate this information to the Finance Minister (2020, p. 27).

In a study undertaken by Kelly Blidook on the nature of the communication between NL civil servants and the government, it was found that the Government of NL has "a culture of

focusing upon the negative aspects of information transparency, with the outcome often being avoidance of documentation when possible" (2020, p.3). In his findings Blidook observes that,

> Participants also identified problems with providing information and advice to superiors when such information is seen as not fitting existing preferences of those superiors. These concerns included both that a precarious work environment may cause some senior civil servants to curtail their recommendations to superiors and ministers, and also a concern around the security of these civil servants even when there may not be a high risk involved with voicing their positions or analysis. Separately, but related, several participants also spoke about feeling that their contributions were simply not valued and are often dismissed (Blidook 2019, 3).

The provincial government's culture generated massive communication failures that contributed to Muskrat Falls' challenges. Meanwhile, Nalcor executives had limited accountability to decision-makers, bureaucrats, or their own board. After the project budget was approved, Authorizations for Expenditure were filed under the authority of the Nalcor board and could only be presented to the board by Nalcor's president, Edmund Martin. Unbudgeted expenses and cost overruns were continually approved throughout construction. The project's projected cost increased from $6.99 billion in June 2014, to $7.65 billion in September 2015, to $9.1 billion in June 2016, to $9.4 billion in December 2016, to $10.1 billion in June 2017. As the Inquiry notes, "These amounts do not include financing costs" (2020, p.30), meaning the interest on related debt and commitment fees. These cost overruns were continually approved and the team at Nalcor was trusted by the NL government and the board. However, Nalcor executives had limited experience in mega hydro-projects and did not warrant the level of trust that they enjoyed. This lack of hydro-electric experience in the key management team is a crucial part of the project's failure. Nalcor president Edmund Martin became president and CEO of NL Hydro in 2005, and then undertook the same position at Nalcor. Martin's career had mainly consisted of financial management in the oil sector and he had no engineering, construction, or project management experience. Similarly, Gilbert Bennet, the man appointed VP of the Lower Churchill Project had no experience in hydroelectric or transmission projects, and no construction management experience. He also had no experience in mega project development (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020).

The pattern of hiring inexperienced staff cascaded downwards. Paul Harrington was hired as the Project Director for the Lower Churchill Project. Harrington had some mega-project experience, but he had never been the lead project manager, nor had he ever worked in hydro-electric or transmission line projects, and he had never garnered this amount of responsibility in any previous employment (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020). The hiring of inexperienced individuals to act as senior management is an excellent example of the patronage that NL is often accused of (Telegram 2019). As the Inquiry report states, "All of the core members of the project management team hired also came from the oil and gas industry. Apart from Deputy Project Director Ron Power, none of them had any experience in hydroelectric generation or transmission projects" (2020, 5). The adage, "It's who you know, not what you know" is clearly

demonstrated in Nalcor's hiring approach (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020).

While Nalcor may have had underqualified staff managing the project, they did take their position as an opinion influencer seriously. Nalcor employed an extensive public relations staff to win public opinion and ensure public support of the project. In addition, they worked extensively to prevent the flow of information into public channels, tailoring their messaging to meet the objectives of the company (Wakeham 2018).

Nalcor's lack of experience was demonstrated in practice, particularly in the management of their contractors. Any contractors that were knowledgeable in hydro-electric megaprojects were dismissed, including SNC Lavalin, whom had been contracted for project engineering, procurement, and construction management. SNC Lavalin estimated in their initial risk assessment of the project that the dam would cost at least $2.4 billion more than estimated. Nalcor deliberately refused accepting a copy of the risk assessment for fear that the material would become public, despite the important information that it contained. Staff from Nalcor and SNC were in conflict, particularly over the estimated costs by SNC. SNC was slowly pushed out of the roles it had been contracted for and by 2012 was relegated to engineering solely, having been essentially fired by Nalcor (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020).

The preparation of an unrealistic cost estimate was another critical failure of the Muskrat Falls project, as previously identified in the dismissal of SNC Lavalin. Nalcor arbitrarily (at Decision Gate 3 in the process) reduced SNC Lavalin's estimate by $379 million. Overall, Nalcor was highly selective about re-evaluating parts of the estimate, and the inquiry found that their actions resulted in a biased estimate. Specific elements of the estimate, including labour productivity were "both aggressive and based on inappropriate comparators". SNC also did not use reflective comparators, even from the company's own data base, because it would likely have increased the price. At this stage, the contingency for tactical risk was also unreasonably low, at $368 million with a probability of 50, meaning that "that there is an equal probability that the actual total cost will be above or below this amount" (2020, 15).

Another example of poor management was employing the Italian construction group Astaldi, that was awarded a $1.1 billion contract to construct the dam but charged $3.9 billion for the construction. The $2.8 billion cost overrun represented 31% of the project's overall cost-overruns. Astaldi was chosen over one other Italian company and two other Canadian companies. Both Italian companies' bids were $400 million over the Decision Gate 3 estimate, while both Canadian companies were $1.2 billion more. As opposed to seeing the Italian bids as unrealistic or inexperienced based on the geographic and climatic conditions of Labrador, Nalcor saw the Canadian bids as risk averse. Astaldi scored higher technically than the other Italian company, ensuring they received the contract even though Astaldi had never worked in a northern, let alone a sub-Arctic climate (2020, p.31). Contract negotiations, challenging winter conditions and design problems delayed the project, with construction beginning in July 2014. By November 2018, Astaldi's contract was terminated with less than 10% of the work left to complete (Inquiry, 2020).

Nalcor's management of their relationships with other contractors was poor as well. The contract for the transmission lines for the Labrador-Island Link and the Labrador Transmissions was awarded to Valard Construction, a subsidiary of Quanta Services Inc and an experienced utility contractor. Quanta Services Inc. is the largest linear (transmission line and pipeline) construction company in North America. The transmission line overruns account for 20% of the overall budgetary over-run (Inquiry, 2020, p. 33). Nalcor prepared the right-of-way, clearing of trees and land for towers to support the Valard contract. In 2014, Valard found problems with the quality of the right-of-way preparation and advised Nalcor that the problems may cause increased delays and cost overruns. These cost increases were based on a lack of detailed geotechnical work and unforeseen physical conditions on the route. The cost estimate was based on Nalcor's "desktop" research with limited data on the actual conditions. Additionally, they did not budget sufficiently for this contingency. Valard and Nalcor also disputed changes to the construction plan, leading to delays and non-linear construction of the transmission line (Inquiry, 2020, p. 33). The contentious relationship between Nalcor and Valard also increased costs drastically. In 2017, an increase to the Valard contract of $245 million was agreed upon, along with approving cost overruns on the right-of-way and access road preparations representing an additional $649 million (Inquiry, 2020, p. 33-34).

Another crucial cost under-estimate component was Nalcor's unrealistic schedule. Based on the delays in construction at the 11 month and 21-month mark, there was a 1% chance that Muskrat Falls could be generating full power by December 2017. Nalcor refused to change the date to a more realistic one and attempted to hurry the process by awarding project contracts prior to budget approval. Additionally, Nalcor did not include the costs of the delay in the estimate (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020, 15).

The question which emerges from the dismissal performance is: was this a massive policy failure or bad luck or was the project essentially flawed from the outset? We argue that these identified decisions and cost overruns were not isolated but part of a larger, systemic pattern of poor governance and limited accountability. In the following sections, we consider the role of the public sector in the Muskrat Falls crisis.

The Role of the Public Sector

The Premier and NL Government

Why did the Muskrat Falls development move forward after half a century of ineffectual approaches towards its development? Success at the provincial level, as the history of Churchill Falls demonstrates, was moving the project forward without the interference of Quebec. As Bannister notes, "Like most people of his generation, Williams viewed Churchill Falls as the holy grail of provincial politics; development of the Lower Churchill represented not just economic development but cultural redemption. For 40 years, the Lower Churchill has been the ultimate prize in provincial politics" (2012). In this case, Premier Williams' charisma, not unlike the catalysing force of Joey Smallwood half a century before, moved the vision forward. Premier

Dunderdale made it a reality (Bannister 2012). The public service did not speak up for fear of retribution, even when problems were known (Blidook 2019).

Danny Williams, a St. John's lawyer and businessperson, was a charismatic, popular leader who reduced the regulatory burden for this project through legislative reform. As the long history of the development on the Churchill River demonstrates, many leaders contemplated undertaking development on the Upper Churchill, but Danny Williams and his successor, Kathy Dunderdale, whose government officially authorized the project, made it happen (Bannister 2012).

Williams' long standing personal and professional networks, as well as his pedigree, professional success, and education, made him a popular political figure in NL. He also communicated well and capitalized on the provincial political climate. In NL, long-standing public sentiments exist that Federalism has not been beneficial to the province (Marland and Kerby 2014, 18). In particular, "Newfoundlanders tend to be frustrated with the federal government, which is perceived to treat them with disrespect, to ignore their concerns, to favour other provinces in revenue sharing, and to have too much control over Newfoundland's natural resources" (Marland, and Kerby 2014, 18).

Williams took power at a time when the provincial finances were in a poor state but that would soon change. Due to escalating oil prices, most of his time in power was one of the few economically advantageous times in NL history. To his supporters, Williams was the reason behind the economic boom. Williams utilized a populist style of governing, and was often accused of authoritarianism, over-ruling and arbitrarily reversing decisions of Minsters, boards, etc. His office was accused of being engaged in "unusual interference" in public administration (Marland and Kerby 2014, 22). Yvonne Jones, the opposition leader at the time, in 2011 said of Williams, that he "Ruled his party with an iron fist", which was possible due to a "cult of personality" (23). Williams often presented himself as a patriotic defender, all the while limiting access to outlets that criticized his office (Marland and Kerby 2014, 24).

One of Williams' primary tools was the use of nationalistic language and policy to appeal to the residents of NL. NL has strong nationalistic tendency due to its geographic location and cultural heritage. The province feels alienated from the power in the centre of the country, promoting sentiments of provincial nationalism. The province was late to join Confederation (1949) and has a long history as a separate entity; from British colony to a Dominion by 1907. These factors mean that the people of NL feel more allegiance to province than country. Provincially, this allegiance factor is only surpassed by Quebec. However, NL is not interested in separation. Therefore, NLers can be categorized as a non-separatist national or cultural group (Marland and Kerby 2014).

Williams, like Smallwood before him, used nationalistic words like "pride," "proud," "destiny," "master," "give away," or "giveaways" in his public addresses. This language appealed to voters, particularly when paired with the rising prosperity of the province (Marland). One representative example includes when Williams had the Canadian flags removed during the Atlantic Accord re-negotiation in 2004 to symbolically reject Canada. Williams also emphatically repeated in negotiations, press and policy statements that the days of resource giveaways were

gone, and NL should control “One’s own destiny.” The language, used by Williams provoked a further entrenchment of nationalism, particularly during conflicts with Federal and provincial jurisdictions (Bannister 2012).

Williams’ approach to Muskrat Falls until the day that he stepped down from public office was to frame the “path dependency” discussion as a conversation about NL’s destiny. Williams stepped down on December 3, 2010 (Marland and Kerby 2014). That was only weeks after announcing the Muskrat Falls project.

