GRAND RIVERKEEPER® LABRADOR INC.

LABRADOR LAND PROTECTORS

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Paper of Grand Riverkeeper Labrador, Inc. and Labrador Land Protectors for the Commission of Inquiry Respecting the Muskrat Falls Project

October 1st, 2018

Muskrat Falls, Labrador 2014 "many have touched these rocks and felt its power, when the dam is finished, it will be felt no more" – Denise Cole

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Commissioner Justice Richard LeBlanc
Beothuk Building, Suite 502,
20 Crosbie Place
St. John's, NL A1B 3Y8

October 1st, 2018

Dear Commissioner LeBlanc,

RE: Paper for the Commission of Inquiry Respecting the Muskrat Falls Project

We enclose the paper of Grand Riverkeeper prepared pursuant to the request of the Commissioner by his letter of May 20, 2018 with respect to the pre-sanction phase of the Muskrat Falls Project. The request set out the scope as follows:

> We are interested in having GRL/LLP prepare a paper describing its involvement with the Muskrat Falls Project pre-sanction. Specifically, we would like the paper to:
>
> - Describe GRL/LLP involvement with the Project prior to its sanction on December 17, 2012. This would include, without limitation, their involvement in the Joint Review Panel process and any involvement they had with Government or Nalcor officials.
> - Describe the key issues that GRL/LLP raised in relation to the Project prior to sanction.
> - Describe Nalcor's and/or the Government's response to GRL/LLP's efforts

We have endeavoured to include as much information as possible in relation to key issues raised regarding the project prior to December 17, 2012. We note the following two caveats:

(i) That the members' of Grand Riverkeeper Labrador, Inc. (formerly also members of an ad-hock group called The Friends of Grand River Mista Shipu,) involvement goes back as far as 1998 (nearly 20 years) and thus, it is a monumental task to recall all that has happened and to find documents describing our involvement; and

(ii) The Labrador Land Protectors are a group of activists involved in direct actions aimed at stopping the construction of the Muskrat Falls Project that coalesced after sanction and as such this paper will present the involvement of GRK and was prepared by GRK.

Yours truly,

Roberta Benefiel
Grand Riverkeeper Labrador, Inc.

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Introduction

[1] We wish to begin by quoting from a position paper prepared by Environmental Justice Australia (EJA) in the course of a Senate Inquiry into the government's attempts to repeal standing for environmental and community groups in a piece of environmental legislation:

> Where community groups or individuals are allowed to enforce public interest environmental protection, the rule of law is strengthened.
>
> Review of governmental decisions is a fundamental safeguard against government – specifically the Executive arm of government – acting beyond its power (that is to say, unlawfully) or making poor or unaccountable decisions. The first control on government power is commonly associated with judicial review, or review of errors of law. [...] At the most immediate practical level, wide standing provisions lead to greater environmental protection as community organisations can contribute to ensuring environmental laws are upheld and correctly implemented. Without such standing, unlawful actions which impact adversely on the environment could go undisputed.[1] [Emphasis added]

[2] While we do not have mirror legislation in Canada, we submit that meaningful engagement and participation of Indigenous, environmental and community groups is essential to good governance, informed decision-making and upholding the rule of law. Empowering citizens and citizen groups is fundamental to a healthy democracy.

[3] Over the last decade, the Grand Riverkeeper Labrador (the "**GRK**") has participated fully and actively in the consultative processes concerning the Muskrat Falls Project (the "**Project**") and has played an important role in the public discourse surrounding the Project. GRK was a key participant in the environmental assessment processes for the Lower Churchill Project and the Labrador Island Transmission Project, as well as the Muskrat Falls Reference at the PUB.

[4] Prior to sanction, GRK was one of many environmental organizations, Indigenous communities and individual citizens who actively opposed to the Muskrat Falls Project and pursued every avenue available to express their opposition.

[5] In our opinion, however, engagement with these groups and citizens were nothing more than information sessions without any opportunity for meaningful input and were merely an exercise in note-taking.

[6] As will be detailed below, GRK submits that the Government and Nalcor made deliberate efforts to ensure that citizens were not able to obtain documents and information about the Project and that they obscured information relating to:

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[1] Environmental Justice Australia (EJA) is an environmental law group. In 2015, EJA made submissions to a Senate Inquiry regarding whether to maintain standing for environmental groups, community groups and individuals to be allowed to enforce public interest environmental protection pursuant to section 487 of the Australian Environmental Protection and Biodiversity Conservation Act.
https://www.envirojustice.org.au/sites/default/files/files/Submissions%20and%20reports/EJA_submission_EPBC_ACt_standing_inquiry_FINAL.pdf; See Also: https://www/envirojustice.org.au?inclusion-of-community-rights

(i) the financial and economic risks and benefits of the Project;
(ii) the social and environmental effects of the Project;
(iii) the costs to ratepayers; and
(iv) the financial benefits to the decision-makers, their families and companies from the Project.

[7] When GRK and its members first started down the road of the environmental assessment (the "**EA**") of the Lower Churchill Hydro Project we were "green" in more ways than just environmentally. Given our lack of experience with such processes, we did as much research as possible to ensure we were prepared and knowledgeable.

[8] We engaged in the EA process in good faith. We reviewed the legislation and policy surrounding EA and environmental protection, and we believed that the Project would not be approved due to its devastating impacts on the River and its ecosystem. We believed that the preservation of the environment and protection of Labradorians were paramount and that those principles would prevail.

[9] Despite our sincere, good faith engagement at every step throughout the sanctioning process, the Project was approved in the face of credible evidence of the significant harm the Project would inflict on the Grand River and its environs. At this point in the process, unfortunately, our hope has been replaced by despair, anger, frustration, loss of trust in our local, provincial and federal politicians, and a complete loss of trust in the Environmental Assessment process that we all worked so hard to understand and participate in.

[10] Andrew Nikiforuk sums up our position in the very first paragraph his paper *"The Nasty Game: The Failure of Environmental Assessment in Canada"*:

> Environmental Assessment (EA) has become a cynical, irrational and highly discretionary federal policy in Canada. What should be a coherent and democratic filter to ensure that ecological and economic follies do not ruin Canada's natural riches has become a bureaucratic exercise that is neither cost-effective nor conservation-minded.[2]

[11] In our view, provincial and federal politicians have sacrificed the sustainability of the province's natural capital in exchange for short-term political gains, and economic gains for the province that may in fact never be realized. When the Project is completed, the waters of the Grand River will be contaminated with methyl mercury, traditional trapping and portage routes will be submerged, winter travel will be more perilous, the people downstream will live in fear of the failure of the North Spur and the fish, water fowl, seal mammals and fauna that relied on the Grand River will be displaced, depleted or extinct; what will be left for Labradorians?

[2] Andrew Nikiforuk, January 1997, "*The Nasty Game: The Failure of Environmental Assessment in Canada*" https://www.sierraclub.ca/national/n-g/nasty-game.pdf.

Background of Grand Riverkeeper Labrador Inc.

[12] Throughout its existence as an environmental group, Grand Riverkeeper has been guided by the following quote:

> Humans like all other creatures, must make a difference, otherwise, they cannot live. But unlike other creatures, humans must make a choice as to the kind and scale of the difference they make. If they choose to make too small a difference, they diminish their humanity. If they choose to make too great a difference, they diminish nature, and narrow their subsequent choices; ultimately, they diminish or destroy themselves. Nature, then is not only our source but also our limit and measure. - *Wendell Barry* [3]

[13] To tell the story of the involvement of citizens of Labrador in this project we have to go back a long way to 1998 when then Premier of Newfoundland and Labrador, Brian Tobin and the Premier of Quebec, Lucien Bouchard, met and reached an agreement on the Gull Island and Muskrat Falls Hydroelectric project (referred to then as the Lower Churchill Project)[4].

[14] At that time, a group of about 15 to 20 concerned citizens with a diverse background came together in Happy Valley-Goose Bay to discuss what could be done about what they felt was a major environmental and cultural threat to the Grand (a.k.a. Churchill) River. The group included Elders, local knowledge keepers and members of both Inuit communities, Nunatsiavut and NunatuKavut, and from Sheshatshiu Innu First Nation, as well as settler people from the surrounding communities.

[15] Despite the fact that the Tobin/ Bouchard proposal did not come to fruition, the concerned citizens group resolved during the next few years to learn what they could about hydroelectric dams. In particular, we researched about the ecosystem and the Grand River watershed, as well as the environmental, social and cultural impacts of any future natural resource and hydro projects.

[16] With very little capacity and no funds in the beginning, the group did their best to bring in new members and to share and disseminate information about their research, including the negative effects of dams as a whole, and particularly any dam that might be built on the Grand River. At some point, the group began to call themselves the FGRMS and later, when some of the Innu members joined the Innu word Mista Shipu (Great or Big River) was added.

[17] The FGRMS Mista Shipu ("**FGRMS**") shared their knowledge with members of the community through every possible means including: e-mail, meetings, presentations to local schools, presentations to the Labrador Metis Nation (now NunatuKavut), presentations to people in St. John's with help from the Newfoundland and Labrador Environment Network and outreach to various experts for help and information.

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[3] Wendell Berry from his collection "*Home Economics*" as found on the first page of "*Electric Rivers, The story of the James Bay Project*" by Sean McCutcheon, Black Rose Books, Montreal/New York 1991

[4] Brochure about the Grand River produced by FGRMS, https://www.ceaa-acee.gc.ca/050/documents/48375/48375E.pdf, and CBC article "*Quebec and Newfoundland reach Churchill Falls agreement*", February 19, 1998, attached at Tab 1

[18] FGRMS was able to obtain a copy of the 1980's Environmental Assessment (the "**1980 EA**") and we poured through those documents to again, learn all we could. Supporter Susan Felsberg's submission to the Environmental Assessment Review Panel, which highlights several areas of concern raised in the 1980 EA.[5]

[19] There is a sentiment in Labrador, that the Government of Newfoundland views Labrador as a vast, vacant place, teeming with natural resources for it to exploit. Many Labradorians believe that any project envisioned by the Government or a corporation from which the Government would receive royalties will ultimately be approved, despite and in the face of objections from Labradorians. This story has been told and held true over and over for generations.

[20] It was felt that the Government would leverage Indigenous self-government for the Innu in exchange for natural resource exploitation. Given that it appeared to some that the Muskrat Falls Project was bound to go ahead with or without the consent of Labradorians, there was a sentiment that Indigenous groups ought to negotiate the best possible deal for their people that would provide benefits to their community, because opposing or blocking such a project would, in the end, be a fruitless endeavour.

[21] At one particular meeting, FGRMS wondered if we would ever get interest enough from the local community to make much of a difference. We noted that if a new plan to dam the river was put forward and the Innu were compensated as they requested and high-paying jobs were offered to members of the local communities (only 7,500 residents at the time), that it would be virtually impossible to convince enough people that the environmental and cultural risks were too great and that they should reject the project.

[22] While we remained unwavering in our views that the environment, social and cultural consequences were paramount, we all felt that in the end, it would be economics that would win the day. By that time, the group had set out its goals as:

(i) protecting the river and its watershed,
(ii) the promotion of other types of renewable energy and sustainable economic development that would provide local jobs while maintaining the natural flow of the river, and
(iii) sharing the beauty of the river that we enjoyed as paddlers on the river by promoting annual trips from Churchill Falls to Muskrat Falls and sharing photos of the upper river with as many people as possible.

[23] While the FGRMS was not incorporated, the purpose of our group was clear:

to maintain the ecological integrity of Mista Shipu, the Grand River.

[24] In 2005, FGRMS were invited by Mr. Daniel LeBlanc, of the Petitcodiac Riverkeeper in New Brunswick, (the first ever Canadian River to join the Waterkeeper Alliance (the "**WKA**"), to submit an application to the Waterkeeper Alliance in New York requesting to become a member. FGRMS saw

[5] Susan Felsberg submission to JRP, April 2, 2011 attached at Tab 2

this as an opportunity to expand our reach beyond our local community and to support our efforts by connecting with like-minded organizations in other communities. FGRMS members agreed that WKA was a good fit for the work we wanted to accomplish.

[25] Today there are almost 300 members and affiliates in the US and around the world who work to protect rivers and other waterways from pollution and various other destructive actions like mega dams. Our application was filed in March 2005 and in May 2005; two members of the FGRMS travelled to Stroudsburg, PA, to attend the WKA annual general meeting where our application was accepted. Shortly after that we incorporated federally as Grand Riverkeeper Labrador, Inc. ("**GRK**").

[26] GRK shared this knowledge with the broader public through open information and education sessions, from a session co-hosted with Sierra Club of Canada in 2007[6] through to participation in two Muskrat Falls Symposiums in 2018[7], on the ground actions, letters to the editor and much more.

[27] The GRK was the first organization to draw public attention to what it determined were significant flaws in the business case for the Project. In addition to its substantive submissions to the consultative process, the GRK has issued media releases, written letters to Ministers, Premiers and other elected officials from well before sanction, through construction to present. The GRK sought standing in this Inquiry to have an opportunity to illuminate and inquire into the understanding (or lack thereof) of proponents and officials whom the GRK wrote to, met with personally or engaged with leading up to sanction and thereafter.

[28] GRK brought forward the perspective of many Labradorians that as individuals embedded in the affected communities, they have a unique point of view on the risks and impacts of the projects from the social and economic impacts on the community (such as increased costs of housing, food and fuel, increased income disparity), to the differentiated impacts on Indigenous and Settler people, the spiritual and cultural losses inflicted on Indigenous people and the environmental impacts. These concerns were brought forward in the course of the Energy Plan, the Joint Review Panel, the Public Utility Board and to Nalcor and local, provincial and federal officials.

[29] Follow sanction, many citizens including GRK members began engaging in direct action to stop the construction of Muskrat Falls, including letter writing campaigns and demonstrations at the site. When partial flooding of the reservoir without proper clearing became imminent, these concerned citizens were involved in direct action to stop work at the Project site. This group of concerned citizens was referred to by Justin Brake of The Independent as the "**Labrador Land Protectors**". As this paper is intended to address the sanctioning phase and this group was formed later in time, the paper was prepared by and relates to the actions of GRK.