Kathy Dunderdale, the deputy premier and Minister of Natural Resources, took over premiership when Danny Williams resigned (as acting Premier and then elected party leader in mid 2011 and winning a provincial general election in October of 2011) and continued to pursue Muskrat Falls development. Importantly, Dunderdale was charged with securing Williams’ legacy. Although Dunderdale was a popular politician, she engendered neither the level of public popularity nor charismatic leadership that Williams had. She did share his vision of the future, including the development of Muskrat Falls. As premier, she praised Nalcor executives and its consultants, and dismissed all critics. Dunderdale’s government created the “The Power is in Our Hands” website to bolster public opinion and filled it with government and solicited consultants’ reports that justified the projects and/or undermined alternatives. She also endorsed the project with great fanfare at the Confederation Building. She used her authority to ensure that the project moved forward, including securing loan guarantees from the federal government, accepting the mounting project estimates, and ignoring the recommendations of the PUB and the EA Expert Panel. As Geoff Budden, lawyer for the Muskrat Falls Concerned Citizens Coalition noted, "That's how this Muskrat Falls project came to be sanctioned…With a deliberate thumb on the scale, so to speak, where one option was favoured and other options were not" (Barker 2019). By the time she stepped down in early 2015, she had lost public support. At that time, Dunderdale identified the Muskrat Falls agreement as a major success of her government (“Dunderdale Likely to Take Caretaker Role” n.d.; “Kathy Dunderdale: The One to Beat - Macleans.Ca” n.d.).

The clear understanding that emerged from the government’s side in both messaging and policy decisions during this period is that Muskrat Falls needed to move forward. The messaging claimed that the risks were low, the project was the best option, it was economic, and well managed, with all possible contingencies planned for, and that it would return huge dividends to the province.

With mounting criticism of Muskrat Falls and following widespread black outs on the island in January 2014, “Dark NL”, Dunderdale resigned but her successors continued to support the project as the province’s fiscal position continued to deteriorate. They lost power in the November 2015 provincial election, which was won by the Liberals under Dwight Ball. Premier Ball inherited two fiscal challenges- ballooning Muskrat Falls expenditures and collapsing offshore oil royalties as prices plummeted (Gushue 2017). The Liberal government approached the project as a sunk cost, meaning that Muskrat Falls was so significantly underway that it would have been more detrimental to change course (McKenzie-Sutter 2019).

One additional problem that Muskrat Falls highlights is the "blank cheque" that the Government of Newfoundland and Labrador provided to the project. In October 2011, a Letter of Commitment from the province to Nalcor "created no immediate financial obligations for the Province, [but] it included an undertaking to provide an unlimited amount of money to complete the Project. The Commitment Letter allowed Nalcor to obtain a favourable indicative credit rating for the Project from three credit rating agencies" (Inquiry, 2020, p. 28). The provision and extension of the Federal loan guarantee was also pivotal to the project moving forward (Roberts 2018b).

Arm's Length Public Sector Institutions

Another problematic factor in the Muskrat Falls process was the limited scope of publicly transparent and independent consultation processes, as well as the way these processes were applied. In the following section, we will overview the challenges with the Public Utilities Board review, the Environmental Assessment, and the oversight by the Federal government, in particular the Independent Engineer. Over time, major concerns emerged as to why these recommendations were not heeded or were minimized to ensure that the project moved forward, as opposed to taken as serious concerns requiring mitigation or review.

Limited scope of Public Utilities Board Review

In 2000, the Government of NL exempted any developments on the Lower Churchill from analysis by the Public Utilities Board (PUB). The PUB is "an independent, quasi-judicial regulatory body appointed by the Lieutenant Governor in Council and operates primarily under the authority of the Public Utilities Act, R.S.N. 1990. The Board was established in 1949" (Board of Commissioners of Public Utilities n.d.). The explicit responsibility of the Board is that the commission is "responsible for the regulation of the electric utilities in the province to ensure that the rates charged are just and reasonable, and that the service provided is safe and reliable" (Board of Commissioners of Public Utilities n.d.). This role is crucial in markets like Canada:

> Since electric utilities often have a monopoly market position – almost always in network transmission and distribution of electricity, and sometimes in power generation – the core function of regulatory agencies is to substitute for normal competitive market pressures and to protect consumer interests by setting 'just and reasonable' rates and approving prudent utility costs (Holburn 2018).

The NL government's decision to exclude the Lower Churchill projects, and explicitly Muskrat Falls, from PUB review was summarized, utilizing quotes from NL officials, as 1."projects of this scope exceed the PUB's mandate, as they are as much about economic development and job creation as they are about electricity" (Holburn 2018, 3) and 2. "[regulatory review] process could take up to a year and a half, and that's not what we are looking for from the PUB at this point in time" (Holburn 2018, 3). The NL government felt that the Board lacked the expertise required for a review of a project of this scale. The need to present the Lower Churchill as an

economic driver, and the likely delays that a review would generate all seemed to be adequate reasoning for NL to circumvent the PUB (Holburn 2018). Similar concerns were raised in Site C in British Columbia when the Public Utilities Commission was also circumvented (Bakker 2017).

However, by early 2011, despite the Government's confidence in Nalcor's plans, growing public unease led to a streamlined review the PUB specified by the application of a Government of NL and Nalcor's terms of reference. The PUB was given a limited scope of study and a tight 6-month timeline. The reference question was to determine whether the "Isolated Island" or the "Interconnected Island" approach was most cost-effective. Nalcor failed to provide information that the PUB requested in a timely manner (Inquiry, 2020, p.19).

In March 2012, the PUB submitted a report that concluded that, "the information provided by Nalcor was not detailed, complete or current enough to answer the Reference Question. The PUB believed that a definitive conclusion could not be made based on the DG2 estimates, which were prepared with a preliminary level (5% to 10%) of the engineering completed" (Inquiry, 2020, p.20). The Government of NL, including the Premier, expressed public disappointment with the results, as well as on PUB's capabilities and professionalism. In the end the Inquiry concluded that the PUB lacked necessary information to meet the research requirements (Inquiry, 2020, p.19).

Nalcor Board of Directors

There were significant questions regarding the competence of the Nalcor Board of Directors. There were concerns about their lack of qualifications and experience in vetting large-scale decisions for Nalcor (CBC News 2012). In 2012, the Board resigned *en masse* following the Board's decision to terminate of then CEO Ed Martin "without cause" and the subsequent large severance package payout to Martin in April 2016. The Board was criticized roundly for its historically deferential attitude towards their CEO and their lack of consideration of the materials effects of their decisions of company stakeholders, namely, the people of NL (Hernandez 2016).

Issues with the Nalcor Board continued past this crisis, with seemingly limited consideration for past governance and accountability considerations. Board was also criticized for their lack of diversity and knowledge in 2016. The appointment of the Board chair in 2016 was met with significant criticism because he lived in the Bahamas and commuted to meetings. In this period, there was only one board member of the 11 with experience related to major hydro-electric project, no Labradorians, no Indigenous people, and only 3 members were women (The Overcast 2016). Additionally, during the Inquiry, experts identified that the Board was "overworked and underpaid" (Roberts 2018a). Poor board compensation to the Board continued to be a problem as of 2019, which limited the Board's ability to attract members with diverse and needed specializations (Fitzpatrick 2019).

The Federal Government

Joint Panel Environmental Assessment said "No" to Project

Environmental assessment (EA), interchangeably known as impact assessment, is "a structured process for considering the implications, for people and their environment, of proposed actions while there is still an opportunity to modify (or even, if appropriate, abandon) the proposals. It is applied at all levels of decision-making, from policies to specific projects" (International Association for Impact Assessment 2019). EAs are policy tools that are applied in the planning stages of a development and it is an anticipatory policy. The federal government and each province have their own EA legislation. In the case of MF, the province and the federal government agreed to a joint assessment.

A review panel EA is a group of independent experts appointed by the Minister of the Environment and the provincial government to conduct an environmental assessment. Panel membership is based on government selection and relates to lack of existing bias/ conflict of interest, as well as knowledge, experience, and expertise (Agency 2012). Specifically,

> A review panel assesses whether the environmental impact statement prepared by the proponent is sufficient to proceed to public hearings. The hearings allow interested parties, including Aboriginal groups, to present evidence, concerns and comments regarding the potential environmental impacts of the designated project. Review panels have the capacity to summon witnesses, and order witnesses to present evidence and produce records related to the environmental assessment. The review panel prepares a report that includes its rationale, conclusions and recommendations, and submits its report to the Minister of the Environment. The report will also contain any proposed mitigation measures and suggestions for the follow-up program (Agency 2012)

The primary focus of EAs is determining "significant adverse effect" on ecological systems and attempting to mitigate ecological impacts. More advanced and complex EAs have broader outlooks that consider the social, cultural, economic, and ecological impacts of proposed projects. The factors considered in each EA are tailored to the project and community it is being applied to as ecosystems, cultures, demographics, economic conditions, etc. and can vary greatly project to project.

The Joint Review panel environmental assessment undertaken on the Lower Churchill River projects (meaning both Gull Island and Muskrat Falls) was like other review panels of this nature which followed S. 16 of the Canadian Environmental Assessment Act 1992. As Doelle notes,

> At the heart of the mandate was the consideration of biophysical, social, economic, and cultural effects of the project and their significance, and the consideration of mitigation measures to reduce or eliminate any impacts identified. Also included in the mandate were the need, purpose, rationale for the project, alternatives and alternative means of

> carrying out the project, accidents and malfunctions, cumulative effects, and monitoring and follow-up. The panel was also asked to consider benefits of the project and ways to enhance those benefits (Doelle 2012).

However, the panel was unusual in some respects.

Firstly, most panel reviews draft the impact statement guidelines and scope the project for review. Scoping is defined as, "determining, from all a project's possible impacts and from all the alternatives that could be addressed, those that are key, significant ones" (Glasson, Therivel, and Chadwick 2013). Additionally, the panel also was not allowed to provide a recommendation as to whether the project should proceed or not (Doelle 2012). Finally, the panel could report on impacts the project would have on traditional usage for Indigenous communities, but not on the strength of Indigenous claims or on the adequacy of consultation by the Crown. Removing the capacity of the panel to scope, provide recommendations and consider the adequacy of consultation limited ability of the panel to undertake a thorough analysis and contribute meaningful recommendations (Doelle 2012).

The Panel received insufficient information from the proponent and had to request additional materials to effectively proceed with hearings. Hearings occurred in primarily Happy Valley Goose Bay, but also in St John's, Sept Iles, Mud Lake, Northwest River and Sheshatshiu, as well as through video conference. Indigenous participation from the Nunatsiavut Government (Inuit of Labrador) and the Innu Nation of Labrador was more extensive than the NunatuKavut Community Council. The NunatuKavut Community Council challenged the process at its beginnings and requested an interim injunction to stop the hearings, which was denied. As a result, this group had limited opportunity to present to the Panel.

There were significant limitations in the breadth and quality of the report due to the initial stipulations set out in the Terms of Reference. The limitations in scoping and consideration of Indigenous rights were two prominent concerns. However, other problematic elements include: 1) the measurement of environmental effects on key indicator species, as opposed to the broader analysis of Valued Ecosystem Components; 2) the panel's role was primarily to review material against the Environmental Impact Statement guidelines, and they were not permitted to submit their own evidence or views; 3) The lack of scope of the Panel's role (i.e. unable to collect new information) resulted in significant requests for information to the proponent, extending the timeline of the assessment; and 4) There was limited opportunity to examine alternatives to the project and the impact of the project on Indigenous use, particularly given the limited capacity of the Panel to generate new materials or receive materials from the proponent (Doelle 2012). As Doelle indicates,

> Lack of resources, time constraints and procedural challenges prevented the LC Panel from utilizing independent experts on a range of issues such as alternatives, electricity markets, and the relationship between electricity grid infrastructure and the unique characteristics of different sources of electricity (2012: 8-9).

The final report was released on August 23, 2011, with the federal and provincial government responses released March 15, 2012 (Doelle 2012). They found that the minimum standard for the proponent of sufficiency was not met because of the limited information and inadequate justifications for building the project. The sufficiency standard was based on compliance with the EIS Guidelines, which are more narrowly prescribed than the Panel's terms of reference (Doelle 2012). The project moved forward, despite the insufficiency of basic standards of information for alternatives analysis and Indigenous usage impacts.

Importantly, the Panel concluded that the need for the project was not demonstrated. This recommendation was ignored, further exacerbating NL's transparency concerns. The Provincial government did not agree with the Panel's determination and re-affirmed their commitment to the project after the conclusion of the report. It is particularly important to note that the Panel's request to establish need is crucial for determining sustainability. If a project is unnecessary, then it is impossible for that project to contribute to the improvement of conditions within the province.

Federal Oversight of Guaranteed Loan

The Federal government's loan guarantee and its subsequent extensions and refinancing was essential to ensuring that the project moved forward. Dunderdale acknowledged that the project could not have moved forward without Federal refinancing (Roberts 2018b). Importantly, the 2011 Environmental Assessment Joint Review Panel recommended that both the Federal and Provincial government fully analyze alternatives, including its financial outlook. Both governments rejected this proposal. The PUB similarly could not endorse the project without additional data and explanation.

In 2012, despite the clear lack of an independent recommendation to proceed on the project, Prime Minister Stephen Harper committed a $5 billion loan guarantee for it (Vaughan 2020). In 2017, as the project's cost overruns mounted, Prime Minister Justin Trudeau agreed to an additional loan guarantee for $2.9 billion. To further assist the project as it completion date moved further in to the future, in February 2020, Ottawa deferred the "sinking fund" repayment, meaning "an account that would be used to repay the federally guaranteed debt when it comes due to bondholders" until 2021 and "waive the requirement that the province make payments related to further cost overruns into the Cost Overrun Escrow Account – a fund designed to cover project budget shortfalls through annual installments" (Curry and Parkinson 2020). It is unlikely that the project could have proceeded without the Federal loan guarantee, and the Federal government has done very little to protect investment (Vaughan 2020).

The Federal government did require the engagement of an independent engineer to ensure the project's due diligence criteria were not before funds were released. The Independent Engineer endorsed much of Nalcor's work but did acknowledge the risk that Nalcor had provided too low an amount of contingency funding support and an unrealistic schedule. Nalcor heavily edited the content of these reports and they were not provided to the government of Newfoundland and Labrador. Nalcor exerted undue pressure on the Independent Engineer, compromising the

independence of report conclusions (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020).

Public Opinion & Limited Public Intervention

NL has a comparatively history of limited democratic engagement (Marland and Moore 2017), which is an integral component of any discussion concerning Muskrat Falls. The question of whether a project like Muskrat Falls would have been constructed in other provinces with stronger public participation mechanisms has often been highlighted. Similar troubled mega-projects like the Site C Dam in BC have been undertaken in other provinces. However, the financial risks in more financially stable provinces were not as significant. Therefore, the next question that emerges is why did the people of NL not question this decision and why were those that did raise significant concerns about the "democratic deficit" of the Muskrat Falls process, including were often marginalized and subject to social pressure?

To partially address this question, we have briefly considered the history of democratic ethics in the province. For example, in 1933, the Newfoundland government collapsed after the legislature temporarily voted itself out of existence. Under immense fiscal pressures due to heavy debts and the effects of the Great Depression, Newfoundland voluntarily gave up self-government and suspended its Dominion status, in exchange for assistance from the UK government. The lack of strong democratic participation in Newfoundland and Labrador is likely, in part, a holdover of the province's long-standing colonial history (Neary 1969).

In the 17th and 18th centuries, the British government deliberately prevented permanent British settlement in Newfoundland. The first attempt at formal Western colonization was by the London and Bristol Company in 1610. This permanent settlement was criticized by West County representatives in the House of Commons and attacked by pirates, resulting in the land being put on market by 1620. It was not until 1824 that Great Britain finally recognized the colonial status of the population. The settler population was dominated by West Country English and Irish immigrants from lower socioeconomic and social classes. Additionally, these populations, particularly the Irish, were suspicious of state intervention (Neary 1969). As Neary states,

> Given all of this and the fact that they were forced by British policy to live as renegades or near renegades in Newfoundland, it is not surprising that subsequent generations of Newfoundlanders acted as though the state were an alien institution, to be exploited and appeased rather than influenced and directed (1969, 38).

Neary also suggests that the movements towards responsible, representative government reflected the agitation by social and political elites, not as a mass popular initiative. There is a strong history of corruption in NL, as Neary points out, "It is that Newfoundlanders… have tended, like many Quebecois, to draw a sharp distinction between public and private morality. Private vices have often been visited in Newfoundland with great retribution, but political corruption has flourished almost unimpeded" (Neary, 1968, 40). Corruption has in part flourished due to anti-democratic tendency. As Marland and Moore's book points out, there

has been a shift towards less corrupt behaviour and NL is a functional democratic system (2017). However, Muskrat Falls demonstrates that many of the negative components of NL's 'old boy's club' still function, and Danny Williams and his network influenced the capacity for sound decision-making on this project. Religious morality and denominational division have contributed to elitism and that lack of secular democratic institution building, like historic approaches to NL's school systems which remained denominationally divided until the 1990s (Marland and Moore 2017, 38; Neary 1969).

In addition, David Cochrane critically points to NLer's "patriotic correctness" by stating, "But most significantly, it has fostered an environment where informed dissent is seen as nothing short of treason. Where the simple questioning or criticism of the government or the premier is viewed as an unpatriotic assault upon the very fabric of Newfoundland and Labrador" (Marland and Moore 2017). Bannister further elaborates on this concept, stating "Accompanying this patriotic correctness was an optimistic correctness that viewed public skepticism towards government policy as unhealthy negativity towards the province's future" (2012).

This social dynamic was certainly at play throughout the Muskrat Falls process. There was a group of vocal critical voices that publicly raised concerns through reports, blog posts, media articles, and public lectures. Public critics included Dave Vardy, Ron Penney, Des Sullivan and Ed Hollett using venues including Muskrat Falls Concerned Citizens Coalition[2], Uncle Gnarly Blog,[3] and Sir Robert Bond Papers,[4] as well as Cabot Martin (Martin 2014; Penney 2020; Storey et al. 2011). Other public critics included Maurice Adams, Tom Adams, the St. John's *Telegram's* Russell Wangersky and Pam Frampton, Memorial University academics including Jim Feehan, Steve Bruneau and Philip Helwig, singer Con O'Brien, and members of the Group 2041,[5] such as Bernard Coffey, Richard Cashin, and Dennis Browne. The Public Utility Board hearings and later Muskrat Falls Inquiry took shape at least partly because of their persistent questioning of the legitimacy of the project. Likewise, their work helped instigate the scientific research that supported concerns about the stability of the North Spur. These public critics of the project participated in the Inquiry hearings and helped promote and organize citizen participation in the Inquiry process. Even though their critical perspective on the project was largely vindicated by the Muskrat Falls inquiry, those individuals that spoke out against Muskrat Falls were villainized by the government, Nalcor and other supporters of the project. Their involvement was motivated by the public interest but was often seen as unpatriotic assault.

Historically, Neary (1968) points to the close ties between industrialization and the political process to identify the weak public consciousness or desire for democratic processes. Economic development has been a key consideration for democratic progress, primarily because overt economic class consciousness leads to the development of political parties that acknowledge the existence of economic classes. The historically slow process of industrialization in NL means that trade union and political division along economic classes remains weak. Under Williams

[2] http://www.mfccc.ca/
[3] http://unclegnarley.blogspot.com/
[4] https://bondpapers.blogspot.com/
[5] http://www.vision2041.com/

and Dunderdale, the stratospheric rise and subsequent economic collapse further perpetuated feelings of loss, as opposed to building more robust democratic processes and political parties (Marland and Moore 2017).
In tandem with concerns over patriotic correctness and the lack of desire to question political endeavours as the game is likely rigged against you, is the obvious concern that that important information may not be made available (The Honourable Richard D. LeBlanc and Commission of Inquiry Respecting the Muskrat Falls Project 2020). It is hard to have functional public participation and democratic engagement in situations like Muskrat Falls, where messaging was tightly controlled and frequently inaccurate. For example, Nalcor still states that, "The lower Churchill River is one of the most attractive hydroelectric resources in North America" on their website (Nalcor Energy n.d.). False information will result in the public being unable to hold their government to account (Stoeckle and Albright 2019).

The evidence points to NLers being a product of their circumstances, without seemingly an ability to drive forward their future democracy. In Marland and Moore's *Democracy Cookbook* (2017), many of the chapters consider the hard work required to move NL from a place of melancholia and victimhood to a place of autonomy, without having to simply accept the word of government leaders or restrict political debate. In latter sections of this report, we will consider what opportunities exist in the future based on the Muskrat Falls example to bolster democratic approaches in the province on crucial decisions. In the context of Muskrat Falls, NL society's lack of strong democratic engagement left them with limited capacity to question the decision making of a beloved leader and with limited expectations of policy review. In 1969, Neary accused Joey Smallwood of benefitting from the characteristics of Newfoundlanders, much like Danny Williams has been accused of in modern times.

In *the Democratic Cookbook* Drew Brown argues that the national character means "not simply a shared history or political allegiance but is rather what structures our collective forms of social life, what attaches us to them, and what makes them meaningful" (Marland and Moore 2017). Brown argues that in NL, that character is melancholic. It is derived from a shared cultural memory of loss and mourning stemming from a multitude of events. Bannister identifies this public identity as follows:

> In the wake of the disastrous Churchill Falls deal in 1969, the nationalist narrative of Newfoundland became focused on loss; by the turn of the 21st century, it had become a public memory of bereavement. This memory commemorated battles against nature by remembering events such as the *Newfoundland* disaster of 1914 and the sinking of the *Ocean Ranger* in 1982. It mourned national tragedies by remembering Beaumont Hamel in 1916, the loss of democracy in the 1930s, and the referenda of 1948. And it grieved the loss of traditional culture by remembering the re-settlement schemes of the 1960s and the cod moratorium of the 1990s. Like all public memory, this view of Newfoundland's past was contested, negotiated, and reconstituted in many different ways. Regardless of how many different ways the story was told, its heart remained essentially the same: a history of struggle. When the struggle for "have" status was won, that history of Newfoundland ended (Bannister 2012).