[6] Ms. Blake Rudkowski's short report on these education sessions and two Telegram articles about the events are attached at Tab 3

[7] Muskrat Falls Symposium, February 2018, Happy Valley Goose Bay, http://aptnnews.ca/2018/02/23/labrador-symposium-reveals-deep-diverse-opposition-muskrat-falls/
Muskrat Falls Symposium, September 2018, Memorial University, http://www.muskratmun.com/

Words from the Community

We note that GRK is a collective of community members, Elders and knowledge keepers. We note that many of them were not able to be involved in the preparation of this paper; however, we were able to capture some of their words and include them here to acknowledge the importance of their voices in this collective.[8]

Of the Damage/ Loss:

> "When this project is done, what's the next thing they're going to come and take without asking? They come, grab and go."
> –Peggy Blake

> "I want to bring my son to the river, show him where I fished"
> – Herman McLean

> "Northern resources flowing South with little or no benefit to the people of the North. There's only one word to describe it: immoral"
> – Sue Felsberg

> "It's a new type of genocide" – Anonymous

Of the Process and Inquiry:

> "It feels like we're David meeting Goliath"
> - Sylvia Moore

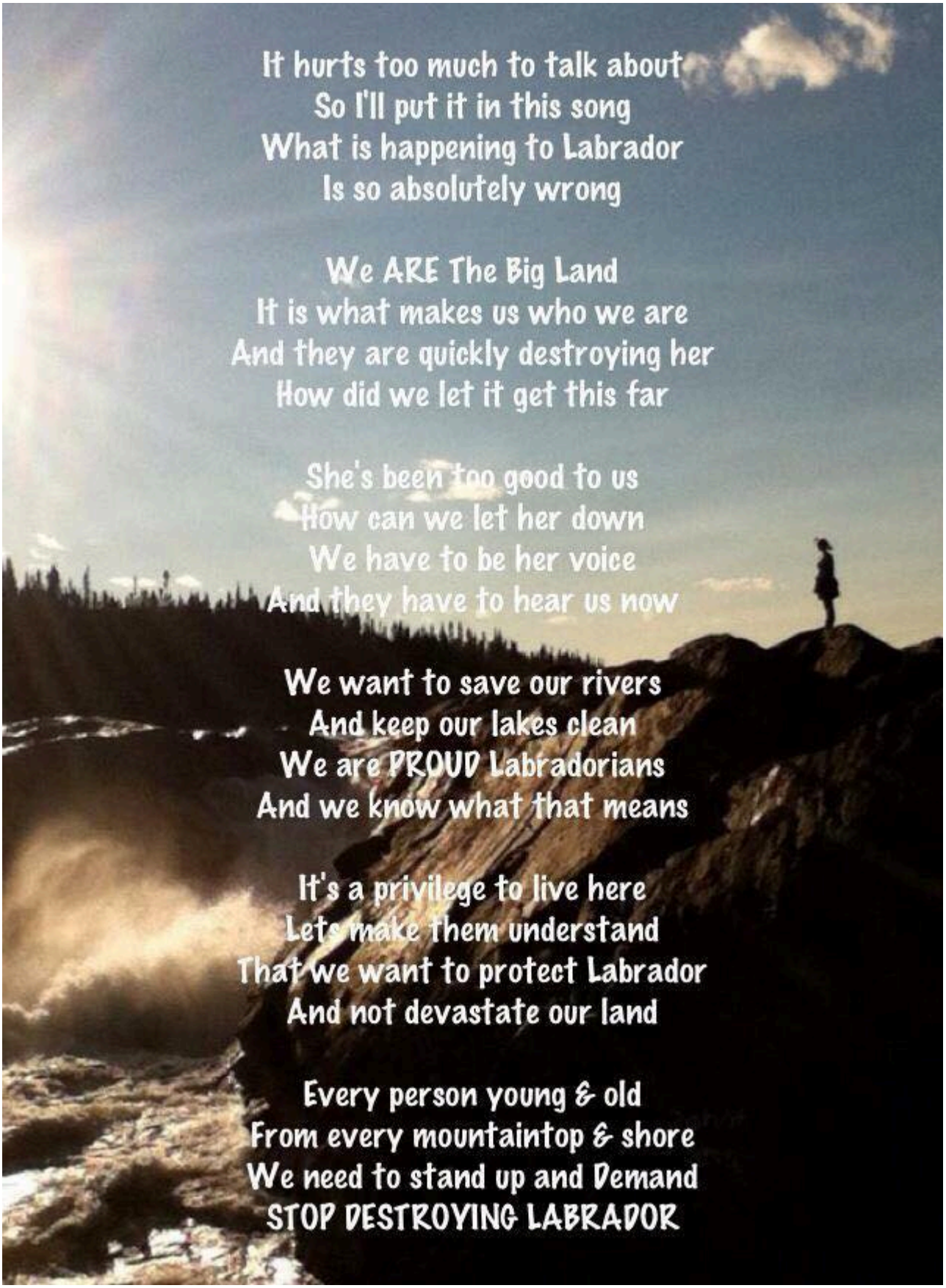
> "Our land is good enough to destroy but not good enough to sit at our table"
> – Linda Saunders-McLean

> "If not for us we wouldn't be having this inquiry. Don't lose heart, groups like ours are the butterfly wings that make a difference"
> - Jim Learning

> "This Inquiry is meant to give comfort to people about electricity rates. What about all we've lost? I can't go there to pray and do ceremony. The whole thing was just another colonial process"
> – Denise Cole

> "We've been protesting about the environment for years, but it's only when they start talking about the money that anything seems to happen"
> - Sam Davis

[8] From a meeting held in Happy Valley Goose Bay, September 16, 2018


It hurts too much to talk about
So I'll put it in this song
What is happening to Labrador
Is so absolutely wrong
We ARE The Big Land
It is what makes us who we are
And they are quickly destroying her
How did we let it get this far
She's been too good to us
How can we let her down
We have to be her voice
And they have to hear us now
We want to save our rivers
And keep our lakes clean
We are PROUD Labradorians
And we know what that means
It's a privilege to live here
Lets make them understand
That we want to protect Labrador
And not devastate our land
Every person young & old
From every mountaintop & shore
We need to stand up and Demand
STOP DESTROYING LABRADOR

PART I – History of GRK Involvement

[30] The ecological and cultural significance of the Grand River cannot be adequately expressed with words, but Susan Felsberg has endeavoured to represent the impact and significance of the river on her own life and sense of belonging to this place:

> The river is magnificent, gains one's abiding respect, is ever changeable, and has to be seen and experienced in an autumn gale of ocean proportions, in a solid white mass of swirling snow when visibility is reduced to six inches, in the ice stillness of midwinter, and in the glassy calm of a moonlit summer night. It is under such circumstances that one earns one's place in a country, and in return one feels that a very small piece belongs in one's heart.[9]

[31] It is important to keep this at the forefront of our discussion of the impact of the Project. Methyl mercury, boom and bust cycles, possible failure of the North Spur - these are quantifiable risks. They are risks that can be easily communicated and understood even by those who don't live here and may never experience their effects. The loss of this magnificent feature of natural beauty and cultural heritage can only truly be understood by those people and creatures who experienced this place before the Project.

Ongoing concerns 40 years in the making

[32] We note that many of the issues and concerns raised by GRK were exposed and reported in the first Environmental Assessment of the Gull Island and Muskrat Falls project (the "**1980 EA**") prepared in 1980 by the Environmental Assessment Review Panel (the "**EARP**"). In particular, we noted, and Susan Felsberg reminded us, that the following issues were brought out in the EARP Final Report dated December 1980, and concern about these issues persists to this day:

(i) concern for slope instability along the riverbank, including the area of the natural dam (page 21, para 2)

(ii) increased erosion downstream of Muskrat Falls, if the project was demonstrated to have increased erosion, the Proponent would have to assume responsibility for necessary corrective actions (Page 21, para 5);

(iii) "*The only changes in water quality of importance relate to i) increased erosion capability downstream, and ii) elevation of mercury levels in fish" (*page 22, para 8)*;*

(iv) *"The community of Sheshatshiu expressed concern about mercury contamination"* (Page 23, para 6);

(v) *"monitoring of erosion below Muskrat Falls would be required for potential river bank slumping downstream of the power generating station"* (Page 45, Chapter 3, "Major Conclusions" Item 4); and

(vi) *"monitoring of mercury levels in the reservoirs and downstream would be necessary as part of the impoundment program"* (Page 45, Chapter 3, "Major Conclusions", Item 9).

[9] Susan Felsberg submission to the JRP, April 2, 2011 attached at Tab 2

[33] Ms. Felsberg also pointed out that the 1980 EA also highlighted the following internal Federal Government correspondence in its Compendium of Comments to the Panel, dated July, 1980:

(i) From R.G. Skinner, Head of the Office of Environmental Affairs in the Department of Energy, Mines and Resources to the EARP Chair, dated June 26, 1980:

> Comments have been raised concerning seismicity, slope stability of reservoir margins, stability of the "natural dam" area at Muskrat Falls, erosion problems in the work area and downstream sections.[10]

(ii) From R.J. Fulton, Head of Regional Projects Section of Terrain Sciences Division to EARP Chair, dated June 20, 1980:

> Stabilizing "natural dam" area at Muskrat Falls. - One segment of the Muskrat Falls dam consists of a natural sediment plug in a buried valley. The sediments consist largely of sands and estuarine and marine silts. Leakage and potential failure could be anticipated in this area. The worst possibility, failure, could cause flooding of Happy Valley and a triggering of many bank failures due to the sudden drawdown of the reservoir.
>
> Lower Churchill Development Corporation is very much aware of the potential problem and has conducted extensive geotechnical studies…that should secure this portion of the "dam"[11] [emphasis added]

[34] Ms. Felsberg, who is a resident of the lower valley, and has a homestead in Mud Lake, where she spent most of her early years in Labrador, stands to potentially lose both her current home in the lower valley and her homestead should the dam or dams fail. She made the following comments in summary of the above-referenced passages:

> These above quotes, and others similarly in the 1980 context, clearly demonstrate that these crucial features of the Project, now of paramount concern in the consideration of health and safety in 2018, were discussion features of the Project in 1980, waiting to be addressed adequately by Nalcor in their subsequent years of planning. These EARP concerns were surely instigated by an earlier generation of the public, additional to the professionals of 1980. These debates are not just of recent origin waiting for review, they date back forty years.[12]

[35] Over the past 40 years, proponents of the Project, whether it be Newfoundland and Labrador Hydro, the Government of Newfoundland and Labrador, or Nalcor have all been aware of concerns of local people and to this day, those concerns remain relevant as GRK feels they have not been properly addressed.

[10] Government of Canada, "Lower Churchill Hydroelectric Environmental Assessment Panel: Compendium of Comments" July 1980 attached at Tab 4
[11] *Ibid*
[12] Susan Felsberg submission to the JRP, April 2, 2011 attached at Tab 2

Grand River on Endangered Rivers List

[36] On July 24, 2003, FGRMS member Clarice Blake Rudkowski's letter to the editor was published in the Telegram regarding the Churchill River in Labrador making the environmentally endangered list compiled by Earth Wild and wildcanada.net -- organizations dedicated to raising the profiles of Canadian rivers threatened by human activity. She states:

> I strongly disagree with Environment Minister Robert Mercer in several respects. He suggests that hydroelectricity is an eco-friendly source of power -- clean, safe, green. Thousands upon thousands of dams have been built worldwide and there are mountains of evidence about the negative impacts of such projects. [13]

[37] She goes on to discuss impacts of the Upper Churchill Hydroelectric project:

> **methyl mercury poisoning** which moves through our food chain (Health Canada warns we should eat only one meal of trout a month); there is loss of habitat for our wildlife; salination of drinking water as far downstream as Northwest River; and siltation is happening in the reservoir itself, as well as downstream. In addition, the reservoir emits **CO2 and methane gas, adding to greenhouse gases**. [14] [Emphasis added]

[38] In 2005, as rumblings had been heard that the idea of a hydroelectric project damming the Grand River was again gaining steam, the newly minted Grand Riverkeeper Labrador (the "**GRK**") began re-invigorating its outreach in earnest.

Documentary – "Grand River: Labrador's Treasure, Newfoundland's Secret"

[39] In the spring of 2005, GRK was approached by the Sophia Hilton Foundation in Ontario, which offered to paddle the river with us in August of 2005 and to produce a documentary with a donation from the Sophia Hilton Foundation and Mountain Equipment Co-op.

[40] The film was titled "Grand River: Labrador's Treasure, Newfoundland's Secret"[15] and was donated to the Labrador Heritage Society on behalf of GRK in 2006. The documentary is approximately 18 minutes long and we sincerely hope that the Commission will have an opportunity to review it.

[41] The documentary attempts to capture the beauty and majesty of Mista Shipu, the Grand River and the cultural attachment and meaning for the three local Indigenous groups and local settlers and trappers. It draws attention to issues of methyl mercury, including impacts to the ecosystem, animals and the food sources they represent; the challenges of clear cutting the banks; instability of the land and erosion and turbidity.

[42] The documentary interviewed Eldred Davis, Roberta Frampton Benefiel, Helen Michel Andrew, Chris Montague, Maxwell McLean, Dr. Stephen Loring, Ken Meade, Jo Anne Walton, Clarice Blake Rudkowski, Dr. Jane MacGillvary, Herb Brown. In the film, Herb Brown poignantly states:

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[13] Clarice Blake-Rudkowski , July 24, 2003, letter to the editor published in the Telegram attached at Tab 5
[14] *Ibid*
[15] The documentary can be found in two parts on YouTube at https://www.youtube.com/watch?v=mfghUcWv2RY and https://www.youtube.com/watch?v=YQhBOoHVbeY .

> This river was where their ancestors went for their livelihood. Innu children need a place like this, to go back to, to find their roots. You can't put a value on history and heritage and cultural opportunities.

Consultation on the NL Energy Plan

[43] On January 17, 2006, GRK made submissions to Minister of Natural Resources, Ed Byrne as part of the consultation process for the provinces renewed energy plan.[16]

Lower Churchill Project registered

[44] On November 30, 2006, the proponent, then Newfoundland and Labrador Hydro, registered the Lower Churchill Project with the NL Department of Environment for assessment.

GRK's Advocacy and Engagement in the Community

[45] On January 13, 2007, GRK President, Clarice Blake Rudkowski, presented at three different sessions in St. John's, NL at the Masonic Lodge to educate people interested in the Hydro project about issues with the Upper Churchill and GRK concerns about the proposed Lower Churchill project. Our DVD Labrador's Treasure/Newfoundland's Secret was shown and a lively question and answer period took place after each session. There were on average 30 participants in two of the sessions and around 50 participants in one session. These sessions were hosted by the Northeast Avalon Sierra Club, St. John's.[17]

[46] While these sessions were not aimed directly at the Government or Nalcor, they were reported on in local media and are examples of GRK involvement with the issues and public engagement prior to the sanctioning of the Project.

[47] GRK continued to keep the subject in the public eye. On June 25, 2008, GRK prepared information sheets which were distributed while they portaged a canoe through St. John's to educate and promote awareness of the ecological, cultural, aesthetic and economic impacts of the proposed Lower Churchill Hydroelectric Project. Following the demonstration, GRK held a meeting with concerned citizens to discuss alternatives and other important issues relating to the Project.[18]

[48] GRK attended nearly every single open house during the lead up to the EA hearings. On April 8, 2009, GRK disseminated a press release entitled "*Lower Churchill Hydroelectric Generation Project - Public Need Not Attend*" criticizing the manner in which Nalcor held its information sessions held in Happy Valley-Goose Bay as lacking in transparency and public engagement. They opined that the closed session which did not provide meaningful opportunities for dialogue or participation was contrary to the Corporation's mandate for full and open consultation.[19]

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[16] GRK letter to Minister Byrne dated January 17, 2006 attached at Tab 6.
[17] Blake-Rudkowski's report and two Telegram articles about the events are attached at Tab 3
[18] GRK press release from June 25, 2008 attached at Tab 7
[19] GRK Press Release from April 8, 2009 " *Public Need Not Attend*" attached at Tab 8

[49] On November 16, 2009, GRK published a press release entitled "*Lower Churchill Project: Not Green, Not Clean, Not Cheap*".[20]

[50] **Interviews with concerned citizens in affected communities:** As noted above, in 2009, GRK employed a SWASP student, Ossie Michelin, who taped and edited interviews with various people in the communities of Mud Lake, HVGB and Sheshatshiu speaking about their concerns about the Lower Churchill Project. Those DVD's were submitted to the JRP in 2011.[21]

[51] Many in Mud Lake were concerned about the failure of the North Spur or one of the other dams, as were people in the Lower Valley. Others were concerned about the influx of workers, of money that would precipitate more drugs, of housing and rental costs increasing, and many other issues.