The bust of the oil economy and the failure of Muskrat Falls have further embedded this character. NLers have derived identity from loss, and in so doing, it has shaped the character of provincial policy, the capacity to question those in power and made planning for the future an often bleak affair to overcome, as opposed to relish. Later in Brown's essay he argues that the province must move beyond its failed nationalism to more robust civic institutions, As he states, "Democracy is a way of life that must be practised, and there are many basic practices that the provincial state can encourage and foster to help Newfoundlanders and Labradorians live more like citizens and less like subjects" (Marland and Moore 2017). The question that emerges from the Muskrat Falls boondoggle is how do we mobilize these lessons learned to generate a more sustainable future, as opposed to one limited by the losses of the past?

Indigenous Concerns & Free Prior and Informed Consent

One factor that merits explicit attention is the consideration of Indigenous rights during the Muskrat Falls development and the subsequent impacts that the development has had on Indigenous communities in Labrador. We emphasize that our work is based on desk-based research of existing sources and does not attempt to represent or speak on behalf of Indigenous voices. However, we are able to compile and summarize the media releases, grey literature, and academic literature available, as well as comments from the Inquiry and other public gatherings. Additionally, there are multiple Indigenous communities with traditional territorial claims to the Lower Churchill, each with their own perspectives and concerns. This report tries to differentiate which nations and organizations were involved with what aspects of the process. Regardless of the nation, there are considerable lessons to be learned about Indigenous rights and processes from the interactions between Nalcor, the Province, and the Indigenous communities of Labrador.

Much of the initial concern over Muskrat Falls emerges from the ramifications of Churchill Falls. The significant negative impacts to the land and traditional economy encouraged Labrador Indigenous communities to change their relationship with the Crown. There was a focus on how this lack of consideration for Indigenous communities occurred on non-treaty land. Labrador in 1974 was unceded territory, despite the colonial frameworks of economic development that the provincial government had imposed in the region. In 1977, both the Innu and the Inuit of Labrador submitted statements of intent to the provincial and federal governments to begin the Comprehensive Land Claims process. This modern treaty process has yielded divergent results among the nations as,

> On 22 January 2005, the Labrador Inuit Association (LIA) and the governments of Canada and Newfoundland and Labrador concluded 28 years of negotiations by signing the Labrador Inuit Land Claims Agreement. The Innu, however, are nowhere near to completing their agreement. Although the Innu were able to complete a Framework Agreement in 1996, an Agreement-in-Principle (AIP) remains elusive (Alcantara 2013, 187).

The Inuit and Innu nations of Labrador have been parties to modern treaty negotiations, which have considerably influenced the Muskrat Falls political process. As indigenous communities are not homogenous, these negotiations have added complex dimensions in the form of inter-Indigenous nation political conflict, as well as intra-community conflict, as traditional peoples, elders, and other community members may strongly disagree with Band Office decisions.

Alcantra notes that there was a major differential between the Innu and Inuit in terms of negotiation, in particular, the degree to which they wished to exert control over their traditional territories:

> There are some differences between the goals of the Innu and the Inuit. The most important difference is the way in which each group views their position relative to Canada. The Innu originally came to the table with the notion that any agreement had to recognize Innu sovereignty. Their desire for sovereignty has softened over time, but there are still some Innu leaders who continue to hold sovereignty as the end goal for their comprehensive land claim. Contrast this to the Inuit, who have rarely, if ever, invoked the language of sovereignty. They have always preferred to negotiate an agreement that safeguards their traditional ways of life and interests in economic development, and that allows them to take control over important policy areas through some form of self-government within the federation. The language and strategies used by Inuit leaders (LIA presidents), vice presidents, board members, negotiators and elders have always been based on conciliation, compromise and accommodation (2007, p.188).

The Innu's position of recognizing and attaining greater sovereignty over their traditional lands and territories likely impacted the capacity to reach agreement with the Federal government and the Province, both of whom lack interest in negotiating unless there is an incentive and are able to do so from a more powerful position. The Comprehensive Land Claim (CLC) process is designed to ensure that the power remains in the Crown's hands because the burden of proof related to traditional lands, as well as the need to establish continued, unceded usage is on the Indigenous applicant. In addition,

> The burden of proof is on the aboriginal groups, who must adopt Western standards of knowledge, proof, discourse and dialogue if they want negotiations to proceed. Aboriginal groups have little power to influence the agenda, as they can only negotiate those responsibilities and jurisdictions that are listed under the federal CLC policy. Moreover, the government can at any time declare that certain lands are no longer on the table for discussion (Alcantara 2007, 189).

There are limited incentives for the Crown to negotiate, leaving most of the power once again to the Provincial and Federal parties. The duty to consult and accommodate Indigenous communities remains, particularly when the Crown supports a proponent pursuing economic development. Most economic development processes are within the hands of the provinces, resulting in a major role for NL in both CLCs. The resultant CLC negotiations can thus take two approaches that attempt to engage the Crown:

> In the context of these preferences and incentives, comprehensive land claims (CLC) negotiations can take two roads. The first is the long road where aboriginal groups negotiate with governments according to the pace set by governments. On this road, negotiations tend to be slow and laborious. The second path is the shorter road, when a factor or convergence of factors creates an "opportunity window." This is a moment in time when reluctant government actors are most vulnerable to being convinced to speed up their efforts to complete an agreement. The most common factors triggering an opportunity window in CLC negotiations tend to be large-scale economic development projects, a change in federal or provincial leadership, or an influential court case.

Alcantara argues that negotiating for a CLC is advantageous for both the Inuit and Innu because there are no other options that would "adequately satisfy their preferences within the current institutional framework" (2007, p.190). Additionally, communities often feel pressure to 'catch a ride' on development and ensure that they receive adequate economic benefits. Given this context, the Inuit seized the opportunity window presented by Voisey's Bay to convene and settle their CLC.

The Labrador Inuit Association (LIA) first submitted their claim in 1977 but it was left in the "ice box" until 1989, due to the other on-going federal claims on-going and limited provincial action. No significant in-roads were made towards a Framework Agreement prior to Voisey's Bay. Concurrently in 1977, the Naskapi Montagnais Innu Association, on behalf of the Innu in Sheshatshiu and Davis Inlet, submitted their statement of claim. The statement of claim was considered incomplete by the Federal government and finally accepted after the submission of a new study in 1991. The Innu were able to successfully negotiate a Framework Agreement in 1996, after significant turmoil and political unrest, particularly related to living conditions, policing, relocation, and resource development undertaken under provincial guidance (Alcantara 2013).

Voisey's Bay and the Labrador mineral rush generated an opportunity window, as did the election of Premier Brian Tobin. The Inuit were able to use this opportunity window to fast-track negotiations, including a three day in-person negotiation where issues of "land quantum, resource revenue sharing, Inuit participation in development, financial compensation, self-government, cost-sharing, and the national park and settlement areas" were resolved. In particular, land negotiations resulted in both parties conceding slightly. This negotiation resulted in an Agreement-in-Principle in 1999 and ratification in 2001 (Alcantara 2007). Comparatively, the Innu did not capitalize on the Voisey's Bay opportunity window. The Innu remained divided on the CLC negotiation process and its potential impacts on their sovereignty. Additionally, the major internal community struggles emerging from colonialism, including poverty, addiction, etc. have reduced the community's capacity and interest in the process (Alcantara 2013). The next emerging opportunity window for the community was the Lower Churchill projects, during which, the Innu drafted and signed their own CLC.

For the Innu Nation, the project at Muskrat Falls represented an opportunity window to complete their own CLC. In 2008, an agreement was struck. As the Innu Nation's official press release states:

> The Tshash Petapen Agreement (jash pey-taah-ben) which translates as the New Dawn Agreement, marks a new beginning for the Innu of Labrador and their relationship with the province. The agreement resolves key issues relating to matters between the province and Innu Nation surrounding the Innu Rights Agreement, the Lower Churchill Impacts and Benefits Agreement (IBA) and Innu redress for the upper Churchill hydroelectric development. Final agreements based on the Tshash Petapen Agreement will be subject to ratification by the Innu people (Innu Nation 2008).

In the New Dawn Agreement, key issues of the land claim settlement included an Upper Churchill Redress Agreement, compensation for the original Churchill Falls development, and an Impacts and Benefits Agreement (IBA) for the Lower Churchill project (Samson 2018).

The NunatuKavut Community Council began negotiating filing a separate, competing land claim in 2018. There are significant tensions between NunatuKavut Community Council and the Innu; The Innu refuse to recognize the NunatuKavut because the Innu consider them a 'settler organization', whose ancestry emerged from the descendants of Inuit women that married European men (Mercer 2020b). This conflict has generated significant challenges for effective, coordinated Indigenous government led approaches to Muskrat Falls negotiations.

Unlike the Churchill Falls project, the Innu and Inuit were consulted in an official capacity. Three Indigenous governments officially participated in the Muskrat Falls process: the Innu Nation, the Nunatsiavut Government (Inuit) and the NunatuKavut Community Council (Inuit). Members of the Innu of Ekuanitshit from Quebec were also consulted. The degree of consultation, its effectiveness and its legitimacy have been questioned throughout the process.

Contextually, the CLC's are important because they provide both a framework for industrial negotiation and consultation with communities and assist in determining the capacity and internal approach for future negotiation. For the Lower Churchill projects, these CLC relationships provide important guides. Specifically, they indicate an acknowledgement by the Crown that impacts occurred and benefits should be shared.

From project inception, Indigenous communities voiced concerns over the impacts that another major hydro-electric dam would have on the traditional territory, their access to country foods and their capacity to exercise their rights. The impact that the Churchill Falls project had on community life was significant and ignored until some restitutions were made during the CLC process (Samson 2018; Marland and Moore 2017, 71). The Government of NL had limited concern or interest in the impact that the project would have on Indigenous rights, as Samson suggests, "Apart from an earlier reference to Innu Nation as an economic partner, Williams did not acknowledge Indigenous peoples and their land-based lifestyles. They were submerged under the undifferentiated promises of jobs and dollars" (2019, p.17). Importantly, this affirms the earlier concerns that Labrador is seen as a resource hinterland with limited political power,

with limited concern for the impacts to residents. As a result, Indigenous voices and interests are frequently marginalized and concepts like FPIC appear to receive less traction than in other Canadian jurisdictions.

Country foods in this region, such as fish, seal, caribou, and whale are crucial to the communities. The development of the Muskrat Falls project is anticipated not simply to impact the breeding grounds for these animals, but also contaminate their meat through the bioaccumulation of methylmercury. For the people of Labrador, these impacts were significant and there was limited consideration of mitigation (Commission of Inquiry Respecting the Muskrat Falls Project 2019). In the following sections, we will overview concerns over methylmercury contamination and the destabilization of the North Spur, as well as the subsequent political and social protests against the lack of mitigation planning. The subsequent actions by the government and poor administration will all be considered.

Methylmercury and Clearing

Methylmercury contamination is a significant concern in the majority of large-scale hydro-electric dams built worldwide. Mercury poisoning refers to:

> …the result of exposure to mercury or mercury compounds resulting in various toxic effects depend on its chemical form and route of exposure. The major route of human exposure to methylmercury (MeHg) is largely through eating contaminated fish, seafood, and wildlife which have been exposed to mercury through ingestion of contaminated lower organisms. MeHg toxicity is associated with nervous system damage in adults and impaired neurological development in infants and children. Ingested mercury may undergo bioaccumulation leading to progressive increases in body burdens... Mercury has profound cellular, cardiovascular, hematological, pulmonary, renal, immunological, neurological, endocrine, reproductive, and embryonic toxicological effects (Rice et al. 2014).

A recent study by Calder et al found that river methylmercury for the Muskrat Falls area can be anticipated to increase 10-fold and estuary methyl mercury a 2.6-fold increase. Methylmercury is shown to bioaccumulate in locally caught species by 1.3 to 10-fold, dependent on their range and the different environments that they forage in (Calder et al. 2016). Importantly, all 22 Canadian hydroelectric facilities considered for “near term development” (as of 2016) were within 100 km of an Indigenous community. Specifically, Calder et al found that:

> Mean Inuit MeHg exposure is forecasted to double following flooding and over half of the women of childbearing age and young children in the most northern community are projected to exceed the U.S. EPA’s reference dose. Equal or greater aqueous MeHg concentrations relative to Muskrat Falls are forecasted for 11 sites across Canada, suggesting the need for mitigation measures prior to flooding (2016).

These findings caused considerable concern for the communities, particularly in the wake of Nalcor’s findings. Nalcor over-reported the existing amount of methylmercury in the water

system, and that it would “dilute” prior to entering Lake Melville, an ecosystem where much of the country food consumed is hunted, fished or harvested (Penney 2019; Narwhal n.d.). Comparatively, researchers found that due to Lake Melville’s unique biochemistry and climatic zone, it will be particularly efficient at bio-accumulating methylmercury into the bacteria that live in the water. Nalcor denied the validity of the research of Calder et al. (2016).

The results from Calder et al. generated significant concern, particularly for the Inuit community of Rigolet on Lake Melville. Penney summarizes the Innu and Inuit perceptions of the transition in food safety thusly, “The idea that what is perceived as one of healthiest things to consume could now be harmful is almost inconceivable to some people” and “Contamination of food sources is not simply a matter of excluding that animal from one’s diet; it interrupts one’s sense of self” (Penney 2019, 7). Methylmercury contamination robs those dependent on country foods from a sense of well-being, both in terms of their physical health and their spiritual and cultural existence (Commission of Inquiry Respecting the Muskrat Falls Project 2019).

High quantities of methylmercury are not an inevitable impact of hydro-electric production. Mitigation efforts can be undertaken and were negotiated for after widespread public demonstrations and hunger strikes by Inuit and Innu people, as well as allies. Clearing trees, other vegetation and soil from the reservoir can reduce the amount of material that can leach methylmercury into the water system.

North Spur Destabilization

Another major concern related to Muskrat Falls construction is the stability of the North Spur, “…a landmass that juts out into the Churchill River, acting like a dam. It was fortified as part of the Muskrat Falls construction project, and conventional, concrete dams were built to span the remainder of the river” (White 2018). Landslides have historically occurred on this landmass, making many Labradorians doubt the integrity of the Spur. Nalcor employed multiple geotechnical professionals to test the integrity and believe that the Spur is solid. However, Swedish scientists Stig Bernander and Lennart Elfgren have also doubted the integrity of the Spur, criticized the limited scope of the Nalcor study, as well as the lack of consideration of soil strength properties and the high risk of instability based on impoundment (Bernander and Elfgren 2018a; 2018b). Importantly, this position reaffirms the concerns echoed by many within the Indigenous community. As Penney notes,

> Many LLPs do not trust the North Spur’s ability to hold the reservoir and fear it may collapse in the form of a landslide, releasing water towards HVGB. Participants spoke of local knowledge that discounts Nalcor’s assessment that the North Spur can act as a dam. Roberta Benefiel noted, “...Nobody here trusts the North Spur. Nobody here believes that the way they’ve built this dam is actually safe for the communities living downstream”. Sam Saunders said, “I’ve seen landslides all along this riverbank, right from down to the mouth of the river, right up to...Churchill Falls [...] When I was trapping one winter [...] I seen a landslide in the wintertime. And [it was] not good. (2019, 7)

A landslide on the North Spur in February 2018 further exacerbated concerns from residents, particularly those in the community of Mud Lake, resulting in protest and community condemnation. Nalcor denied any correlation between construction and the landslide (White 2018).

Hunger Strikes & Demonstrations

Historically, the Inuit and Innu of Labrador have been concerned over the potential environmental and cultural impacts of hydroelectric development in the region. In 1998, numerous concerned citizens met to discuss the initial Lower Churchill proposal with representatives from Tobin's government. However, no proposal came to fruition. From those initial discussions emerged two key organizations: The Grand Riverkeepers and the Labrador Land Protectors. These organizations were unfunded, had limited capacity but a strong mandate to maintain the ecological integrity and cultural heritage of the watershed. The concerns of these diverse Labradorians were brought forward in every public avenue available to them, including during the Energy Plan, deliberations of the Joint Review Panel, to the Public Utility Board consultations and directly to Nalcor. Discussions were also undertaken with all levels of government (Smyth Woodland Del Rizzo Barrett 2019). The concerns of the Grand Riverkeepers and Labrador Land Protectors (LLP) are evident in the Joint Panel report but there was limited acknowledgement by decision-makers of these issues.

The Crown and its checks and balances processes did little to assuage the concerns of the LLP. However, the official governments of the Inuit and Innu also fell short, frequently generating division within communities between traditional peoples, elders and those looking to maintain access to their traditional rights, versus elected leadership (Commission of Inquiry Respecting the Muskrat Falls Project 2019).

LLP began taking more significant actions to gain public attention and focus dialogue on the concerns that LLP had identified, including methylmercury poisoning and the instability of the North Spur. A hunger strike in Ottawa led by LLP members Billy Gauthier, Delilah Saunders and Jerry Kohlmeister garnered national attention. The protests that took place in 2016 also included a four-day occupation of the Muskrat Falls facility by 50 members of the LLP that then undertook a hunger strike. This occupation was ended on October 26th after an agreement was reached following an 11-hour meeting between leaders of Indigenous governments and the NL government. The agreement entailed the further independent assessment of the hydroelectric project and the creation of an independent committee tasked with finding ways to reduce the risk of methylmercury contamination, including the possible examination of land clearing strategies (Olsen 2018). Indigenous governments asked for an immediate cessation of the occupation and an injunction was ordered on the site, which led to feelings of significant betrayal by the protesters. Many members of the LLP broke the injunction, either by continued occupation of the work site for additional periods or on other dates, or by breaching of undertakings. Protesters felt that their occupation was utilized to move the Innu CLC process and the Inuit IBAs further (Brake 2018; Olsen 2018; Smyth Woodland Del Rizzo Barrett 2019).

This sense of betrayal was heightened when former MP and NunatuKavut council president Todd Russell encouraged members of the LLP to break the injunction, and he did so himself. However, he was never charged, nor did he support those charged with breaking the injunction by appearing in court. By December 2017, Russel had signed an $8 million-dollar IBA with Nalcor on land that was still under negotiation in the CLC process (Brake 2018).

The Indigenous people protesting Muskrat Falls' construction are facing legal consequences for their activism. Many Indigenous protesters that were charged with breaking the injunction pleaded not guilty because the legal system charging them was the colonial Western one, not their own. However, the Supreme Court found 14 members of the LLP guilty of breaking the court injunction (Smyth Woodland Del Rizzo Barrett 2019). The legal representation of the LLP summarized their situation in their submission to the Inquiry:

> Many Labrador Land Protectors have faced and continue to face both civil and criminal prosecution for their efforts to protect the river ecosystem, its inhabitants and all those who rely upon it from the harmful impacts of the project, including methylmercury and flooding as a result of dam failure. In addition, the project has caused deep division in the community, resulting in reputational damage to those who have dared to challenge it (Smyth Woodland Del Rizzo Barrett 2019)

The fight of the LLP seemed to result in some positive change. In 2018, the government developed an independent expert advisory panel on potential methylmercury poisoning which recommended that Nalcor must clear the vegetation and soil from the basin of the reservoir ("Independent Expert Advisory Committee - Muskrat Falls Project" n.d.).

Lack of Clearing

Premier Dwight Ball agreed that he wanted the clearing process to happen, but the necessary work permit was not approved in the prescribed timeline, claiming "administrative error." By the time that the work permit was approved, completion of the required land clearing would have resulted in the project falling further behind. The clearing of the soil and vegetation was estimated by SNC Lavalin to cost between $409 and $742 million, without contingency, and that estimate excluded the cost of additional project delays and wetland capping. Capping refers to preventing the seeping of flood waters from the reservoir downstream (Aug 23 and August 23 2019). Critics suggest that the permit was purposefully lost since the project was already considerably over budget, and that there were already the mounting additional costs of the project's Commission of Inquiry.

Indigenous governments were disappointed by the lack of Provincial support. The government of NL offered the $30 million that had been set aside for capping to the three Indigenous government. The Innu Nation and NunatuKavut Community Council both accepted $10 million, but the Nunatsiavut Inuit government would not accept the money. Nunatsiavut resident Johannes Lampe called it "hush money" (Canadian Press 2019).

Sustainable Futures Analysis

A major objective of this analysis is determining how the Muskrat Falls project critically impacts the province's long-term well-being. In the following sections, we will examine the ecological, social-cultural, economic, and political implications of the Muskrat Falls hydro-electric project for NL's current and future circumstances.

Ecological Sustainability

There are many factors to consider when discussing ecological sustainability. Ecological integrity, species migration, biodiversity, species at risk, etc. are important factors to consider when discussing ecological sustainability. However, for the purpose of this report, we will focus on the poor consideration of climate change and of methylmercury in decision making.

Climate Change

One major argument put forward in favour of Muskrat Falls was the contributions that the project would make to reducing NL's carbon emissions. Climate change is a major concern for the province, as temperatures are projected to increase by two and a half to three degrees in summer, three and a half to five degrees in winter by 2050. In Labrador, warming will be greater, with a potential seven-degree spike. Both increases are much higher than global averages. Additionally, in absolute terms, the provincial 2016 emissions of 10.75 million tonnes of greenhouse gases is not high, but NLers' per capita production of emissions are higher than the Canadian average. Efforts to find solutions to reduce emissions in NL have, in part, paved the way forward for Muskrat Falls.

Electrical generation contributes 14% of NL's emission and the major contributor to these emissions is the Holyrood Generating Station. Holyrood contributes a million and a half tonnes of emissions annually. A major contribution that Muskrat Falls was intended to generate was to drastically reduce greenhouse gas emissions by taking Holyrood offline, and utilizing Muskrat's supply to meet NL's needs.

In theory, there are obvious carbon advantages for taking Holyrood offline and utilizing renewable power. However, these conclusions emerge only in surface level analysis. Two important considerations for greenhouse gas emissions and sustainability are the availability of other long-term sources of power and the emissions generated by hydropower. When combined, those two factors may make Muskrat Falls a less desirable outcome for greenhouse gas emissions. In BC, analysis undertaken on the Site C dam suggested that smaller scale upgrades and developments could have been undertaken that would have had a similar carbon impact as Site C, fewer impacts to local ecosystems and would have cost significantly less.