[52] May 10, 2010, GRK and other environmental groups publish press release entitled "*Remove attacks on Environmental Protection from Budget Bill*".[22]

[53] **Presentation to HV-GB re Project Impacts**: On May 20, 2010, GRK provided a presentation to the Town Council of Happy Valley-Goose Bay that summarized available research (from Infrastructure Canada) regarding the development "boom" and "bust" effects and impacts on small communities near large resource development projects.[23]

[54] On September 19, 2011, GRK prepared a press release entitled "*Navigant Report Fails to Address Concerns Raised by the Joint Review Panel*".[24]

[55] **The Canadian Research Institute for the Advancement of Women**, between 2011 and 2016, carried out research and engagement with community to study Northern developments, including the Lower Churchill Project, and their effects on diverse groups of women and the broader community. The research project was a part of FemNorthNet and members of the GRK and the LLP worked with FemNorthNet to gather input and contribute to the dialogue on the Project, including preparing press releases, research papers and informational videos. FemNorthNet has since been defunded, but the knowledge is retained within the membership of the GRK and the LLP. We strongly recommend that anyone with an interest in the project review the materials that remain available on their website. [25]

[20] GRK Press Release November 16, 2009 attached at Tab 9
[21] A list of the interviews submitted April 13, 2011 is attached at Tab 10
[22] GRK Press release May 10, 2010 attached at Tab 11
[23] GRK Presentation to HVGB Town Council, 2010-05-20, Lower Churchill Hydro Project and Sustainable Development attached hereto at Tab 12
[24] GRK Press Release of September 19, 2011 attached at Tab 13
[25] http://www.fnn.criaw-icref.ca/en/page/happy-valley-goose-bay

PART II - Environmental Impact Statement Process

[56] On January 15, 2007, GRK wrote to then Minister of Environment and Conservation, Clyde Jackman, requesting to be stakeholders in the Environmental Assessment ("**EA**") process of the Lower Churchill Project.[26]

[57] On June 5, 2007, Federal Minister of Environment, John Baird advised the proponent that the assessment would be an independent review panel and from there, the Province and the Federal Government proceeded with meetings to establish a joint panel and set out the terms for their engagement in the process. The proponent would also need to submit an Environmental Impact Statement ("**EIS**").

GRK input and involvement in Environmental Impact Statement (EIS) Guidelines

[58] In early spring of 2007, GRK applied for and was granted funding to enable it to review the guidelines for the EIS on the Lower Churchill Project from December 19, 2007 through February 27, 2008. With the $13,000 we were awarded, we were able to bring experts to Labrador from January 19-20th 2008 to speak with the affected communities.

[59] Three meetings were held, one in Happy Valley-Goose Bay one in Northwest River and one in Mud Lake, to provide information to the public and solicit input that would be included in recommendations to government on the draft guidelines for the Environmental Impact Statement for the Lower Churchill Hydro Project. Experts lead the discussions and notes were taken of issues various citizens brought up.

[60] Experts included Phillip Raphals of the Helios Centre in Montreal, Dr. Raheem and Dr. Murray Rudd, Canada Chair in Environmental Economics from Grenfell College, and others experienced in former environmental assessments such as Bruno Marchocchio of the Sierra Club of Canada.

[61] In Mud Lake, the ice conditions and flooding were brought up by nearly all participants.

[62] In Northwest River, participants were concerned that the views cape from the Interpretation Centre over the narrows would be spoiled with wooden power poles and there was a concern regarding salt water intrusion, and the placing of sea-electrodes in the salt water just down past the mouth of the river.

[63] In Happy Valley-Goose Bay, participants mentioned all of the above concerns as well as the social impacts of the Project on the community, the loss of the river, the fish habitat loss, methyl mercury, salt water intrusion on the Town's water wells, and the possibility of dam failure and the need for an evacuation plan.[27]

[26] GRK letter to Minister Jackman dated January 17, 2007, attached at Tab 14
[27] Meeting announcement and photo taken at meeting in Northwest River are attached at Tab 15

[64] GRK set up an office for several months, staffed by a SWASP student. A call went out for people with literacy and computer literacy difficulties to come to the office and have the student type up their concerns and submit them to the CEAA on their behalf. The letters prepared by GRK for local people were submitted and can be found in the complete EA records.[28]

[65] GRK incorporated the information obtained during the public consultations and feedback, as well as from the statements gathered, together with their research in making its submissions in respect of the EIS and EA processes.

GRK's impact on the EIS Guidelines

[66] GRK's then treasurer, Eldred Davis, in his submissions raised concerns regarding seismic hazards in respect of the Project, as follows:

- Past studies show little support for a 99 meter high dam (loose material) and very weak rock quality, poor core recovery and the presence of a major lineament. Also, the whole area has been shaken by tremors in the not-to-distant past.[29]

[67] We note that Natural Resources Canada in its comments related to public consultation on the Lower Churchill EIS Guidelines , on page 6, stated as follows:

1. Topic: seismic hazards/earth quakes/faults
   Modify NRC-8 to read:
   - Regional seismicity (natural and reservoir induced) and documentation of the relevant geological structures (lineaments, faults, joints).[30]

[68] Natural Resources Canada made changes to the guidelines based on GRK's comments and stated at the end of this section: "No additional comments are needed. The earth quakes will be covered with our NRC-8." The above is an example of an instance where government officials took comments from the public and GRK seriously and incorporated them into the decision-making process.

[69] On September 4, 2007, GRK was granted standing as interveners in the Environmental Assessment ("**EA**") process and was awarded $64,000.00 to participate in that process.[31]

GRK Feedback on [In]adequacy of EIS

[70] On May 23, 2009, GRK wrote to the CEAA and the JRP regarding the adequacy of the Environmental Impact Statement submitted by Nalcor for the Project.[32] The letter addressed the following subjects:

(i) Adjacency Principle, sustainable development and the Precautionary Principle;

[28] A sample of these letters (by no means all) are attached at Tab 16
[29] Eldred Davis submission to JRP Document February 27, 2008, see section 3.4.3. attached at Tab 17
[30] Natural Resources Canada Comments re EIS, April 29, 2008 attached at Tab 18
[31] https://www.newswire.ca/news-releases/federal-funding-awarded-to-participate-in-the-environmental--assessment-of-the-lower-churchill-hydroelectric-generation-project-536578951.html
[32] GRK submission of May 23, 2009 attached at Tab 19

(ii) Disputing the notion that Hydro is "Green Energy" and questioning whether alternatives to the Project were duly considered and inadequacy of the information relating to these;

(iii) Red Wine Caribou herd: GRK expressed the concern that this herd was already endangered prior to the Project and extirpation must be avoided. GRK insisted that Nalcor ought to be required to develop and act on mitigation measures to ensure the Project did not further harm the Red Wine Herd.

(iv) Cumulative effects: GRK insisted that the environmental effects of the Upper Churchill project must be considered along with the effects of the Lower Churchill.

(v) Reservoirs and Flooding: GRK lacked confidence in the total sq kms stated by Nalcor as the flood zone and despite three requests for information from Nalcor, it refused to share its methods for determining the area to be flooded. As such, GRK's GIS expert could not re-create the inundation maps.

(vi) Public Participation: GRK recommended that different style of consultations be implemented: one in which a consensus might be reached, and that was culturally sensitive and meaningful to the participants.

(vii) Unsafe Winter Travel: GRK raised concerns regarding how hydroelectric projects create dangerous ice conditions and the potential impacts of the Project on winter travel.

(viii) Classification of Forests: for the purpose of assessing the need for protection and mitigation measures. The forestry department stated that the forest within the river valley was no different than the rest of the forest in the district, all deemed "Old Growth". GRK disagreed with this assessment. Having paddled the river several times and observed and photographed the trees, in the river valley, GRK found that the river valley forest was pristine and unique, likely due to the fact that it is a deep glacial valley that is 10 degrees warmer at any given time than the land above the valley.

(ix) Lack of Emergency Preparedness and/or Evacuation Plan for the lower valley and Mud Lake.

(x) Inadequate Fish Habitat creation and compensation: GRK referenced a report from GNL that indicates for every 1 hectare of river habitat destroyed, 42.857 hectares of lake habitat must be created in order to compensate for salmonoid habitat.[33] GRK advocated for an Independent review of any HADD compensation plan and an assurance that these figures would be used when river habitat had to be created. However, we have not been notified whether our recommendation was accepted.

(xi) Downstream effects of the project: GRK disputed the proponent's assertion that the Project would have no impacts beyond the mouth of the river and advocated for the inclusion of these impacts in the analysis.

[33] Ryan, P.M. 1998. A model for freshwater habitat compensation agreements based on relative salmonid production potential of lakes and rivers in Insular Newfoundland, Canada. Proceedings of the Annual meeting of the Can. Soc. Enviro. Bio. "*Assessment and impacts of megaprojects*". pgs.119-124 and attached at Tab 20

PART III – GRK involvement in the Joint Review Panel Assessment Process

> ***"Sustainable development seeks to meet the needs of present generations without compromising the ability of future generations to meet their own needs.***
>
> *The Objectives of sustainable development are: the preservation of ecosystem integrity, including the capability of natural systems to maintain their structures and functions and to support biological diversity; the respect for the right of future generations to the sustainable use of renewable and non-renewable resources; and the attainment of durable and equitable social and economic benefits."*

[71] GRK fears that not only has any future use of the Grand River been robbed from future generations, but, that also, the integrity of the Grand River ecosystem has now been compromised such that their structures and functions to support the biological diversity that existed before Muskrat Falls has been or will be destroyed.

[72] On the economic side, the cost of this project has put future generations at risk, for example the loss of social benefits that could have been provided with the estimated $13 Billion that will be spent on the Project, electricity rate hikes that make energy less affordable and low employment given the relatively few long-term stable jobs provided by the Project. This Project cannot be misconstrued as "sustainable development".

[73] The Joint Review Panel ("**JRP**") was established by Canada's Minister of the Environment, the Minister of Environment and Conservation for Newfoundland and Labrador, and the Minister for Intergovernmental Affairs for Newfoundland and Labrador to provide an Environmental Assessment of the Lower Churchill Hydroelectric Generation Project. GRK participated in every aspect of the JRP process.[34]

[74] The JRP ultimately concluded:

> **The Panel has determined that the Project would have several significant adverse environmental effects on the aquatic and terrestrial environments, culture and heritage and, should consumption advisories be required in Lake Melville, on land and resource uses.** The Panel does not make the final decision about the Project. Government decision makers will now have to weigh all effects, risks and uncertainties in order to decide whether the Project is justified in the circumstances and should proceed in light of the significant adverse environmental effects identified. Therefore, the Panel has provided further advice to help answer the question of whether and how the Project would contribute to sustainability. [35]

[34] GRK registration for JRP sessions attached at Tab 21 and Closing Remarks at JRP Transcript 49792E starting on pages 59, 120, 124, 125, 130, and 150

[35] Joint Review Panel Report on the Lower Churchill Hydroelectric Generation Project ("**JRP Report**"), Summary

Cumulative Effects

[75] GRK advocated for the inclusion of all Project components and other contemplated projects in the assessment of cumulative effect, in particular the transmission lines. The Project was to be built in the middle of Labrador with absolutely no way to realize any of its purported benefits without the construction of a transmission line. Therefore the environmental effects of the transmission line must be included along with the effects of the generation project to truly assess the cumulative effects of the Project. GRK wrote to Minister Prentice in respect of same on March 23, 2010.[36]

[76] GRK also noted that other planned projects should have been considered, such as the proposed uranium mine with its new road. GRK submitted that a regional assessment was necessary to assess the effects of all these proposed projects on the ability of the ecosystem to adapt and survive. A single project assessment that is narrowly scoped can be for the ecosystem in general, as was stated in GRK's closing submission to the JRP Hearings**, "Death By a Thousand Cuts".**[37]

[77] **Known Impacts of Hydroelectric Projects Not Mitigated**: In Summer 2010, H.T. Blake, P. Eng., on behalf of GRK submitted his report "*An Assessment of Changes to the Local Ecology due to the Upper Churchill Hydroelectric Power Development*",[38] in which he notes risks which were known, but mitigation measures were not implemented including changes to height of land, **methyl mercury,** changes in **water flows**, and **salination.**

[78] The Canadian Council of Ministers of the Environment (CCME)'s 2009 "*Regional Strategic Environmental Assessment in Canada: Principles and Guidance*", states:

> Regional strategic environmental assessment (R-SEA) has been identified as a key area of interest by the Canadian Council of Ministers of the Environment. An inherently proactive and futures-oriented approach, R-SEA is a means to ensure that planning and assessment for a region support the most desired outcomes rather than the most likely ones.
>
> R-SEA is envisaged as a means to assess the potential environmental effects, including cumulative effects, of strategic policy, plan and program alternatives for a region. In doing so, R-SEA can support the preparation of a preferred regional development strategy and environmental management framework and inform subsequent project-based environmental assessment and decision processes.[39]

[79] GRK advocated for a regional strategic environmental assessment approach to the Lower Churchill Project. It is clear that information and guidance as to the benefits of such an approach was readily available to the proponent and the Government as early as 2009. Such a process would have integrated concerns and input for local residents and may have resulted in the project being ultimately barred from proceeding.

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[36] GRK Letter to Minister Prentice dated March 23, 2010 attached at Tab 22
[37] GRK's closing submission to the JRP Hearings, "Death By a Thousand Cuts" attached at Tab 23
[38] GRK submission An Assessment of Changes to the Local Ecology attached at Tab 24
[39] https://www.ccme.ca/files/Resources/enviro_assessment/rsea_principles_guidance_e.pdf on page 5

[80] As evidenced below, GRK notes that the Muskrat Falls generation project was assessed individually for the purposes of the EIS/EA process; however, the Lower Churchill Project was assessed together with the transmission lines for the purpose of the financial analysis and business case. While this has the short-term effect of streamlining the EA process, it fails to adequately incorporate all known elements into the assessment and therefore presents an incomplete picture of the impacts.

[81] The JRP noted:

> Although the study area in relation to fish and fish habitat included all accessible tributary and stream habitat (i.e. below any obstructions) between the Churchill Falls tailrace and the mouth of the Churchill River, the main stem and tributaries below Muskrat Falls were excluded from some of the analyses/component studies without sufficient rationale. There was also insufficient rationale provided for excluding Goose Bay estuary/Lake Melville from the study area.[40] [emphasis added]

[82] The Proponent's response to the concerns expressed about effects beyond the mouth of the river was to double down on their assertion that impacts would be negligible and that the aquatic area examined was appropriate for predicting the likely Project effects and their significance. [41]

[83] The Nunatsiavut Government, due to their concerns regarding methyl mercury contamination in country food, initiated a study with help from Memorial University and Harvard University and were able to demonstrate that they had legitimate concerns, based on credible scientific evidence. However, the Government of Newfoundland and our MHA continue to ignore the recommendations of an Independent Expert Advisory Committee and still nothing has been done to mitigate the effects of flooded soil and vegetation downstream of the Project.