The first factor for consideration, which was excluded from analysis during the project proposal, despite the requests of the PUB, was identifying alternatives to building Muskrat Falls. Nalcor

examined two alternatives: the isolated island option and the interconnected island option. As described in the Navigant review of the alternatives:

1. *Isolated Island alternative would entail continued isolation of the Island power grid and the inherent supply and operational limitations associated with isolation.*
   The key elements are:
   - *Development of limited renewable resources in the near-term*
   - *Pollution abatement, life extension improvements at the Holyrood plant, replacement of the Holyrood plant, and*
   - *Continued development of thermal power resources across the planning period 2010 to 2067.*

2. *Interconnected Island alternative would provide the capability to displace the Holyrood plant and meet the growth in provincial power requirements for years to come. In addition, this alternative would interconnect the Island with the regional North American power grid. The key elements are:*
   - *Muskrat Falls generation facility, and*
   - *Labrador-Island Link (LIL) transmission facility.*

The Navigant review found that the Interconnected Island option was the most cost effective. Under the commission review, it was determined that the interconnected islands approach would be more expensive, in part because of Nalcor's massive underestimation and the lack of strategic risk exposure.

However, equally important in the evaluation of alternatives was the limited consideration of more extensive usage of renewable alternatives like tidal power, wind power and other small-scale generating services, as well as conservation. Additionally, there was little consideration of the future access to Churchill Fall's power beginning in 2041 (Vision 2041 n.d.). Building an alternative that extended and maximized the lifespan of pre-existing power generation, including Holyrood and developed a means of transmitting power from Churchill Falls to the Island over that 25 year period presents an important and viable alternative with limited costs and reduced carbon emissions. Best practice alternative scenario analysis employs a minimum of three scenarios, but ideally utilizes five (Duinker 2007; Duinker 2008). The myopic focus of the province's project investigation illustrates the province had little reliance on the analysis, further giving credence to the perception that decision-making on Muskrat Falls was biased from the outset. Vardy's report for Action Canada provides six options for provincial power generation that were excluded from provincial analysis (Vardy 2011). Another article published in 2012 by Prof. Jim Feehan also emphasizes the need to better review the "Isolated Islands" scenario and consider other, less expensive alternatives (Feehan 2012). Structured analysis of options such as those outlined by Mr. Vardy utilizing publicly transparent and broad-based criteria could have illuminated options for alternative, more sustainable futures (Duinker 2007).

Using climate change as the critical variable, it is important to acknowledge that in scenario analysis undertaken on the British Columbia Site C post-decision, similar conclusions were made. Life extension and expansion of other hydro-electric facilities, as well as continuing the

use of non-renewable facilities like gas plants, were found to generate an equivalent greenhouse gas emission for significantly less economic costs. Additionally, the proposal of diversifying power sources was considered more sustainable long term as facilities could be expanded as demand required and supplanted as technologies became more accessible (Hendriks and Bakker 2016). In NL, the gap in alternatives analysis primarily related to the knowledge that access to Churchill Falls power would be available within two decades. This omission demonstrates a limited integration of climate sustainability.

Hydro-electric dams are assumed to have minimal climate change effects. However, this assumption has been questioned, particularly when there are significant amounts of biomass within a reservoir, as is the case with Muskrat Falls. Reservoirs are net emitters of carbon equivalents, in particular, methane gas. Globally, the emissions from hydro-electric dams are equivalent to the emissions from burning biomass or biofuel (approximately 1.3% of global emissions and rising) (Deemer et al. 2016). Boreal reservoirs, like the one at Muskrat Falls, are thought to produce significantly fewer emissions than tropical reservoirs and considered low comparatively nationally (Nalcor Energy 2017). However, there is comparatively limited data to affirm how significant the CO2 emissions from Boreal systems are. An analysis of this factor would require additional research (Deemer et al. 2016). Building the mega project, particularly in such a remote site and requiring the construction of supporting infrastructure, including the island link, costs significant greenhouse gas emissions (Nalcor Energy 2017).

What emerges from the Muskrat Falls decision is failure to link climate change to sustainability, in particular, the capacity to make decisions that integrate long term risks and opportunities. Viable scenario-based decision making would integrate additional options that include developing a resilient system that considers near time scale options like accessing Churchill Falls. Building systems with the capacity to change and adapt, including more small-scale generation opportunities, is crucial for long term sustainability.

Methylmercury

The Joint EA Panel concluded that it was uncertain whether the levels of methylmercury contamination would bioaccumulate in fish and seals to the extent that they would require consumption advisories. The panel also suggested that should consumption advisories be required, that this would represent a significant adverse effect. Nalcor fundamentally insisted that Lake Melville and Goose Bay diluted the concentrations of methylmercury. The Panel recommended clearing the reservoir, and in so doing, meeting a precautionary approach (Doelle 2015). The province did not accept the recommendation, and then later agreed to do so but failed to complete the clearing due to administrative error.

Since the Panel Review, it has been determined by academic study that microbial ‘hotspots’ in Lake Melville will accelerate the bioaccumulation of methylmercury. Flooding the reservoir will increase methylmercury input by 25-200%, with the potential of actual increases being higher. The data generated in the 2015 Schartup study and other subsequent studies indicates that the system might be particularly vulnerable to methylmercury.

The Panel recommended caution and to heed new information as it became available. The Panel promoted additional study, as well as advisories for consumption as new information became available, along with their precautionary stance on clearing. However, the Panel's recommendations did little to change perspectives, particularly as new information was brought to light. The result emphasizes the lack of iterative capacity to change government decisions based on new information, particularly new information that relates to ecosystem health and integrity.

Socio-Cultural Sustainability

Socio-cultural sustainability considers both Indigenous communities and non-Indigenous NL communities.

Indigenous Communities

The sustainability of Indigenous communities in Labrador is an important determinant of decision-making. Importantly, the capacity of ensuring the continuance of these communities and their ability to pursue their self-determined future is challenging given NL's history of ignoring the existence of Indigenous communities (Hanrahan 2003) and on-going divisive approach (Penney 2019; Higgins 2008). NL has supported the recent land claim settlements. However, there have been few examples of actively pursuing policy approaches that acknowledge and further Indigenous rights. This approach is not uncommon provincially.

Internally, communities are facing challenges related to the implications of limited trust in their traditional resource economy. Additionally, the decisions related to Muskrat Falls generated a further division between traditional leadership and elected leadership (Careen 2020).

Criminal Charges and Social Consequences

One major concern that emerged from Muskrat Falls has been the lack of consequences to decision-makers due to gross mismanagement. In relation to the project, the only people that faced criminal charges were the individuals that occupied the site as a form of demonstrations. Civil and criminal charges have yet to be pursued, but most recently, the government has supported investigating charges because of the Inquiry (CBC News 2020a). Under Canadian law, there is limited clarity as to whether a criminal or civil case exists (McKenzie-Sutter 2020). The gross mismanagement of the project by Nalcor and by government generated negligible consequences, including the recent appointment of one key promoter of Muskrat Falls to move to another government position, maintaining the same compensation level that he had in his previous position (Maher 2020).

Decision-makers have seemingly continued to work and move forward without consequence, whether that be criminal or civil liability, or simply losing one's job or demotion. By comparison, those that protested or participated in civil unrest faced personal legal costs and criminal charges. The discrepancy embeds a challenging norm for the province: there are limited consequences for

gross mismanagement, but significant consequences for those who speak up. Consequences of this nature tend to perpetuate cycles that result in limited accountability and capacity for reflection.

The social consequences to those that were involved in Nalcor and the Muskrat Falls decisions are less well known. However, those involved likely will face significant impacts within their communities, including social ostracization.

Economic Sustainability

The economic sustainability of NL is poor and has been greatly impacted by the Muskrat Falls project. As Bedford notes:

> The province has the highest debt per capita in the country, combined with the lowest population density. The economic consequences from two mismanaged hydroelectric mega-projects continue to deprive the provincial treasury. The bills from one of these have not yet come due but threaten the economic health of the entire province. If the province were to become insolvent, it would jeopardize most of the social safety net for its citizens, with consequences for healthcare, education, disability payments, and welfare (525).

Importantly, the dire provincial economic position reduces its resilience to shocks like those that Covid-19 generated and put it in a challenging position for NLer's future. For Muskrat Falls specifically, Covid-19 has delayed the project by 10 months and has increased the project cost by $400 million (Roberts 2020). In the following sections, we will explicitly consider the impacts to rate payers, taxpayers, and the Federal government due to its loan guarantee.

One major implication for NLers will be the pressure to increase hydroelectric rates in NL. Current residential hydro rates in NL are 12.2 cents per kilowatt hour, which is 1.3 cents less than the national average (Energy Hub 2020). Once Muskrat Falls comes online, the rate is expected to increase to 22.89 cents per kilowatt. This rate level would offset Nalcor's increased overall annual generating costs. The cost of the government mitigating these rates is significant. Maintaining 13.5 cents/kWh in 2021 would require $600 million in mitigation funds from the government (Board of Commissioners of Public Utilities 2020). The increase in domestic rates puts significant pressure on vulnerable NLers, particularly those that use electric heating. Additionally, offsetting the rate means it will increase NL's already precarious debt load and require additional Federal support. For perspective, NL's provincial government spending deficit was $943 million for fiscal 2020- $392 million more than budgeted. An additional $600 million would bring the overall deficit to $1.5 billion, which would cripple NL's finances.

The province of NL reached its peak population in 1992 with 580, 000 people. Since that point it has lost 60, 000 residents due to net outmigration, declining births, and higher deaths. Health care expenditure in the province are much higher than average at $8190 per citizen annually compared to the Canadian average of $7068. Healthcare is thus the highest proportion of the

budget, whereas paying interest on provincial debt accounts for the next highest margin at 18% of budget. The need to offset the cost of hydro means that Muskrat Fall's debt burden will continue to mount, even with Federal intervention. It is estimated that the debt burden for NL will increase 50% because of Muskrat Falls (Yakabuski 2015).

Federal Government

The Federal Government has a large stake in the project due to their guarantee of a Federal loan promised by Stephen Harper in 2012. At that time, the project was guaranteed up to $5 billion and was increased in 2016 under Justin Trudeau by an additional $2.9 billion (Roberts 2020). The Maritime Link from Emera was also guaranteed for $1.3 billion. The Federal commitment has increased as the project costs have mounted. Therefore, the Federal government is interested in ensuring that the loans are not defaulted upon and that Muskrat Falls generate some potential benefit to NLers. Given the requirements to pay back the debt according to the Nalcor schedule and to not increase the burden on the NL government and its taxpayers, the plan to earn additional revenue to pay off the loan is vital. Either NL Hydro adapts its business model or there will not be enough revenue to pay Nalcor. It will default on its debt, forcing Nalcor's debtors to rely on the federal government guarantee. However, there is also a distinct need to keep hydro rates manageable. To keep rates stable at around 13.5 cents per kilowatt hour, it will generate $4.8 billion shortfall over the next two decades. However, there are limited options to generate sufficient revenue to pay off the Federal loan. With Covid-19 delays, the project debt is mounting and the likelihood of the debt being passed to the Federal government increases. Originally, under the original debt financing agreement, NL would pay $74 billion for Muskrat over the next 45 years. However, the Province has been in negotiation with the Federal government. This new agreement is not finalized but could be replaced with a more traditional, cost-of-service agreement expected to reduce costs by $34 billion which will be passed on to ratepayers. Changing the terms of the agreement ensures that servicing the debt is less expensive (Vaughan 2020, The Telegram 2020).

Viability of Export Market

The costs of Muskrat Falls are sunk. The next consideration is how to generate revenue. NL Hydro must adjust its business model to find new customers at the average Canadian rate (excluding the territories) is 13.5 cents per kwh (Energy Hub 2020). This requirement could mean attempting to draw electricity consuming industries or competing with Quebec Hydro for export sales to the US. Current consumption levels in Atlantic Canada can expect a limited increase in demand as power from Muskrat Falls can replace coal and gas power plants in Nova Scotia. However, demand for power in the Atlantic provinces is only 7% of total Canadian electrical usage. There has been significant discussion of employing export markets to the Northeastern US. There is insufficient power generation from Muskrat Falls to export to any American states, particularly at a rate that is at all competitive (Board of Commissioners of Public Utilities 2020).

Lessons Learned and Future Policy

Public policy decision-making in NL needs to refocus, particularly given the future debt burdens that the province faces and the major projects that could still emerge, including Muskrat Falls' bigger sibling, Gull Island. In particular, Covid-19 has brought the precarious financial position even closer to the brink (Bedford 2020; Mercer 2020a).This section of the report seeks to develop pathways for sustainability in future large-scale project decision-making and beyond, by encouraging full-spectrum sustainability evaluations prior to proceeding. Any project going forward should be able to prove that it can contribute to a brighter future for all NLers. This future well-being requires sound, mutually supportive evaluations, democratic participation, and the assurance of Indigenous rights under the obligations of UNDRIP (United Nations Declaration on the Rights of Indigenous Peoples).

Avoiding Provincial Insolvency

NL could become insolvent. As Bedford describes:

> Unlike in corporate or personal insolvency, there is no set definition of when a government becomes insolvent. Given the prevalence of borrowing to finance its activities, insolvency and fiscal crises are often sparked by the bond market. The market for government bonds tends to be stable under normal conditions. However, a variety of factors can induce the market to eschew a government's bonds, including overall market conditions and a skepticism that the government will be able to meet its obligations. When a government reaches the end of its ''fiscal runway," two things may happen. The first is that the market may refuse to purchase bonds unless the bond's interest rate is increased, or the repayment term is shortened. These requirements could lead to substantially increased borrowing costs for the government, which make it harder to keep spending on services consistent without taking on even more debt. If a national government is temporarily unable to re-finance its debts, external lending bodies like the International Monetary Fund may need to step in. The second possibility is a default. Throughout history, most sovereign defaults have been partial, even if the repayment was nominal compared to the size of the original debt. Since there is no internationally agreed upon definition of ''sovereign default," it can sometimes be difficult to recognize when one is about to take place. The Bank of Canada has defined default as the failure to meet key contractual obligations, including by failing to pay the interest or principal in full on the due date, or with a negotiated agreements to reduce interest rates and/or extend the maturities on the debt. Reinhart and Rogoff have proposed a more general definition of ''a failure to meet payments on its external or domestic debt obligations or both," which also includes rescheduling interest payments and extending repayment in their definition of sovereign default (Bedford 2020, 525–26).

In previous Canadian crises, the debt to GDP ratio where default becomes likely is when 25% of a province's revenue is spent servicing debt (Bedford 2020). Newfoundland is very close to that margin. NL needs to avoid insolvency.

Currently Nalcor has approximately $10 billion in long term debt which represents of a minimum of a half billion in payment a year, for the next 25 years. Nalcor must generate about $750 million in additional revenue to satisfy these debt payments a year from the services it provides to NL hydro. In turn, NL Hydro must find $750 million more revenue per year, which could come from either an increase per kilowatt hour or it must sell more kilowatt hours. NL rates are already at the national average for hydro-electric rates, so a significant increase is impractical (Green et al. 2016). Where is the additional $650 million annually going to come from?

The $650 million annually can come through some sort of provincial subsidy or a sale of the asset to another jurisdiction to lose the responsibility for the debt payment. The rate payer report concluded that export sales of the minimal amount of Muskrat Falls power available for export are unrealistic due to the low price of power (Board of Commissioners of Public Utilities 2020, iii). However, after 2041, when Churchill Falls power comes into NL control once again, an opportunity emerges to market that power to other markets, including potentially once again to Hydro-Québec, to service provincial debt. An anonymous report to the PUB suggests that selling Churchill Power could provide approximately $300 million in revenue per year over a 10-year return (Anonymous 2019). Further research and exploration are required to determine the feasibility of future export sales of Churchill Falls power and how NL can service its current level of debt until that time. The NL provincial budget cannot maintain a subsidy for a long period without a collapse of provincial finances. If new markets are not found, they will have to entertain a sale of the asset to another interested party. Without a sale asset, bankruptcy is likely.

Accepting Provincial Economic Limitations

NL is a province with a population just over half-million, which is rapidly aging, with few core economic drivers. Development must proceed very carefully given the modest capabilities of the province and the huge downside risk of an error. The debt of both the province (whose net debt is now $16.7 billion) and Newfoundland Hydro is now so large that one more mistake could force the province into bankruptcy (Government of Newfoundland and Labrador 2020). There will inevitably be more opportunities for development in the future, but NL must mitigate its risk by operating in partnership with the private sector, Indigenous groups, and the Federal government to limit its exposure. This process is inconsistent with economic nationalism, but the only practical way for the province to maintain some autonomy in its economic future.

Currently, two major economic drivers of the province are oil and hydro-electric power generation. Both industries are volatile and subject to global price changes and are impacted by technological change and efficiencies. NL must move its economic focus into more diverse sectors, particularly those that utilize plentiful hydro-electric power. It is unlikely that there will be a material increase in Atlantic province power demand over the near term, other than the

replacement of coal and gas plants to transmission from hydro-electric facilities. These economies are stagnant, populations are declining, and energy conservation is the stated goal of all governments. Eastern states in the US are potentially a market, but the price competition in those markets is significant. Consequently, it would be imprudent to consider Gull Island development until Muskrat Falls demand is proven. Further development, even with the recent proposition of an Atlantic Loop, should not be explored until NL has determined the viability of its current projects. However, considerable research should be undertaken to determine how to best maximize the use of Churchill Falls power come 2041.

Adaptive Design and Management

Adaptivity is crucial to governance structures and was not employed in Muskrat Falls, particularly as new scientific information emerged related to methylmercury contamination. Adaptive design refers to developing processes that can change based on uncertainties and within complex dynamics. Adaptive management is used primarily as a model of governance for renewable resource management, though it can theoretically be applied to other purposes. Adaptive management emerged as a governance approach out of systems and resilience theory (Swanson and Bhadwal 2009). The Government of Canada defines adaptive management as, "…a planned and systematic process for continuously improving environmental management practices by learning about their outcomes…. [it] provides flexibility to identify and implement new mitigation measures or to modify existing ones during the life of a project." Developing a monitoring regime with adaptive capacity is a major challenge for regional processes, particularly in the mining sector, where industries have limited lifetimes. New information generated about methylmercury levels should have led to adaptive management approaches to clearing the reservoir. However, the governance system was too rigid to implement any change. We recommend that NL improve the adaptive capacity of its decision-making.

Alternatives Analysis

Muskrat Falls is not unique and is part of a larger, worldwide pattern of poor decision-making related to hydro-electric dams. Based on a systematic review, the primary reason for these poor decisions, particularly in relation to budget constraints and delays, is delusion or deception by decision-makers (Flyvbjerg, Garbuio, and Lovallo 2013). Delusion refers to:

> … executives falling victim to what psychologists call the planning fallacy. In its grip, managers make decisions based on delusional optimism rather than on a rational weighting of gains, losses, and probabilities. They overestimate benefits and underestimate costs and time. They involuntarily spin scenarios of success and overlook the potential for mistakes and miscalculations. As a result, managers pursue initiatives that are unlikely to come in on budget or on time, or to ever deliver the expected returns (Flyvbjerg, Garbuio, and Lovallo 2013, 4).

By contrast, deception occurs when decision-making is characterized by:

> "…strategic misrepresentation or the presence of what economists refer to as principal-agent problems. Whereas the first explanation is psychological, the second is due to the different preferences and incentives of the actors in the system. In this situation, politicians, planners or project champions deliberately and strategically overestimate benefits and underestimate costs in order to increase the likelihood that their projects, and not their competition's, gain approval and funding. These actors purposely spin scenarios of success and gloss over the potential for failure. This results in managers promoting ventures that are unlikely to come in on budget or on time, or to deliver the promised benefits (Flyvbjerg, Garbuio, and Lovallo 2013, 5).

Flyvberg presented research to the Inquiry that these issues were apparent in the Muskrat Falls case (Flyvbjerg and Budzier 2019). The Inquiry concluded that deception by Nalcor and delusion by the government played a prominent role in generating this problem (Roberts 2019; Barker 2019).

One method of reducing delusion and deception is improving independent safeguards by mandating alternatives analysis. The application of alternatives was requested by both the Public Utilities Board and the Joint Panel during environmental impact assessment. Credible, independent alternatives analysis means that decision-makers must justify their decisions based on other options and potential approaches. One method is scenario planning. Scenarios can be defined as "conjectures about what might happen in the future" (Duinker 2008). Future scenarios provide a basis for choosing among possible futures and tracing various possible trajectories of development. Scenario building is a useful tool for strategizing to determine how to get to a scenario closest to a community's or a region's visions and how to avoid plausible undesirable scenarios. Beyond clearer thinking about what future we want, scenario-building can help participants to anticipate future opportunities, risks, barriers, and uncertainties (Greig and Duinker 2007). In particular, scenarios play two important roles in planning and policy making: "one is risk management, where scenarios enable strategies and decisions to be tested against possible futures, while the other is creativity and sparking new ideas" (Duinker 2007).

Requiring the use of multiple scenarios and alternatives is now required under the Impact Assessment Act (2019). Important standard practice is to consider scenarios that are "alternatives to" an undertaking, meaning other projects, policies or proposals that could achieve the same outcome, and "alternatives for" an undertaking, meaning different methods a project, policy or proposal could be constructed or undertaken. In this analysis, we have discussed the need to consider what alternatives could have achieved similar climate change objectives for less cost and local ecological impact. "Alternatives for" have also been discussed, particularly the clearing of the reservoir. Formally mapping out strategies of achieving desirable outcomes increases transparency and accountability to the public, but additionally diminishes political delusion and deception. We recommend that decision-makers, particularly when tied to major financing decisions like Federal loan guarantees, to require a full alternatives analysis for the use of public funds.