[84] GRK submitted information requests on various components of the EIS in hopes that these would draw the Panel's attention to our concerns and require Nalcor to provide more robust explanations, or ultimately to amend portions of the EIS to include a greater aquatic area.

[85] GRK questioned Nalcor's statements that there would be no effects beyond the mouth of the river and requested that the study area be expanded to include the effects of the project out into Goose Bay and Lake Melville along with a long list of other participants who also questioned the study area.[42] The IRs can be found in 5 volumes dated October 9, 2009.[43]

[86] GRK, and others, commented that impoundment of the river could affect hydrology, water quality, sediment and ice dynamics, fish and marine mammals, and mercury concentrations as far downstream as Lake Melville. The JRP states:

> Section 4.4.2 of the EIS Guidelines requires the study area (referred to as Assessment Area in the EIS) to include all of the landscape necessary to predict the environmental

[40] JRP Information Request # JRP.43 page 2
[41] CEAA Reference No.07-05-26178, Volume 1
[42] CEAR #200, CEAR #206, CEAR #198, etc.
[43] JRP #39651

effects of the Project on each VEC, and a rationale for delineating the boundaries of that study area.[44]

Failure to include upstream project on cumulative effects

[87] Dr. Annette Luttermann, on behalf of GRK, drew the attention of the Panel to the problem with the proponent's failure to include the Upper Churchill Project in its assessment and EIS:

> With regards to hydroelectric facilities, the proponents consider only those cumulative effects that are perceived to directly overlap with the immediate spatial footprint of the proposed dams, reservoirs and generating stations. (See Figure 9-2 Cumulative Environmental Effects Assessment Screening Process p. 9-29) The authors of the EIS explain that the existing Churchill Falls facilities are excluded from more comprehensive cumulative effects assessment because the effects from that project are already taken into account in the baseline description of the study area. However, the baseline documents demonstrate very limited analysis or understanding of the likely environmental effects of the Churchill Falls project on downstream reaches.[45] [Emphasis added]

[88] GRK consulted with Dr. Rosenberg, who in his 1995 paper entitled "*Environmental and social impacts of large scale hydro-electric development: who is listening?",* analyzed three claims often used to support large scale hydroelectric development: 1) hydropower generation is clean, 2) water flowing freely to the ocean is 'wasted' and 3) local residents (usually Aboriginal) will benefit from the development.

[89] Dr. Rosenberg, on behalf of GRK, commented the following:

> Nalcor's EIS of the Lower Churchill needs to include the extant Churchill Falls development and the Smallwood Reservoir because it is total river development that shows up as cumulative downstream effects. Should the project be approved, the downstream offshore effect of total river development and altered hydrographic conditions should be examined by an appropriate scientifically rigorous research program.[46]

[90] Roberta Benefiel, on behalf of GRK, agreed with Dr. Rosenberg's statement that the cumulative effects of the upper Churchill Project should be considered and then asked him the following question regarding his view of the extent of methyl mercury contamination downstream of a reservoir:

> Ms. Benefiel: However, GRK has continuously brought out throughout this environmental assessment process that the flows were changed quite considerably with the Upper Churchill

[44] JRP IR #43 at Section 4.2.2
[45] Annette Luttermann letter to the JRP dated May 19, 2009 attached at Tab 25
[46] Transcript 49334E of Dr. David Rosenberg's presentation on April 1, 2011 page 228, 229
Links to papers by Dr. Rosenberg et al: Environmental and social impacts of large-scale hydroelectric development: Who is listening? https://www.sciencedirect.com/science/article/pii/095937809500018J
Large-scale impacts of hydroelectric development: http://www.nrcresearchpress.com/doi/pdf/10.1139/a97-001
Reservoir Surfaces as Sources of Greenhouse Gases to the Atmosphere: A global Estimate
https://academic.oup.com/bioscience/article/50/9/766/269391

> project and that's one of the reasons why we think the cumulative effects need to be addressed more, but besides that, there's another question about the downstream effects of methylmercury. And one of your articles -- and I don't remember if it was '97 article or the '95 article, you discussed downstream effects of methylmercury going as far as, I believe, it was 300 kilometers, is that right?
>
> Dr. Rosenberg: It's quite far downstream. As I recall it was the 1997 paper, we weren't sure exactly why that was happening and I'm, again, not a mercury specialist, so I can't tell you what the latest is on mercury transport downstream but I think it does occur and it can be fairly long.[47]

[91] The assessment of the cumulative effects of the Project must include the Upper Churchill project and in failing to do so, the EIS was flawed and inadequate. Further, Nalcor's failure to consider downstream effects of the Upper Churchill project is indicative of its ignorance (willful or otherwise) of the complete, cumulative and extensive impacts of hydroelectric generation.

Boundaries for assessment area

[92] Dr. Luttermann on behalf of GRK, addressed the proponent's use of the same boundaries for most of the assessment of VECs, whereas the Guidelines suggest that it is appropriate to use larger boundaries in general for cumulative effects assessment. She notes that the Guidelines state, "[t]hese cumulative effects boundaries will also generally be different from (larger than) the boundaries for corresponding Project effects".[48]

Threshold for "significant effect" too high

[93] Dr. Luttermann, on behalf of GRK, explain how the "thresholds used to determine significant effects were so high that they were meaningless:

> It appears that any environmental effect short of causing the regional extirpation of a species is considered to be "not significant" by the proponent. If this is an acceptable measure of a significant effect, it is perhaps not necessary to conduct environmental assessments for even very large projects in boreal regions since most boreal species are widespread and resilient. For the environmental impact assessment exercise to be meaningful, we should not rely on such simplistic and potentially misleading conclusions to inform decision-making.[49] [emphasis added]

[47] Transcript 49334E
[48] EIS Guidelines at page 35
[49] Dr. Annette Luttermann letter to the JRP dated May 19, 2009 attached at Tab 25

Example - Eelgrass

[94] GRK wishes to use the treatment of eelgrass to illustrate the impacts that were excluded from the EIS and EA process.

[95] In 2009, Along with many other interveners and Government Departments, GRK stated the study area for the Generation Project should be expanded to include Goose Bay and Lake Melville in order to predict the environmental effects of the Project on each VEC because we were concerned that the impoundment of the River could affect hydrology, water quality, sediment and ice dynamics, fish and marine mammals, mercury concentrations, etc. as far downstream as Lake Melville.[50]

[96] The JRP issued Information Request # 43 **to** Nalcor requesting further information on several issues, including the following:

(i) The Proponent is asked to provide a more thorough analysis of potential impacts of the main stem and tributaries below Muskrat Falls, the Goose Bay Estuary and Lake Melville including:

i. information on the presence of eelgrass beds in the Churchill River estuary and, if there are any, the potential impacts of the Project on this habitat and any proposed mitigation measures.[51]

[97] **Nalcor's response:** Jacques Whitford (2001) conducted a biological survey of Goose Bay and the eastern end of Lake Melville in 1998. Surveys were completed both by boat and helicopter to characterize shoreline habitats and sample sites. No eelgrass beds were recorded in the study area. In addition, no eelgrass beds were documented in the 1999 sampling of Goose Bay Estuary and Terrington Basin surveys completed by AMEC.[52]

[98] However, DFO paper entitled: "*Does Eelgrass (Zostera marina) meet the criteria as an ecologically significant species*" states:

> In Newfoundland, eelgrass is distributed around the entire island with the greatest abundance on the southwest coast, which has more suitable habitat for eelgrass. Most of the surveys are only sufficient for delimiting presence but not for estimating abundance**.** <u>It has been identified as far north as Nain (Labrador) and is extensively distributed in Lake Melville</u>**.** Distribution of eelgrass in Newfoundland is constrained by coastal features and the extent of ice scour. There are no estimates of area coverage in Newfoundland, except in a small number of individual embayments (e.g. Newman Sound). There are several large beds on the west coast of the island. **[53]** [emphasis added]

[99] In May of 2009, the Canadian Science Advisory Secretariat Science Advisory Report 2009/018 indicates that DFO was not only aware of eelgrass, but was considering designating eelgrass as an Ecologically Significant Species for the following reasons:

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[50] CEAA REFERENCE NO. 07-05-26178, (CEAR 200, CEAR 189, CEAR 198, CEAR 206)
[51] JRP IR # 43 Item number (f) on page 21
[52] AMEC Report 2000
[53] http://waves-vagues.dfo-mpo.gc.ca/Library/337549.pdf at page 5

• Eelgrass (Zostera marina) occurs commonly in eastern Canada.

• Under pristine conditions, eelgrass is a persistent and constant habitat feature.

• Loss of eelgrass and other seagrass populations is a worldwide phenomenon largely associated with anthropogenic stresses. Eelgrass populations have been lost in virtually all areas of intense human settlement.

• Eelgrass plays an important role in the physical structuring of the near shore marine environments by filtering the water column, stabilizing sediment, and buffering shorelines.

• Eelgrass meadows have extremely high levels of primary production, ranking among the most productive ecosystems on the planet.

• Eelgrass adds spatial complexity above and below the substrate creating a three dimensional habitat that contributes to higher densities and different species compositions than in unstructured habitats, particularly mud/sand flats.

• Numerous species across several phyla (seaweed, invertebrates, fish) utilize the support structures of eelgrass and / or benefit from lower predation rates in vegetated habitat compared to unvegetated areas.

• There are no substitute structuring organisms with the same function as eelgrass that can grow on the sand/mud flats of intertidal and subtidal areas within the salinity ranges occupied by eelgrass. In the absence of eelgrass, these areas would consist of sand/mud flats.

• By being sufficiently abundant and widely distributed, eelgrass often constitutes a dominant habitat feature and has a measurable influence on the overall ecology of adjacent terrestrial and marine ecosystems.

• Eelgrass (Zostera marina) in eastern Canada has characteristics which meet the criteria of an Ecologically Significant Species. If the species were to be perturbed severely, the ecological consequences would be substantially greater than an equal perturbation of most other species associated with this community.

[… The report goes on to conclude:]

Based on these considerations, it is concluded that eelgrass (Zostera marina) in eastern Canada has characteristics which meet the criteria of an Ecologically Significant Species. As such, if the species were to be perturbed severely, the ecological consequences would be substantially greater than an equal perturbation of most other species associated with this community. Based on current knowledge, eelgrass, where it presently exists, can have controlling influence over key aspects of the nearshore marine ecosystem structure and function.[54]

[100] Dr. Annette Luttermann, on behalf of GRK, advised the JRP that Nalcor's assessment of wetlands and riparian habitat was insufficient and too simplistic. The following are comments from her submission to the JRP:

[54] http://waves-vagues.dfo-mpo.gc.ca/Library/337549.pdf at page 9

> Does the Panel believe that in sum, it makes sense for this project to be characterized as having "no significant residual effects"? Does the virtual long-term loss of most of the remaining structurally complex riparian habitat, hosting high species richness, of the largest river in Labrador be considered "insignificant"? Can this possibly be a reasonable way to portray the effects of this project to the public?
>
> At the very least we can say that when it comes to the impacts on the riparian habitats of this river system, clearly there are wide-ranging negative effects. Nevertheless, due to the just concern for the effects of greenhouse gases on climate change, this project, as with other large hydro developments, is promoted to the public as "environmentally friendly". This is simply not the case. Habitat conversion is still the most important cause of species loss around the world.
>
> If we are to make choices as a society for economic development using EA processes to inform us, we need to provide less simplistic conclusions for consideration by the public and decision makers. We need to acknowledge that there are significant direct and cumulative effects of this project on the health of the ecosystems in this watershed. Whether these are enough to decide against the project is not something I will attempt to promote one way or another. I simply believe that it is time that we begin to pursue these processes with more integrity and let people understand that such massive undertakings do not come without a cost.[55] [Emphasis added]

[101] GRK believes that the obvious inclusion of eelgrass when that species is a species of concern would be problematic for the Project should Nalcor have been forced to look at effects beyond the mouth of the River. We note also that in the section on Rare Plants, Nalcor neglected to mention eelgrass and this too is likely because of the implication of effects "beyond the mouth of the river".

Downstream Effects

[102] In support of its position, GRK submits for consideration the Report and findings of LGL Ltd. from January 17, 2011 (the "**LGL Report**") which states in the executive summary as follows:

> (ii) The Lower Churchill Hydroelectric Project (LCHP) has been reconfigured to initially focus on the Muskrat Falls development component. As part of its direction from the Joint Review Panel, Nalcor energy (Nalcor) is required to address downstream effects in more depth than in previous Nalcor submissions. […] LGL Limited environmental research associates (LGL) was retained by Nalcor and concluded that the aquatic and the aquatic components of the "terrestrial" Assessment Area should include at least Goose Bay and possibly inner Lake Melville of central Labrador. [emphasis added]
>
> (iii) This report evaluated a suite of terrestrial (terrestrial-aquatic interface in many cases) issues arising from the EIS, and how these relate to a downstream area encompassed under Ecodistrict 452 of the inner Lake Melville area. This study suggests that a science-

[55] Dr. Annette Luttermann presentation to the JRP March 31, 2011 attached hereto at Tab 26

> based focus under an ecosystem-based planning (EBP) approach is more likely to ensure that sustainable development is achieved. In addition to an adjustment of the Assessment Area, the approach proposed in this report presents unique challenges to Nalcor which in many respects will require a progressive environmental orientation to the design, operation and management of the LCHP. [56]

[103] GRK became aware of the LGL Report in March 2018 when Dr. Goudie published his article "*On the Failure of Environmental Assessment*".[57] GRK notes that to its knowledge the LGL Report was not published, nor provided to stakeholders, nor does it form part of any official notice, advisory or planning document with regards to the Project.

Dam Failure and Emergency Preparedness

[104] GRK repeated concerns that the substrate in the Project and reservoir area, including the North Spur, is such that a dam failure is a real and significant risk to the ecology of the area, as well as human safety and property in the lower valley and Mud Lake areas.[58]

[105] The Federal Department of Fisheries and Oceans, in the course of the JRP hearings, raised concerns that insufficient sampling had been done to make accurate predictions regarding bank stability:

> Bank stability modeling used input values from literature and estimates instead of measurements from project area. This leads to uncertainty in predictions of duration of elevated suspended sediment and nutrient levels (slide 7).[59] [emphasis added]

[106] Regarding emergency preparedness, the JRP in its final report states:

> In particular, the Panel was not convinced that two hours warning of flooding resulting from dam failure would in all circumstances be adequate to ensure no loss of life, especially in difficult circumstances (for example, during the hours of darkness, in poor weather). This places an even greater importance on the need for thorough emergency planning, adapted to each community and a wide range of scenarios. [60]

[107] In respect of Emergency preparation in the event of a dam failure, the Panel made the following recommendations:

- [P]repare, in consultation with the relevant communities and appropriate authorities, an Emergency Preparedness Plan, for response in the event of catastrophic dam failure, and

[56] Dr. Ian Goudie, "Downstream Effects of the Lower Churchill Hydroelectric Project: Terrestrial Issues Review and Some Proposed Approaches", FANE (For A New Earth) website: http://foranewearth.org/wordpress/wp-content/uploads/SA1111_Downstream-Effects_26Jan11_Final.pdf
[57] Dr. Ian Goudie, "On the Failure of Environmental Assessment", For A New Earth, March 10, 2018: http://foranewearth.org/on-the-failure-of-environmental-assessment
[58] GRK Response re IR No 4 September 23, 2010 attached at Tab 27
[59] DFO PowerPoint presentation to the JRP dated March 15-16, 2011
[60] JRP Report at page 250, recommendation 14.1

emergency response procedures and community evacuation procedures related to a dam failure and subsequent flooding; the Plan should be reviewed every five years.

- Work with each community that has been identified as being at risk of flooding in the event of a dam failure to develop evacuation plans, to be completed prior to filling of the reservoirs.

[108] We understand that Emergency Preparedness Plans have been prepared. However, as of this writing, we are not aware of any efforts by Nalcor to work with communities to develop evacuation plans, despite the fact that reservoir is already flooded.

[109] It is our opinion that Nalcor has downplayed its role in this extremely important recommendation of the Panel and that it is attempting to pass along the responsibility of developing an evacuation plan to the Communities alone. We understand that the town of HVGB is working on a plan that would get people from the Lower Valley to safety, but to date we have not been informed as to the completion date of that plan.

[110] It is our understanding that the community of Mud Lake has no evacuation plan for a catastrophic failure, only one that could get people out of the community during a slowly developing flood event or a forest fire. This plan likely involves evacuating residents via helicopter, which is not practical in a fast acting event. In fact, it is the belief of some Mud Lake residents that there is no way to evacuate in the event of dam failure due to the short time frame between notice and impact of such a flood.

Methyl mercury contamination

[111] GRK has consistently raised concerns and echoed the statements made by Nunatsiavut, NunatuKavut and others about increased levels of methyl mercury in the fish, waterfowl, and marine mammals out as far as Rigolet.

[112] Two experts who submitted comments on the Guidelines for the EIS, Dr. Brenda Beck and Eric Harris of Soft Science, on behalf of GRK, had this to say in their letter to the CEAA:

> **Guidelines Important to Conducting the Environmental Assessment**
> It is very important to provide scientifically defensible estimates submitted by independent scholars/researchers of:
> 1. The amount of forest acreage that will be flooded
> 2. The amount of methyl mercury that will be produced by the rotting vegetation
> 3. The concentration of methyl mercury in the river water that will result from the rotting of this vegetation
> 4. The amount by which this methyl mercury will add to the burden of methyl mercury already present in the river
> 5. The impact on the health of fish, wildlife and humans that is predicted will stem from their consumption of this contaminated river water, including the specific impacts envisioned on Aboriginal and Metis making the assumption that water consumption patterns will continue as at present

6. The predicted impact on Aboriginal and Metis hunting and fishing[61]

[113] During the Hearings, Tilman Bieger from Department of Fisheries and Oceans Canada ("**DFO**") made a presentation on the accumulation of methyl-mercury in fish and at slide 3 makes the following statements:

- Peak mercury in fish in reservoir will be less than 2.5X current levels
- Mercury levels in fish will increase only in fish in the reservoir and immediately downstream of the project.
- Mercury levels will return to background levels within 35 years.

[114] However, slide 4 states:

- Proponent predictions generally consistent with current state of knowledge,
- Uncertainty regarding accuracy of predictions of magnitude and duration.
    - Levels could be different than predicted and time could be longer.
- Downstream extent of mercury bioaccumulation could be greater. [62]

[115] Mr Beiger then concludes at slide 6 that "More baseline data required on mercury in fish below Muskrat Falls and in Goose Bay Estuary."

[116] Natural Resources Canada recommended that a study be commissioned (both economic and technical) of applying measures such as the removal of both mercury rich and carbon-rich soils and vegetation within potentially flooded terrains with respect to mercury and labile carbon concentrations.[63]

[117] Health Canada made submission regarding the effects of mercury exposure and their presentation at slide 5 on Human Toxicity of methylmercury (MeHg) states:

> Fetal MeHg exposure may affect the developing nervous system at substantially lower doses than in adults. Subtle effects on fine motor functions, attention, verbal learning, and memory in children have been linked to dietary MeHg exposure. [64]

[118] On March 15, 2011 presented to the JRP regarding our research into methyl mercury. We noted a study done by the Oceanologic Laboratory in Belgium which stated the following:

> The results show that the number of seal lymphocytes, viability, metabolic activity, DNA and RNA synthesis were reduced in-vitro, suggesting deleterious effects of methyl mercury concentrations naturally encountered in free-ranging seals. [65]

[61] Dr. Brenda Beck and Eric Harris submission to CEAA re EIS Guidelines attached at Tab 28
[62] JRP #48418E
[63] JRP #48420E
[64] Health Canada JRP #48421
[65] JRP Transcript #48707E at page 60

[119] GRK's view was that these studies done on "free ranging" seals were important and that seals feeding on fish from a recently flooded reservoir where methyl mercury was elevated would be an even worse scenario.

[120] On March 16, 2011 GRK made a presentation to the Panel on several aspects of the aquatic environment, including Seals, Ashqui, effects beyond the mouth of the river, fish habitat compensation and the purported irrevocable letter of credit.[66]

[121] The Panel expressed concern about the possibility of downstream movement of mercury in sufficient quantities to contaminate fish and seal, and eventually require consumption advisories. They concluded that Nalcor did not carry out a full assessment of the fate of mercury in the downstream environment, including the potential pathways that could lead to mercury bioaccumulation in seal and the potential for cumulative effects of the Project together with the effects of other sources of mercury.[67]

[122] The Panel concluded that downstream effects would likely be observed in Goose Bay over the long term, and recommended that Nalcor carry out a comprehensive assessment with third-party review of downstream effects before impoundment begins:

> The Panel recommends that, if the Project is approved and before Nalcor is permitted to begin impoundment, Fisheries and Oceans Canada require Nalcor to carry out a comprehensive assessment of downstream effects including:
>
> - Identifying all possible pathways for mercury throughout the food web, and incorporating lessons learned from the Churchill Falls project;
> - Baseline mercury data collection in water, sediments and biota, (revised modelling taking into account additional pathways, and particularly mercury accumulation in the benthos) to predict the fate of mercury in the downstream environment;
> - Quantification of the likely changes to the estuarine environment associated with reduction of sediment and nutrient inputs and temperature changes; and
> - Identification of any additional mitigation or adaptive management measures.
>
> The results of this assessment should be reviewed by Fisheries and Oceans Canada and by an independent third-party expert or experts, and the revised predictions and review comments discussed at a forum to include participation by Aboriginal groups and stakeholders, in order to provide advice to Fisheries and Oceans Canada on next steps.[68]

[123] GRK was advised that a comprehensive assessment was completed, but not whether it was reviewed by a third party. Further, we note that the Panel recommended that Nalcor undertake to publish the assessment on possible long-term downstream effects, but to the best of our information and belief no third-party reviewed comprehensive assessment of downstream impacts was no published and certainly not published prior to impoundment.

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[66] GRK submission to JRP March 10, 2011 and March 16, 2011 attached at Tab 28

[67] JRP Report pages 17 & 18

[68] JRP Report page 89, recommendation 6.7 Assessment of downstream effects

[124] The Panel goes on to state, "Recognizing the dietary and cultural importance of fishing and seal hunting in this area, the Panel concluded that there would be significant adverse effects on fishing and seal hunting in Goose Bay and Lake Melville should consumption advisories be required for that area". [69]

[125] In respect of the risk of methyl mercury contamination in country food, the JRP noted that there is no mechanism to mitigate its impact on Labradorians:

> Residents have expressed great concern regarding the potential that this source of food and the basis for traditional activities could be contaminated because of the Project. Should this occur, the Panel recognizes that there is no biophysical mitigation possible for this effect. [70]

[126] The Panel concluded that consumption advisories, if required in Goose Bay and Lake Melville as a result of elevated mercury in fish or seal, would constitute significant adverse effects on the residents of the Upper Lake Melville communities and Rigolet.[71]

[127] GRK notes that the Government failed to initiate the recommended baseline study of methyl mercury until the Nunatsiavut Government directly reached out to researchers at Harvard for that purpose.

[128] GRK is not aware of evidence-based solutions to methyl mercury contamination short of not damming the river. However, the precautionary principle would suggest that solutions such as removal of vegetation and top soil which **may** mitigate the downstream effects of mercury on seals, fish, and wildlife and are supported by some science, ought to be undertaken in order to reduce the harm to the ecosystem and its residents.

Heritage Designation

[129] GRK sought to have the Grand River/ Mista Shipu designated as a Heritage River as it has deep cultural significance and meaning to Labradorians, Indigenous and settlers alike. Further it was one of few remaining rivers in the world that was so pristine, so integral to the wildlife and the local communities.

[130] During the JRP hearings, GRK's then President, Clarice Blake-Rudkowski, asked the representative of the Department of Environment and Conservation, Parks and Natural Areas Division, Jeri Graham, about the departments responsibility with regards to Heritage Rivers:

> MS. BLAKE-RUDKOWSKI: Yeah. It seems to me two or three years ago Grand Riverkeeper had been in touch with your department a number of times and the last time we heard you were

[69] JRP Report page 21
[70] JRP Report page 238
[71] JRP Report on page 29 and 239

> going to make a visit to Labrador and look at different areas that might qualify as a heritage river. Is that correct?
>
> MS. GRAHAM: I don't -- that might have been before my time with the division. I know that we were looking for the resources to do a complete assessment, really, of rivers in Labrador that would be suitable for Canadian heritage rivers and to date we have not had those resources so no assessment has been done on the Labrador scale.
>
> MS. BLAKE-RUDKOWSKI: A final question then; I understand even though we have the Upper Churchill Project impacting our river and even though we now have a proposed -- a proposed project that will put two dams on our river, under the heritage river criteria we could still qualify as a heritage river because of our historical significance; is that correct?
>
> MS. GRAHAM: Heritage rivers are -- I guess they're created for either natural features or for cultural significance. So if you were looking at just the cultural significance I guess you could feel like there would still be a case to be put forward for the river. I guess I'd just like to clarify what Canadian heritage rivers are and aren't. They are not a formal legislated protection mechanism, it is very much a partnership, a stewardship initiative, basically, of all the people who are involved with a river. They come together and form a management group and agree to steward the river, basically. So in putting forward a proposal for a Canadian heritage river there has to be that -- I guess sort of underlying support from all the people involved with the Canadian heritage river that they will steward this river together. That's sort of a fundamental -- a foundation of that Canadian heritage rivers program. [72]

[131] Labrador rivers have been ignored with regards to the Heritage Rive designation. GRK believes that the Grand River is deserving of the heritage river designation due to the cultural significance. However, there has been no assessment of any rivers in Labrador due to a lack of resources.

Improbable, Unproven, Imprudent - [Re]creation of habitat

[132] Ecosystems have inherent value. They provide all that is required for their residents to survive. They provide fresh air and water and nutrients. They provide shelter, hunting grounds and recreation. Innumerable interdependent relationships are formed over millennia. When any element of such complex systems is destroyed, the consequences can be vast and far reaching.

[133] While humans are capable of many things, we are not capable or recreating what has developed over vast time spans that strain the human imagination. As such, the science around habitat recreation indicates that sure manmade habitats are not able to replicate or substitute organically developed habitats.

[72] JRP Transcript #48784E at page 338

Habitat Recreation Unproven Science

[134] Patrick McCully, former Director of International Rivers in California, states in his book "*Silenced Rivers*":

> The number of fish species which thrive in the relatively uniform habitats created by reservoirs is only a tiny fraction of the number which have evolved in the diverse niches provided by rivers.[73]

[135] Dr. Annette Luttermann, on behalf of GRK, noted that the proponent misunderstood the Precautionary Principle, which was intended to protect human and ecological health from delay or objections on the basis of uncertain scientific data. The Principle is not meant to permit proponents to pass off unproven techniques as a solution to known health and ecological risks.

> The authors of the EIS offer the vague mitigation strategy for loss of riparian wetlands as an example of the application of the precautionary principle. In Section 9.2 of the Executive Summary they quote the following element of the precautionary principle: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."
>
> Promising to use experimental measures to replace the certain loss of critical wildlife habitat in the absence of scientific certainty as to the effectiveness of these measures is not an example of the application of the precautionary principle. What if the habitat mitigation measures do not work as promoted? In this case the odds are not good. We then fail to prevent degradation. Using cost-effective measures to decrease energy demand, in the face of likely but difficult to measure environmental degradation of the watershed, for example, would be precautionary.[74] (emphasis added)

[136] GRK was concerned that mitigation measures outlined by Nalcor were unproven. GRK remains concerned that given the province's fiscal climate that mitigation and habitat recreation measures will not actually come to fruition and that a lack of monitoring will allow such a situation to persist.

[137] Dr. Rosenberg, on behalf of GRK, noted in his presentation to the JRP, regarding the experimental approaches used by proponents for mitigation:

> These predictions need to be followed up in post-project monitoring to judge their accuracy. The EIA process improves in this iterative way. [...] Neither has the EIA process been really successful in dealing with cumulative environmental effects of development of entire river systems. These effects are now noticeable at global scales, but are mainly the purview of research studies.[75]

Fish Habitat

[138] The DFO, in the course of the JRP hearings, raised concerns that insufficient sampling had been done to make accurate predictions:

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[73] https://www.internationalrivers.org/rivers-no-more-the-environmental-effects-of-large-dams

[74] Annette Luttermann letter to the JRP dated May 19, 2009 attached at Tab 25

[75] JRP Transcript #49334E of Dr. David Rosenberg's presentation on April 1, 2011 page 228, 229

> However, spatial and temporal coverage of sampling (water quality, plankton, benthic invertebrates, fish) is insufficient to support and properly inform predictions (slide 4).
>
> Bank stability modeling used input values from literature and estimates instead of measurements from project area. This leads to uncertainty in predictions of duration of elevated suspended sediment and nutrient levels (slide 7).[76] [emphasis added]

[139] Regarding fish habitat availability in reservoirs, DFO made recommendations that aligned with the submissions of GRK in respect of: the amount of habitat that would be affected by flooding and that there is uncertainty about post-project habitat; that habitat is predicted based on water velocity not depth and substrate; uncertainty about assumptions of substrates and productive fish habitat in 15-20 years; and uncertainty about fish populations surviving stabilization and adapting to slow moving waters.[77]

[140] Throughout our involvement with the Project we have consistently questioned the Proponent's ability to "produce fish habitat that will be comparable to the natural environment" and the ability of the DFO to monitor such fish compensation. In support of this position, GRK cited a 2005 report by Jason Quigley, DFO scientist, entitled "*Compliance with Canada's Fisheries Act: A Field Audit of Habitat Compensation Projects*".[78]

[141] Mr. Quigley, working for the Canadian Environmental Assessment Agency, quotes disturbing figures on the ineffectiveness of "habitat compensation works" as they relate to Canada's policy of "no net loss" of fish habitat in section 35(2) of the *Fisheries Act*.