UNDRIP/ FPIC & Self-Determination

NL needs to commit to implementing Free, Prior and Informed Consent, and supporting Indigenous means of self-determination. Free, prior, and informed consent (FPIC) is a guiding international principle, enshrined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), for industrial development on traditional Indigenous territories. FPIC is defined by the Boreal Leadership Council as:

> FPIC is commonly used as a short-hand expression to describe the right of Indigenous peoples to offer or withhold consent to developments that may have an impact on their territories or resources. To be true to its definition, FPIC must be obtained without force, coercion, intimidation, manipulation, or pressure from the government or company seeking consent (free); with sufficient time to review and consider all relevant factors, starting at the inception stage, in advance of any authorization for, and continuously throughout the planning and implementation of activities (prior); based on an understanding of adequate, complete, understandable, and relevant information relative to the full range of issues and potential impacts that may arise from the activity or decision (informed); and can be given only by the legitimate representatives of the people affected, with any caveats or conditions stipulated by the people whose consent is given (consent). It must be noted that FPIC cannot exist where a people does not have the option to meaningfully withhold consent (Boreal Leadership Council 2015, 7–8).

The integration of FPIC into legal process is in its infancy in Canada and it provides a higher legal test than the current constitutional standard, the duty to consult and accommodate.

For Labrador's Inuit and Innu communities, the implementation of FPIC refers in large part to becoming decision-makers on developments within their region. A major goal of land claim settlements within this region was to regain some control over lands and resources from the provincial and federal governments (Natcher, Felt, and Procter 2012, 231). Voisey's Bay nickel mine represents successful Indigenous-industry relationships, including Indigenous monitoring programs and regulatory oversight, as well as utilizing the financial mining benefits and incorporating Indigenous knowledge in decision making to bridge towards more sustainable futures (Gibson 2006; Land Needs Guardians n.d.; Gibson 2014). However, the Muskrat Falls project represented a development where FPIC was not achieved and a sustainable result for the community did not emerge. The United Nation's Special Rapporteur on human rights and hazardous substances and wastes called on the Federal government to address the lack of proper consultation and threat of methylmercury contamination in country foods (Tuncak 2019).

NL has significant work to do to integrate FPIC and recognize Indigenous authority in decision making, particularly as the consequences of these decisions impact the community's capacity to trust their traditional food systems and economy. In Canadian resource regions, Aboriginal rights and interests have largely been ignored. In practice, a tension thus emerges between having faith in one's traditional economy and having access to Western economic benefits. Frequently, communities receive neither (Foster 2011; Ali 2009). However, in both

circumstances, claims to traditional lands and resources are essential to nationhood. Land claims assist in building new opportunities and rebuilding Indigenous traditional economies to improve socio-economic circumstances (Anderson et al. 2006). Indigenous people earn on average 30% less than other Canadians (Wilson and Macdonald 2010), and these limited financial resources have impacted health, education, housing, perceptions of identity and mental health (Anderson et al., 2006; Corntassel, 2008; Scholtz, 2006).

The right to self-determination also includes the right to limit or exclude development on treaty land. Indigenous communities are interested in controlling the form, impacts and benefits from economic development on their land, as well as over-all self-determination (G. R. Alfred 1999; Corntassel 2008; T. Alfred and Corntassel 2005; Slowey 2008). Significant power imbalances have prohibited mutual Western and Indigenous gain (Victor 2007) from resource development. The results are reflected in the unfair distribution of negative legacies to Indigenous peoples and benefits to the Canadian private sector and government (Booth and Skelton 2011; Cameron and Levitan 2014; Gibson 2014).

Developing stronger nation to nation relationships, supporting Indigenous community capacity building, recognizing Indigenous rights to land access, acknowledging FPIC, and approaching negotiations in good faith (i.e. meeting promised commitments like clearing the vegetation from the Muskrat Falls reservoir) can positively contribute to Indigenous-settler relationships in NL.

Future Development Opportunities involving NL and Indigenous Communities

Current forecasts for Muskrat Falls do not allow for any substantial payments to Indigenous communities that were harmed by the project. This result is unacceptable to Indigenous communities and inconsistent with the realities of similar projects across Canada. NL is a resource rich province that will have more opportunities to develop new resources. Indigenous communities will likely continue to be skeptical of negotiating with the province and Crown corporations because of the impacts of Churchill Falls and Muskrat Falls, along with other development decisions. Effective planning will require mandated payments and IBAs between NL and the Indigenous communities and respect of FPIC. Otherwise, it is unlikely that the communities will support development on their lands, nor will NL be upholding the honour of the Crown.

Independent Oversight required for Crown Corporations- PUB

The PUB needs to be given unfettered oversight responsibilities and access to information for projects that will impact rate payers. The role of agencies like the PUB is crucial for good governance, but also for ensuring that fiscal risks are mitigated. As Holborn identifies:

> It is common practice for governments to delegate regulatory authority over the electricity sector to expert agencies, who implement broad policy objectives through administrative rules and orders. Since electric utilities often have a monopoly market

> position – almost always in network transmission and distribution of electricity, and sometimes in power generation – the core function of regulatory agencies is to substitute for normal competitive market pressures and to protect consumer interests by setting 'just and reasonable' rates and approving prudent utility costs. In most countries within the Organisation for Economic Cooperation and Development (OECD), regulators interpret their mandate by establishing rates that balance consumer interests – that is, the lowest possible rates consistent with reliable service – with producer interests – the need to recover operating costs and to earn a sufficient financial rate of return on capital investments (2018, p.4).

Specifically, Holborn suggests that "Oversight by independent regulators such as NL's PUB can also play an important role in minimising the risk of adverse outcomes at each stage of a project's development: (1) Project Need Identification, (2) Evaluation, (3) Approval, (4) Execution and Oversight, and (5) Cost Review and Recovery" (Holburn 2018, 14). For hydro-electric mega projects, this risk is particularly high. Increasing the responsibility of independent oversight mechanisms can assist in minimizing this risk if these bodies are credibly funded and supported.

Risks of speaking out against project

A political culture of "patriotic correctness" and public disengagement also factor into facilitating the Muskrat Falls crisis. The term patriotic correctness refers to the tendency to avoid dissent and criticism of the government, where dissent with the government is seen as synonymous with a negative attitude towards the province in general. This political culture inhibits public engagement in critical dialogue about public policy.

Individuals who stepped out as public critics of Muskrat Falls in the early days of project planning and sanctioning used venues like the Uncle Gnarly blog, the Sir Robert Bond papers blog, Muskrat Falls Concerned Citizens Coalition, reports, public talks, and other media interventions for communicating their concerns to the public and decision-makers. The importance of their work in raising red flags about the project helped create pressure for the Public Utility Board hearings, as well as the subsequent Muskrat Falls inquiry. Their concerns have generally been borne out by the spiralling costs and the "democratic deficit" that has come to characterize the project (Penney 2020). While their critical perspectives on the project were largely vindicated by the Muskrat Falls inquiry, public critics risked being villainized by government and project supporters.

As the project proceeded, protest movements originated from Labrador Indigenous and non-Indigenous community members and allies. These protests attempted to provoke public and political reflexivity about the environmental risks and potential downstream environmental health costs of the project. Through the slogan, "Make Muskrat Right," they pushed back against the dominant government narrative that the project was too far along to turn back. Non-violent civil disobedience by protesters was met with arrests and expensive court proceedings.

Public anger can serve as a potent force for public scrutiny of the legitimacy of government decision-making during a crisis. As a point of comparison, the 2008 Icelandic financial crisis saw widespread public protests that effectively raised issues of government transparency and accountability. The protests provoked social learning and substantial political reform in the aftermath of the crisis. However, the public protests around Muskrat Falls were far less widespread and had limited political efficacy in either altering the trajectory of the project or provoking a shift in thinking about government accountability and transparency. Furthermore, an important limitation of public anger and protest mobilization as tools for political accountability is that these typically do not emerge until *after* the crisis is apparent. While public anger may provoke change in response to a crisis, it is rarely sufficient for cultivating the culture of political reflexivity that may help prevent or mitigate a crisis earlier on.

Therefore, one lesson we can take from the Muskrat Falls case is the need for political reforms that increase democratization and opportunities for meaningful public engagement are well-needed to cultivate a political culture of greater citizen engagement. The promised All-Party Committee on Democratic Reform is a promising step in this direction.

Conclusion

We conclude that Muskrat Falls was unlikely to have been successful from the outset and has generated significant challenges for the province in terms of long-term full-spectrum social, economic, and ecological sustainability. Muskrat Falls never had a realistic business case that would have allowed it to succeed, which led independent oversight bodies like the Joint EA Panel and the PUB to call for alternatives analysis and further information. However, the path dependency of Churchill Falls and the desire to fulfill nationalistic hydro-electric independence, particularly after years of inequitable treatment from Quebec, clouded the perspective of decision-makers. Muskrat Falls was borne of prosperous times and idealistic leadership. The need for additional sources of power could likely have been generated through interim sources, like upgrades to Holyrood, expanded renewable production, or other sources, until Churchill Falls power was made available in 2041.

This project was ill-fated from the outset but was made worse by poor management and limited government intervention. Nalcor's executives were ill-equipped to handle the project, and as project costs mounted, the province did not meaningfully intervene. Poor choices made a bad project worse, highlighting challenges in NL's public service and providing a clear example of Flyvberg's theory of delusion and deception. We also point to a limited public consciousness of the problems of Muskrat Falls, as well as a resigned attitude towards intervention. The concept of "patriotic correctness" in NL politics means it is challenging for members of the public to call their decision-makers to account when they know that they will be perceived unfavourably by their friends and neighbours.

Indigenous peoples experienced a long and arduous battle to protect their traditional ways of life. The threat of methylmercury contamination, fears of destabilizing the North Spur, and criminal consequences for protesters fuelled Indigenous distrust of Nalcor and the province. Opportunities to clear the reservoir of biomass or to provide transparent solutions to concerns

were missed or squandered, generating international criticism and worsening the nation-to-nation relationship. The experience of Labradorian Indigenous peoples with this project highlights centre-hinterland relationship with the island and the significant power differential between settlers and Indigenous people in NL.

The governance issues that generated the problems that led to approving and sanctioning Muskrat Falls are not issues that can be resolved quickly. NL has a challenging future to contend with. Provincial insolvency may occur, with few options to shift the debt, including limited options to generate revenue from the project. The ecological implications of hydro-electric projects as "clean, renewable energy" are under greater scrutiny. Indigenous communities across Canada are increasingly expecting the implementation of FPIC principles.

NL is in the position where they must shift their approach away from quick fixes towards more accountable governance approaches that foster transparency and solutions that integrate long-term visioning. Policy approaches moving forward must focus upon:

- The need to avoid provincial insolvency.
- Moving the provincial economic agenda away from mega-projects and volatile energy markets.
- The need to implement adaptive management approaches.
- Deploying alternatives analysis when suggesting projects that utilize public monies.
- The implementation at a provincial level of FPIC principles.
- Fostering more mutually beneficial relationships with Indigenous governments over economic development.
- Improving the oversight capacity of the PUB.
- Expanding legal consequences for decision-makers, particularly if they do not meet their professional standards for due diligence.
- Encouraging greater ongoing public engagement in democratic processes, as well as encouraging a political culture of respect for public dissent and criticism.

These recommendations can help improve the resilience and sustainability of the province in the future.

Methods

This research is a case study based on an extensive literature review, drawing from the Muskrat Falls Inquiry, press coverage, academic literature, and grey literature. Web and academic catalogue searches were extensively employed, as were materials recommended by subject experts. Fieldnotes from publicly accessible events and expert interviews were also utilized.

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