[142] During the JRP hearings, DFO confirmed that Nalcor would not be allowed to simply create an impact without consequences and without any requirements to compensate. DFO representative Mr. Beiger states:

> The Proponent in this project is not being allowed to simply create an impact without any consequence and without any requirements to compensate it; it's not the case at all. We've clearly identified that there are harmful impacts associated with the project and the Proponent is being held to very high standard and is going to have to invest significant resources, time and energy over a long period of time to compensate for this impact they're having and to show that their compensation works. [79]

[76] DFO PowerPoint presentation dated March 15-16, 2011
[77] DFO, June 2009, "*Science Evaluation of the EIS for the LCP to Indentify Deficiencies with respect to Fish Habitat*" http://waves-vagues.dfo-mpo.gc.ca/Library/336997.pdf
[78] JRP #48710E
[79] JRP #49278E

[143] During the JRP topic specific session regarding the Aquatic Environment, Eldred Davis made a presentation on behalf of GRK covering several aspects of the Aquatic environment including fish habitat creation.[80]

[144] In his presentation, Mr. Davis explains skepticism with regards to Nalcor/DFO's assertion that new fish habitat could be created. He mentions the riverbank saturation and slumping that will occur, causing sediment problems for any re-created habitat, as follows:

> There have been many incidences like this since the CFL(Co) project has been operating but how many more have occurred on stretches of the river that are not seen on a regular basis? How many can we expect if the proposed dams are built?
>
> Large sand banks, newly-saturated as a result of rising water levels after impoundment would be even more susceptible to slumping if subject to wave action or ice scouring. Slumping could be problematic in several locations chosen for possible fish habitat compensation. These include parts of Elizabeth River and Edwards Brook. Other sites where artificial "enhancements" will be attempted will prove to have serious faults. Pena's River and Edwards Brook sites are very close to the Trans Labrador Road and would be open to overfishing, etc. [81]

[145] Nalcor's Lower Churchill Development Fish Habitat Compensation Strategy Framework states at page 10 that: Nalcor will implement a public consultation program with respect to the Fish Habitat Compensation Strategy Framework and will include the following:

(i) Consultation with aboriginal and nearby communities;
(ii) Contact with outfitters and others whose operations utilize the local freshwater resources;
(iii) Inclusion of material provided at public meetings; and
(iv) An offer to nearby communities to attend consultation meetings on the proposed compensation strategy.[82]

Atlantic Salmon

[146] GRK has also commented various times on the issue of sea-run Atlantic Salmon above the Muskrat Falls and what will happen to that habitat. In the EIS, Nalcor asserts that anadromous Atlantic Salmon do not ascend Muskrat Falls, based on a series of tests. However, GRK disputes whether these tests were sufficient to prove their assertion conclusively and submits that significant local knowledge was ignored in order to arrive at that conclusion.

[147] GRK member Charlie Learning has caught and eaten sea-run Atlantic Salmon from the tail-race at Churchill Falls. Mr. Learning was a commercial fisherman for 17 years and as such, has extensive fishing experience and is able to differentiate between Atlantic Salmon and Ounaniche (land-locked salmon).

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[80] GRK presentation to JRP attached at Tab 30
[81] *Ibid*
[82] Nalcor, February 2009, Lower Churchill Hydroelectric Generation Project, Habitat Compensation Strategy Briefing, attached at Tab 31

[148] In support of the existence of Atlantic Salmon above Muskrat Falls, GRK notes that a 1970 report entitled "*Churchill Falls Power Project Water Quality Studies: Volume 1A*", that confirms:

> **Section D: MACRO BIOTA**
> Although a fisheries survey was not done, a species list was obtained. Fish identified from the area include: Burbot, Northern Pike, Smelt, Lake Chub, Northern Redhorse, Longnose Sucker, White Sucker, Whitefish, Lake Trout, Brook Trout, Arctic Char, Landlocked Salmon and Atlantic Salmon.[83] [emphasis added]

[149] Although GRK is not aware of the original source of this species list, we believe that Atlantic Salmon can and did find their way up over Muskrat Falls and that Nalcor's statement of no Atlantic Salmon above Muskrat Falls is erroneous. Further, we note that another falls, the White Bear Falls, is much higher and harder to ascend than Muskrat Falls; however Atlantic Salmon manage to climb its great height.

[150] Further, Mr. Edward Mesher submitted to the Commission of Inquiry information pertaining to a number of other individuals who have caught Atlantic Salmon above the Falls. Mr. Mesher has repeatedly requested that a fish ladder be installed to ensure the Salmon would continue to be able to ascend the Falls.

Adaptation of Fish Populations to Changes in Water Quality:

[151] GRK expressed concern about uncertainties in how long it would take for water quality in the reservoirs to stabilize and how fish populations would adapt to these changes. In order to address these concerns DFO recommended the collection of more pre-inundation baseline data on fish and fish habitat in advance of construction.

[152] The Panel summarized GRK's concerns as follows:

> Participants were concerned that Nalcor's predicted changes to fish habitat showed up to and above 90 percent loss in available habitat after inundation for a number of species (e.g. pike, burbot, ouananiche, sucker, stickleback) residing in Muskrat Falls reservoir. Grand Riverkeeper Labrador, Inc. used pike as an example of a species that would experience a major reduction in juvenile habitat from 6349 hectares to only 3 hectares after impoundment. It also expressed concern that Nalcor's Habitat Utilization Indexes were based on estimating overall habitat area and did not take into account the complex relationships between species.[84]

[153] The JRP echoed this concern:

> The Panel concludes that because of uncertainty about the effects on fish and fish populations caused by the number and scale of changes in the aquatic environment as a result of reservoir creation, the uncertainty about the effectiveness of habitat compensation,

[83] Sheppard T. Powell Associates (Canada) Limited, "*Churchill Falls Power Project Water Quality Studies: Volume 1A*", (1970-1971) on page 32
[84] JRP Report Page 77 Section 6.5.2

and the risk that at least some of the fish habitat lost would not be effectively re-created, the **Project would result in a potentially irreversible, significant adverse environmental effect to fish habitat and the final fish assemblage in both reservoirs.**[85]

[154] GRK remains extremely concerned about the ineffectiveness of fish habitat compensation and particularly the lack of monitoring and enforcement or enforceability of same. GRK notes that mitigation and habitat recreation measures are planned to commence after construction, that there will be insufficient monitoring and should such measures be unsuccessful, after the habitat is destroyed the state of the fish assemblages will be critical , endangered or extinct. Monitoring will be addressed further in a later section.

Wetlands and Riparian Habitat:

[155] GRK expressed concern in respect of the spatial extent of wetland, marshes and estuarine habitat that were considered in Nalcor's analysis. GRK noted that there were no studies on wetlands in the river valley before the Upper Churchill came on line, so recent studies assume the current state as the baseline and noted discrepancies between studies of the affected area.[86]

[156] GRK stated that given the changes in temperature of the water, changes in sedimentation, changes in flow volume and velocity, and nutrients, that we expected the effects of the project on those wetlands would be adverse and that this was just one example of "downstream effects" that had not been properly studied and documented by Nalcor.[87]

[157] Dr. Annette Luttermann, on behalf of GRK, outlined several concerns:

(i) Inadequate understanding of the degradation of riparian habitats due to changes in hydrological regimes.
(ii) Proposed mitigation measures for riparian habitat loss are vague and unrealistic.
(iii) Methods used to measure significance are not adequately protective of long-term biodiversity.
(iv) Inadequate characterization of cumulative effects of multiple hydroelectric projects on riparian habitats within the watershed and the region.

[158] The JRP recommended the following:

Recommendation 7.1 Wetland compensation plan

The Panel recommends that, if the Project is approved, Nalcor be required to develop a detailed wetland compensation plan in consultation with Environment Canada, the provincial Department of Environment and Conservation, Aboriginal Groups and appropriate stakeholders.

[85] JRP Report page 83
[86] GRK response to Undertaking No. 69 wetlands March 27, 2011 attached at Tab 32
[87] Supra at Tab 24

Riparian vegetation

[159] Dr. Luttermann expresses concern about the lack of understanding of riparian vegetation, Northern habitats and the potential Project impacts on such vegetation. She notes a section of Nalcor's EIS which states that ice pans "scour riverbanks of any perennial vegetation, leaving a zone that is either devoid of growth or hosting only seasonal riparian grasses and shrubs". However, Dr. Luttemann disputes this statement as follows:

> There is plenty of perennial vegetation along the riverbanks. There is a zone of low vegetation cover typical of large northern rivers, but there are many reaches where there is dense vegetation cover down to the shoreline, including aquatics. Almost all riparian plant species in the boreal region are perennials (including all grasses and shrubs), and all grow only seasonally, being covered with ice most of the year. This is natural of riparian areas and one of the factors that makes them rich in species. The section does not explain any relationship between the existing conditions and the effects of the Churchill Falls generating facility, including probable increased shoreline erosion due to more variable winter flows and ice scour.
>
> […]
>
> The adverse effects of the conversion of riparian wetlands in the lower river valley are deemed to be "not significant". This is partly based on an overly optimistic proposal for mitigation. There is no information on how the proponents will attempt to recreate riparian wetlands. This they promise will come later. But how do people evaluate the EIS on this basis? There is no evidence presented from other projects that anyone has yet been successful in such mitigation endeavors. Evidence suggests that efforts to recreate wetland habitats in areas affected by large river regulation projects have managed to "replace" only a tiny fraction of the area of habitat that was lost, and the treatment areas host much lower biodiversity than the original habitat (eg. Bouchard et al.,2001). There is also no analysis of the overall extent of riparian wetland losses and the state of new reservoir shorelines from other developments in the area. This section is very optimistic in its predictions and overly confident with insufficient evidence.[88]

[160] GRK has stated that it is extremely unlike that humans can successfully recreate what nature has created over eons like wetlands, riparian habitat, fish habitat and ashqui. Further, GRK concurs with Dr. Luttermann's assessment that Nalcor, in all of their mitigation measures, as in their costs estimates were "overly optimistic".

[161] On March 18th , 2011 GRK presented to the JRP a review of various external documents on wetlands and riparian habitat which can be summarized as follows:

> **Riparian/Wetland Habitat losses from the Project:** Based on a 1988 study, the economic returns from wetlands in Canada exceed $10 Billion annually (in 1988 dollars). EIS does not accurately reflect probable effects on wetland habitats. Marshes and shrubby thickets along the whole length of the river are important for species of birds and wildlife. Over 60% of wetland sparrow habitat will be lost. Reservoirs above Churchill Falls generating station have

[88] Annette Luttermann, letter to the JRP dated May 19, 2009 attached at Tab 25

> shorelines that have been severely changed and do not reflect natural shores. GRK questioned the assertion that these effects could be mitigated.[89]

[162] GRK noted with concern that such effects have not been mitigated along the hundreds of miles of shorelines in the reservoirs above Churchill Falls. GRK pointed out as well that on the Government of Canada website stated, "Canada has 24% of all wetlands on the Planet that provide more than $20 Billion in economic benefits to Canadians each year" and drew attention to the Federal Policy on Wetland Conservation of 1991 that commits Canada to a goal of "no net loss" of wetland functions.[90]

[163] The Grand River is being treated as though it has no value. GRK stated that valuing ecosystems and their benefits to humans is paramount to doing good environmental assessment. It ought to be noted that the Government of Canada, in its paper "Valuing Ecosystems" (1988), stated that a failure to assess the economic returns from Canadian wetlands is a shortcoming in project assessment.

[164] GRK expressed deep concern of the impact on migrating waterfowl and other wildlife that depend on these habitats should the mitigation plans fail. GRK notes that there is insufficient evidence to conclude that the proposed habitat re-creation will be successful and will fulfill the wetland and ecosystem functions of the habitats that are destroyed.

[165] The Project's impact must be considered in the context of already significant loss of river wetlands in the region, and nationally. GRK notes that nothing can replace their value for humans or wildlife.

[166] Nalcor denied that there will be any loss of wetland function in:

> Wetland classification and functional information is available for 103 of the 651 wetlands identified in this area (16 percent). Based on this sample size, it was concluded that all functions provided by wetlands in the area of future inundation are represented in the wetlands that will remain un-affected in the study area.[91]

[167] However, the Panel concluded that "…the residual adverse effect of the Project on wetlands and riparian habitats, even with appropriate mitigation, **is significant**."[92] [emphasis added]

[168] The JRP also made the following recommendation:

> **Recommendation 7.2 Riparian compensation plan.**
> The Panel recommends that, if the Project is approved, Fisheries and Oceans Canada require Nalcor to develop a detailed riparian habitat compensation plan in consultation with Fisheries and Oceans Canada, the provincial Department of Environment and Conservation, Aboriginal groups and appropriate stakeholders.[93]

[89] GRK Notes for presentation and notes of April 18, 2011 attached at Tab 33
[90] *Ibid*
[91] Nalcor response to JRP IR# 155 (c) at page 12
[92] JRP Report Page 100
[93] JRP Report Page 99

Alternatives and [Un]Sustainability

[169] Throughout the JRP process, Mr. Phillip Raphals of the Helios Centre in Montreal, on behalf of GRK, submitted requests for information, comments to the Panel before the hearings beginning in 2010, and provided expert oral and written testimony during the hearings in March and April 2011. Mr. Raphals will provide direct evidence to the Commission regarding his involvement in the sanctioning processes. As such, below this paper will not delve into the issues and concerns that Mr. Raphals addressed on behalf of GRK.

[170] However, Mr. Raphals' conclusion succinctly summarizes the GRK's position in respect of the lack of need and justification for the project, in other words that the benefits do not outweigh the costs:

> The project has substantial economic costs, environmental and social externalities, and these environmental and social externalities should be incurred only if either the project meets a need that cannot be met at lower economic, environmental and social costs or if it produces benefits that are so great as to outweigh these externalities.
>
> From what I've seen, neither of these is the case. There is no reliable evidence that the needs to be met by the project, that is to say, serving island electric needs and reducing or eliminating the use of the Holyrood station, cannot be met at lower economic and environmental costs by alternate solutions involving wind efficiency and probably a peaking plant or a transmission line, or in the worst case, the occasional use of Holyrood.
>
> The financial benefits are strictly the result of using the monopoly situation to extract funds from ratepayers in excess of the actual cost of the project, and I think economically that's not a benefit, it's really a wash, and for these reasons, in my view, the project should not be authorized.[94] [Emphasis added]

[171] GRK refuted the assertion that the Project was sustainable. GRK set out its reasoning as follows:

a. There were very little benefits for local communities with the exception of a few short-term jobs, in fact, the communities of HVGB and Mud Lake suffered at the expense of this project with flooding, high rent costs, toxic materials in our landfill, loss of employees of local businesses, etc.

b. The fish species within the river system were in danger of being extirpated as was stated by DFO in the 1980 environmental assessment. Disputing Nalcor's assertion that they could recreate spawning grounds and habitat and for which effectiveness is unlikely to be verified, given the lack of capacity within DFO.

c. Extensive wetland loss and disputing Nalcor's assertion that they could reproduce new wetlands as demonstrated by GRK's expert Dr. Annette Luttermann.

d. Ashqui (open water in spring), that had been available to migrating waterfowl for centuries would be lost and disputing Nalcor's assertion that new ones would form. Ashqui took decades to form and be productive, birds trace the same path year after year and it is not known whether such "new" Ashqui will be accessible to the tired, starving birds.

[94] JRP Transcript 49747E of April 14, 2011 at pages 33-34

e. The Red Wine Caribou herd, already in decline, would be adversely affected.

f. Mista Shipu, the river itself would be completely changed to three large lakes, if Gull Island were to proceed, all of which would destroy the integrity of the entire ecosystem of this 93,000km^2 watershed.

g. The rights of future generations were not being respected which is one of the backbones of the accepted statement on sustainability.[95]

Smaller, Local Projects a More Suitable Alternative:

[172] GRK submitted that smaller, more local, and less environmentally damaging alternatives to the project were available that could provide the energy needed on the Island, especially when conservation and demand side management are taken into account.

[173] GRK made a presentation on alternatives and sustainability, specifically Demand Side Management; wind; small, on-island hydro; combinations of wind, on-island hydro; increasing capacity at existing generators, and refer to the report of Memorial University's Harris Centre.[96]

[174] GRK notes that while an assessment of a "no project" option was recommended by the JRP (Recommendation 4.2), this recommendation was rejected by the Government, stating:

> The Government of Newfoundland and Labrador does not accept this recommendation. The information provided by Nalcor to the JRP on the need, purpose and rationale for the Project provides an adequate basis to conclude that the interconnected Island Alternative is the long-term, least cost option to meet domestic demand.[97]

[175] At the hearings in St. John's NL, representatives of Geo-Storage Associates, Mr. Claude Anger and Mr. Alan Ruffman, presented on Compressed Natural Gas (CNG) as an alternative to the Lower Churchill Project.[98]

Corporations Selling Power in Conflict with Conservation

[176] GRK drew attention to the fact that it was against Nalcor's own interest to promote or consider any conservation measures as their job was to produce and sell electricity. GRK's position set out in a letter to the JRP from our Expert Mr. Philip Raphals dated March 14, 2011:

> In my comments on the afternoon of March 8, in response to comments by the Proponent, I mentioned the well-known conflict of interest that represents a structural constraint on utility DSM programs. […] A number of regulatory tools exist

[95] GRK submission to JRP on March 7, 2011 attached at Tab 34
[96] K. Fisher, M.T. Iqbal and A. Fisher, "*Small scale renewable energy resources assessment for Newfoundland*" https://www.mun.ca/harriscentre/reports/arf/2008/ARF08_FisherIqbal_SmallScaleEnergy.pdf, See Also: http://www.mun.ca/harriscentre/policy/memorialpresents/2009a/Memorial_Presents_Energy.pdf
[97] GNL Response to JRP Report
[98] JRP #49730E

> to neutralize this conflict of interest, when utilities continue to provide energy efficiency services directly. [99]

[177] Nalcor was asked by the JRP for a complete discussion of the "no project" option including all the possible alternatives to the Project, Nalcor failed to actually address the question and rather responded that the project is needed to:

- Address the future demand for hydroelectricity generation in the Province;
- Provide an electric energy supply for sale to third parties; and
- Develop the Province's natural resource assets for the benefit of the Province and its people.

> […]
> The benefits of that Project include power for export and power for use within the Province. The result is that an analysis of the Project restricted to alternatives that do not completely fulfill the purpose of the Project will not accurately reflect what Nalcor Energy (Nalcor) is trying to achieve with development of the Project. [100]

[178] GRK submits that the above statement demonstrates that Nalcor had no intention of seriously considering alternative ways to produce the power needed on the Island and that the justification of the project, was a tautological reasoning that states the purpose of the project is, to build the project. Mr. Raphals, on behalf of GRK, responded to this concern:

> Accepting this formulation would in effect exclude all questions related to alternatives, cost effectiveness, profitability and risk from the analysis. It is difficult to see how reducing project justification to a tautology is consistent with the goals of environmental assessment.[101]

Economic Impacts on the Community

[179] On March 9, 2011 GRK presented on the Economics Impacts of the Project on our communities.[102] GRK expressly disputed Nalcor's assertion that the Project will provide long term sustainable economic and social benefits for the people of Labrador and Newfoundland" as this was focused on short-term economic effects and did not take into account the well-documented boom/bust scenario.[103]

[180] GRK noted the impacts on municipal infrastructure, on programs and services, social impacts, housing impacts, cultural impacts and ecological impacts directly within our communities, most of which the current HVGB Town Council is having to deal with.

[181] Happy Valley-Goose Bay ("**HVGB**") Mayor, at the time, Leo Abbass stated in a letter to the JRP on May 22, 2009, "without additional financial assistance the enormity of this development will greatly

[99] Philip Raphals submission to JRP dated March 14, 2011 attached at Tab 35
[100] Nalcor's response to IR JRP.26
[101] Philip Raphals submission to JRP dated March 14, 2011 at page 25 attached at Tab 35
[102] GRK presentation to JRP on March 9, 2011 attached at Tab 36
[103] In addition to presentation attached at Tab 10, GRK presented to HVGB Town Council in 2013 from a workshop done by Industry Canada on the Mackenzie Pipeline attached at Tab 37

stress the infrastructure of a municipality of our size." As noted above, GRK was then and remains particularly concerned about the lack of an evacuation plan for HVGB and Mud Lake.

Access to the River and land

[182] Being out on the land is integral to what it means to be Labradorian. Some of the most devastating impacts of the Project will be blocking and interfering with access to places of cultural significance. Damming of the river has inundated many traplines and portage routes. Unsafe ice conditions will cut off winter travel routes. In effect, cutting off Labradorians from the land.

[183] We note that studies from the Labrador Institute and many others have demonstrated the link between loss of access and connection to nature and adverse health impacts.

Ice Conditions making Winter Travel Dangerous

[184] In winter, much of Labrador is accessible only by snowmobile, dog team, ski or snowshoe and over time various routes through the country and across waterways have been developed. Traveling these routes requires an astute knowledge of the land and ice conditions depending on the time of year and prevailing weather conditions, this knowledge has accumulated and been passed down over generations.

[185] Hydroelectric projects caused changes to the ice that make some routes unsafe to travel, resulting in isolation, loss of income and additional time and expense to avoid hazards while traveling.

[186] GRK consulted Dr. D.M. Rosenberg, who has studied these impacts in Northern Manitoba.[104] Dr. Rosenberg, on behalf of GRK, submitted a paper to the JRP entitled "*Shortcomings of current environmental impact assessments of large-scale hydroelectric projects*", in which he raised concerns that the Project would create dangerous winter travel condition:

> Similar access disruptions have occurred in Northern Manitoba Reservoir management for variable power requirements has destabilized the winter ice regime, rendering river travel in winter hazardous. Sudden water withdrawals leave hanging ice upstream, and "slush" "waterlogged snow above the ice cover" downstream. Extensive erosion has not only resulted in inaccessible shorelines and reservoirs containing hazardous debris, but also the fouling of fish nets bydebris.
>
> The project is very likely to create such "hanging ice" making winter travel hazardous and mitigation measures must be put in place to warn people where these places might exist. If mitigation is not possible then compensation must be considered for those

[104] See also, Rosenberg, D M, *Environmental and social impacts of large scale hydroelectric development: who is listening?* Global Environmental Change Vol.5 no.2, p 127-1481995

> hunters/trappers and wood harvesters who currently use the river for travel during the winter. [105]

[187] GRK and its members expressed their concerns about such hazards and how people would be notified of hazardous conditions given that signs are unlikely to last in the northern weather and many people do not have internet access to be access "advisories".

Access to Portage Route at North Spur and around Muskrat Falls not maintained nor available despite being promised

[188] GRK advocated for the North Spur Portage Route to be maintained and noted that the dynamic conditions in the area including sand bars need to be considered in planning and maintaining routes.

[189] Nalcor's views are summarized by the JRP as follows:

> At both Gull Island and Muskrat Falls, access to portage routes would be maintained with brief exceptions (less than two weeks) when reservoir-clearing activities are taking place nearby.[106]

[190] In summer 2017, GRK found that it would have been impossible to scale the portage at Muskrat Falls (North Spur) due to huge, sharp boulders and no access for local vehicles to arrive at the normal pick-up site for paddlers, canoes and gear. Our group had to paddle and pull our canoes and gear for 4 extra hours up Lower Brook in order to get off the river.

[191] The same issue has been reported to GRK by other groups. As far as we know, the portage route up the North Spur to get around Muskrat Falls is still not available.

Impact on Caribou

[192] On March 14, 2011, Mr. Stu Luttich, a caribou wildlife scientist, retired after working in Labrador (HVGB) for NL Wildlife since 1974 as the regional wildlife biologist for Labrador. He presented on behalf of GRK and notes that the George River Herd and the caribou in general, "sort of came to occupy most of my experience."

[193] Mr. Luttich's presentation is specifically dealing with cumulative effects and the possible effects on George River and Red Wine Caribou herds. Mr. Luttich asks the poignant question "*How adaptable are we, the people, in accommodating the needs of the Caribou?*"[107]

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[105] Dr. D.M. Rosenberg "*Shortcomings of current environmental impact assessments of large-scale hydroelectric projects*" attached at Tab 38; See also JRP Transcript 49334E

[106] JRP Report page 137 Section 8.4.1

[107] JRP Transcript #49278E for March 14th, 2011 on page 240

[194] Mr. Luttich described the synergistic effects of projects in the north as a sort of momentum: as roads are built, as electricity finds its way into the far reaches of the province, more and more area is opened up for development. He continues:

> The impact upon the caribou, that is currently thought negligible, is only adding a brick into the road that can and will have far greater dramatic impact upon the Red Wine caribou, the George River caribou and the caribou resources of the Labrador Ungava Peninsula as we currently understand those resources to exist.
>
> Most changes are permanent and irrevocable within the context of contemporary human history, and as explained only lead to more changes of the similar nature. Impossible as it might appear today but one can still imagine the entire Labrador Ungava peninsula becoming laced with an interlocking network of roads.[108]

[195] Perry Trimper, now MHA for Labrador, was at the time of the hearings working for Stantec, the company doing many studies for Nalcor Energy. Mr. Trimper advised Mr. Luttich that Nalcor intends to decommission all but one of the roads.[109]

[196] GRK notes that in addition to fragmenting habitat and road access increases the risk of poaching, cuts to enforcement and wildlife agencies impair the ability of Governments to address poaching and properly monitor herds.[110]

[197] Mr. Luttich suggested that the responsibility to monitor the caribou should be conferred on an independent foundation with significant financial resources that would be "devoted to the interest of the caribou."[111]

[198] Minister Trimper was responsible for the Environment and Conservation Department when significant cuts to the department were made in 2016, including:

h. Significant cuts to positions in upper management;
i. Elimination of grants to universities for research;
j. Elimination of ptarmigan monitoring and research in Labrador;
k. Reduction of big game moose survey;
l. Reduction of annual caribou classification survey (maintain bi-annual);
m. Reduction of genetic analysis for demographic and monitoring work of sedentary woodland caribou in Labrador; and

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[108] *Ibid* on page 242
[109] *Ibid* on pages 262-263
[110] CBC News, April 3, 2013, "*Poaching more likely in wake of cuts, say wildlife advocates*", https://www.cbc.ca/news/canada/newfoundland-labrador/poaching-more-likely-in-wake-of-cuts-say-wildlife-advocates-1.1378345
Terry Roberts, CBC News, February 22, 2017, https://www.cbc.ca/news/canada/newfoundland-labrador/management-public-sector-cuts-1.3993452
Douglas Ballam, The Independent, March 2, 2017, "RIP Parks ad Wildlife Division"
http://theindependent.ca/2017/03/02/r-i-p-parks-and-wildlife-divisions/
[111] JRP Transcript #49278E for March 14th, 2011 on page 248-249

n. Eliminate all small game and furbearer research activities, including coyote, wolves, lynx, ptarmigan and snowshoe hare (except wolves in Labrador). [112]

Recovery of the Red Wine Mountain Caribou Herd

[199] The JRP concluded that "in light of the current state of the herd and the cumulative effects on its recovery, the Project would cause a **significant adverse environmental effect on the Red Wine Mountain caribou herd**".[113] [emphasis added]

[200] The JRP in recommendation 7.6 states:

> "…if the project is approved, the provincial Department of Environment and Conservation ensure that adequate resources are available so that all reasonable efforts to ensure the recovery of the Red Wine Mountain caribou herd are taken. In addition, the Department should require Nalcor to play an enhanced role in the recovery process for the herd by putting resources into the process for research and recovery efforts and to participate actively in the overall effort to ensure the recovery of the caribou herd."

[201] The Government of NL response to this recommendation states:

> The Government of Newfoundland and Labrador accepts this recommendation, and states Nalcor is a member of the recovery team and has provided advice on actions needed to recover the species in Labrador. GNL states new information was currently (2011) being updated in the recovery document and the updated recovery plan is scheduled to be released in 2012.

[202] Nalcor reported in 2016 that only 20 caribou remain in the Red Wine herd. However, regarding effects on the Red Wine Mountain Herd: A quote from section **1.0 Introduction** in that report states:

> Overall, the results of the EA predicted that while there would be adverse environmental effects on the RWMH, Project-related environmental effects were considered not significant (i.e., the Project would not cause a population decline, such that the viability or recovery of the herd is threatened). However, cumulative environmental effects on the RWMH were predicted to be significant, and supported the conclusion that the ongoing pressures of predation and illegal hunting and the combined effects of all existing, planned and reasonably foreseeable projects and activities in the region would contribute to a further decline. [114] [emphasis added]

Management of the George River Caribou herd

[112] Gary Kean, The Western Star, June 3, 2016, "*Trimper defends extensive cuts made to provincial wildlife division*" http://www.gfwadvertiser.ca/news/regional/trimper-defends-extensive-cuts-made-to-provincial-wildlife-division-43748/

[113] JRP Report page 117

[114] https://muskratfalls.nalcorenergy.com/wp-content/uploads/2018/02/Nalcor-Energy-Labrador-Island-Transmission-Link-%E2%80%93-Environmental-Effects-Monitoring-Program-%E2%80%93-Red-Wine-Mountains-Caribou-Herd-2014-2016-Winter-and-Calving-Post-Calving-Ranges.pdf

[203] Regarding management of the George River herd the Panel notes that information on the most recent decline of the George River herd was only received a couple of days before the end of the hearings and conclude:

> The Panel concludes that the effect o the Project on the George River caribou heard in isolation is not likely to be significant. The Panel is not in a position to make a cumulative significance determination because a proper cumulative effects assessment for the George River herd was not carried out and information on the recent decline came too late in the process to allow for proper consideration of the implications for this environmental assessment.[115] [emphasis added]

[204] The Panel's recommendation 7.7 is as follows:

> The Panel recommends that, if the Project is approved, the Province of Quebec and Newfoundland and Labrador, Environment Canada, and all interested Aboriginal communities initiate a dedicated range-wide joint management program for the George River caribou herd and through this program cooperatively carry out a comprehensive cumulative effects assessment of the impact of human activities on the herd to be updated periodically as required.

[205] The Government of Newfoundland in their response states that it,

> Accepts the intent of this recommendation. It is the intent of the Government of Newfoundland and Labrador, as per the Labrador Caribou Management Initiative, to cooperatively develop a management plan for the George River caribou that ensures the involvement of the Quebec Government and aboriginal groups. Government intends to consider Aboriginal Traditional Knowledge in developing management measures and is already engaged in caribou management consultation activities with Innu Nation and the Quebec Innu. Government will also take into consideration the Torngat Wildlife and Plants Co-Management Board and the Hunting, Fishing and Trapping Coordinating Committee constituted pursuant to the James Bay and Northern Quebec Agreement and the Northeastern Quebec Agreement. The structure and function of this process is currently being established.

Forests and Timber

[206] GRK together with many Participants in the JRP were concerned about the old growth forest because it was an important part of the ecosystem and that preservation of this habitat type should be a priority for international organizations and the Province and expressed concern that old-growth forest was not assessed as a key indicator by Nalcor.[116]

[207] The Department of Natural Resources had classified the majority of the area (District 19) as old-growth forest. However, the old-growth forest in the river valley was not comparable to the forest in other parts of the District due to the sheltered nature of the river valley and the fact that it was normally about 10 Degrees warmer within the steep valley at any given time.

[115] JRP Report page 118, Recommendation 7.7 Management of the George River caribou herd
[116] JRP Report on page 95

[208] GRK explained that on our trips down the river we observed trees that were much taller and much larger than trees on the height of land or anywhere else that far north in Labrador. We also informed the Panel that a retired Forestry Manager explained to us that a moratorium had been in place for as long as he worked in forestry on cutting any trees in the river valley because of the pristine nature of the forest.

[209] The Panel states that:

> Given the scale of the Project, and particularly given the scale of the terrestrial habitat that would be inundated by the Project, it is important to consider habitat loss itself as an environmental effect in addition to considering the effect of the loss of habitat on individual species. The significance of the loss of terrestrial habitat, including old-growth forest and wetland and riparian habitat, are therefore considered first, together with the effect of this loss on biodiversity and ecosystem resilience. The effect of the loss of these habitats and other stresses on individual species is then assessed.
>
> **The Panel concludes in light of the scale of terrestrial habitat that would be inundated by the Project and the permanence of the effect, that the overall loss of terrestrial habitat is significant**.[117]

[210] We assume that since the loss of terrestrial habitat through flooding cannot be mitigated there were no recommendations from the Panel on this issue.

Wood Wastage – Rotting Merchantable Wood

[211] GRK suggested that a plan must be in place before timber is harvested from the area. Given the location and the challenges of transportation and weather, getting this resource to market, and/or communities is not easy or straightforward.

[212] The Government seemingly agreed with the Panel recommendation that merchantable wood be utilized. In the lead up to the environmental assessment hearings, Keith Dearing, newly appointed (March 30, 2011) Assistant Deputy Minister Agrifoods and Forestry Agency of the Department of Natural Resources, reported that the Forestry Department had already initiated an Expression of Interest for wood utilization.

[213] However, GRK members have observed timber piled up along road ways, transmission lines and the North Spur, rotting.

[214] Everywhere there was any harvesting activity for the Project - thousands of cubic metres of beautiful wood - wood that the Government could even have utilized in many ways including delivering it to coastal communities, building storage sheds or lean-to sheds, used as fuel for homes, buildings and more for communities in Labrador that desperately need such resources. Yet it lies wasted.

[117] JRP Report on page 96

[215] Given the significance of this adverse "environmental" effect which the Panel felt was significant, it raises the question of why this valuable wood was left to rot, when it could have been utilized as firewood for the residents on the coast. Utilization of the wood would have eased the perception of waste, and mitigated somewhat the significant sense of loss over the forest.

[216] GRK expressed concern that the Green House Gas ("**GHG**") emissions from clearing would be in addition to the loss and wastage of forest because did not believe that the wood would be utilized. Unfortunately, that scenario has come to pass.

[217] The Panel stated with regards to GHG emissions:

> The Panel concludes that the full utilization of harvested wood would reduce air pollution and greenhouse gas emissions, as the utilization of the wood can reasonably be expected to displace air and greenhouse gas emissions elsewhere.
>
> Similarly, assuming the wood is utilized, maximum possible reservoir clearing would be preferable from an air emission perspective, as it displaces harvesting activities elsewhere. The view expressed by some that the emissions from clearing are additive assume no wood utilization. [118]

[218] Although some of the harvested wood has been used by locals for firewood, it is only a small fraction of what was harvested.

[219] Further, GRK advocated strongly about wood/timber at the Comprehensive Assessment for the Transmission Lines as well. Four of our Board members are also members of the Third Signatory, a local Forestry Monitoring Committee. We lobbied the Forestry officials here and on the Island about this issue many times.

Environmental Flow Standards

[220] Dr. Rosenberg's, on behalf of GRK made the following analogy about the effect of switching flow regimes from high natural flows in spring to low flows in winter to higher-than-normal flows in winter when electrical power generation is needed and trapping of spring flows in reservoirs:

> In an ecological sense, runoff is being transferred from the biologically active part of the year to the biologically inactive part of the year---it is like watering your garden in the winter. [119] [emphasis added]

[221] GRK made submission on environmental flow regimes and hydrological cycles, including the presentation of Dr. Luttermann and the paper *"Going with the Flow: Preserving and Restoring Instream Water Allocations"* by David Katz.[120]

[118] JRP Report on page 56
[119] JRP Transcript 49334E of April 1, 2011 page 228, 229

[222] Regarding environmental flow standards, the JRP recommended:

> The Panel recommends that, if the Project is approved, the provincial Department of Environment and Conservation, in consultation with Fisheries and Oceans Canada, Nalcor, Churchill Falls (Labrador) Corporation Limited, and Aboriginal groups and stakeholders, develop environmental flow standards for the lower Churchill River with respect to flows (magnitude, frequency, duration, timing, and rate of change) designed to promote the maintenance of ecological functions and the conservation of riparian and fish habitat.[121]

[223] In their response to the Panel's recommendation, the Government of NL accepts the intent of the recommendation and states these standards will implicitly recognize existing water rights and flow requirements under relevant sections of the *Electrical Power Control Act 1994 and the Energy Corporation of Newfoundland and Labrador Water Rights Act* and the Water Management Agreement.

[224] The Government's response does not appear to prioritize ecological function and the conservation of riparian and fish habitat. Further, to the best of our knowledge, the Government has not yet initiated consultation proceeding for the development of Environmental Flow Standards, nor the requisite corresponding regulations.

Ecosystem services

[225] GRK strongly advocated for the inclusion of lost ecosystem services in the cost analysis of various options for meeting the provinces energy needs. GRK submitted a paper on ecosystem services entitled, "*Economic Analysis for Ecosystem Service Assessments*", which states in the introduction:

> The crucial role which natural systems play in underpinning economic activity and anthropocentric wellbeing is of growing concern as evidence mounts of the increasing pressures being placed upon such systems by human activity [...]. One reflection of that concern is the recent undertaking of major global assessments of the status of the services provided by ecosystems [...]. Economic analysis is an increasing feature of such undertakings and has prompted a rapidly expanding literature regarding the implementation of such analyses. [122]

[226] GRK drew attention to a 2007 paper that examined the values of ecosystem services effected by a dam project in Korea and found values after the dam was completed that, had they been included in

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[120] David Katz, *"Going with the Flow: Preserving and Restoring Instream Water Allocations"* at http://ecopeaceme.org/uploads/Katz_Going_with_the_Flow.pdf

[121] JRP Report page 65 Recommendation 6.2

[122] Ian J. Bateman, Georgina M. Mace Carlo Fezzi, Giles Atkinson, Kerry Turner, *"Economic Analysis for Ecosystem Service Assessments"* at JRP #48612E

the original project analysis, would have made the project impossible to recommend from a cost benefit perspective.[123]

[227] Dr. Nejem Raheem and Dr. Murry Rudd, on behalf of GRK, presented on the need for ecosystem services of rivers to be quantified and a proper cost/benefit analysis done to take into the consideration the benefits provided from not destroying a river as part of the environmental assessment process:

> Failure to include some measure of the value of [Ecosystem Services] in benefit-cost calculations will implicitly assign them a value of zero. Legally acceptable but irresponsible to not include a discussion of the ecosystem service values affected by the project. Project EIS (Lower Churchill Hydroelectric Project) contains extensive biologic and ecological analyses of the effects, but these effects are incomparable to other projects.
>
> Canadian law does not compel proponents to conduct a benefit-cost analysis in order to capture all the relevant economic effects of the project; the appropriate accounting tool is Benefit Cost Analysis.[124]

[228] When asked about the recommendation to assess and value ecosystem services Gilbert Bennett dismissed the suggestion:

> I think the point -- the conclusion that I want him to draw, of course, is that the process that we're in here today is an environmental assessment process and Canadian law, provincial law has outlined the process and the guidelines and the procedures that are followed for the assessment of projects and that we're not in a valuation process. That's a process that doesn't, you know, is not part of the assessment guidelines for our project. [125]

[229] GRK believes that along with including foreseeable projects that are connected – specifically the generation project and the transmission line, the accumulation of work that is undertaken in any region – the ecosystem services of any natural area, be it a river, a wetland, a lake, the air, a park, a forest, etc., should be considered with regards to any services it provides to communities or regions and incorporated into the assessment of cumulative effects. Otherwise the environmental assessment is ineffective and incomplete.

[230] Valuing ecosystem services contributes to the ability to plan for a sustainable future for generations to come, and it appears that neither our Provincial and Federal governments, nor Nalcor were seriously interested in what is left for future generations. High-paying jobs cannot replace ecosystems and ecosystem services that our communities rely on.

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[123] Sang-Yong Han, Seung-Jun Kwak, Seung-Hoon Yoo, September 27, 2007, "*Valuing environmental impacts of large dam construction in Korea: An application of choice experiments*", Environmental Impact Assessment Review 28 (2008) 256–266 and at JRP #48591E

[124] Dr. Raheem's presentation on April 15, 2011, attached at Tab 40 and JRP Transcript # 49469E at page 139

[125] JRP Transcript 49469E on page 45 and 139

[231] Our environment is completely interconnected and it is GRK's submission that throughout the pre-sanction processes, Nalcor and the Government failed to take a holistic approach to environmental analysis, risk assessment and mitigation.

Nalcor "vetting" scientists work

[232] GRK was advised that during the JRP hearings, Government scientists and representatives were required to provide any submission and/or presentation to Nalcor in advance. Ms. Blake-Rudkowski addressed this to the JRP:

> MS. BLAKE-RUDKOWSKI: I think this is more of an observation, if I may be allowed. Considering that Nalcor is a crown corporation, it's important that the corporate message isn't diffused or undermined. So I would think that they and their political masters would take a keen interest in what various government departments have to say here. And there's a gentleman in our midst from Justice Department who appears to be orchestrating everything in respect to those presentations; and that's just an observation.
>
> CHAIRPERSON CLARKE: Well, obviously you're entitled to your observation. We have no evidence of that to my knowledge.[126]

[233] GRK members attending the hearings observed an individual, whom they believe to be employed by the Government of NL, on a laptop, following along with each presentation by Government employees. We later heard that he might have been from the Department of Justice. This raised concerns about the independence and objectivity of the information provided by Government staff, employees and departments.

[126] JRP Transcript 48847E

Part IV – Subsequent Processes

Comprehensive Study on the Labrador Island Transmission Link

[234] In 2012, as part of the Comprehensive Study on the Labrador Island Transmission Link, the GRK prepared written submissions, which questioned the adequacy of the comprehensive study, in particular with respect to the Project's justification. As part of this process, the GRK also undertook a community consultation tour along the Labrador Coast and the part of the Island to be affected by the transmission line.[127] The GRK also convened a meeting in St. John's gathering concerned citizens and environmental groups.

Public Utilities Board

[235] In April 2012, the GRK provided expert testimony to the Public Utilities Board's Muskrat Falls Reference, regarding the inadequacy of the "Isolated Island Option" as a comparator for determining whether or not the Muskrat Falls Project constituted the least-cost option and provided an economic analysis of the Muskrat Falls Power Purchase Agreement that addressed the issue of the sharing of costs between shareholder (taxpayer) and ratepayer.

[236] As previously noted, Mr. Raphals will provide direct evidence to the Commission and therefore, we will not address the PUB hearings in this paper.

Federal Court Action

[237] While this is beyond the scope of this paper, we note that following the conclusion of the JRP Report in November 2012, the GRK, together with the Sierra Club of Canada and the NunatuKavut Community Council, applied to the Federal Court for a judicial review of the Report of the Joint Review Panel on the Lower Churchill Hydroelectric Generation Project.[128]

[127] 2011-06-23 - GRK Letter to JRP re comments on first 5 component studies for Transmission Link and 2012-06-12 - GRK Submission to CEAA re Comprehensive Study Comments on Justification of LITL attached at Tab 41

[128] Chronicle Herald, November 27, 2012, "*Groups try to block Muskrat Falls permits; Lawyers argue assessment work never completed*" attached at Tab 42

PART V - Mitigation Measures Promised, but Not Necessarily Monitored

[238] Given the province's current financial situation, GRK is increasingly concerned that without adequate oversight and monitoring measures in place, Nalcor and/or the Government may not follow through on its obligations regarding mitigation, conservation and adaptive management. GRK notes a lack of mechanisms to measure and assess performance on these commitments. GRK is concerned that without adequate research and funding, adaptive management will be wholly inadequate.

Environmental Financial Assurances

[239] On March 23, 2010, Naclor hosted and invite only session on its draft Harmful Alteration, Disruption or Destruction of fish habitat ("**HADD**") habitat compensation package, which was attended by Frank Alexis from CLEAN, (Central Labrador Environmental Action Network), Stan Oliver and Karen Wheeler from Town of HVGB, Roland K from the Labrador Metis Nation, NunatuKavut and Eldred Davis, Clarice Blake Rudkowski and Roberta Benefiel of GRK.[129]

[240] Nalcor made clear to participants that consultation on HADD as set out in the *Fisheries Act* was not strictly required and not directly a part of the EA process. However, Nalcor was ostensibly seeking input at an early stage as to whether they were going in the right direction. Nalcor said they chose the attendees because they felt we could provide some firsthand knowledge based on our use of the river and our interest in the river.

[241] In the course of the session and due to GRK's considerable concern that fish habitat "creation" is not possible, DFO indicated that Nalcor would be required to provide an "irrevocable letter of credit" in case the mitigation measures proposed did not work and that it would be an amount sufficient to cover the potential costs to meet their obligation for habitat compensation.[130]

[242] We have found the 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, useful in explaining the program:

> **Fisheries and Oceans Canada has obtained environmental financial assurances**
>
> 2.32 As part of our audit, we reviewed practices and procedures established by Fisheries and Oceans Canada (DFO). According to the Department's Policy on the Management of Fish Habitat (hereinafter referred to as the Fish Habitat Policy), the Department may require compensation from a project proponent to offset damage or destruction of fish habitat caused by the project.
>
> 2.33 Under the Fisheries Act, the Minister of Fisheries and Oceans may authorize the harmful alteration, disruption, or destruction of fish habitat that may result from works or activities taking place in and around fish-bearing waters. Financial assurances may be obtained to ensure that the proponents fulfill their legal obligations under terms of the authorizations. These obligations are set out in a site-specific fish habitat compensation plan.

[129] Letter from Nalcor dated March 5, 2010

[130] Information and process for Irrevocable Letter of Credit can be found here: http://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/Applicant_Guide-Guide_autorisation-eng.pdf

> 2.34 Under the Fisheries Act and the Fish Habitat Policy, the Department is not obliged to obtain financial assurances from proponents who must create compensating fish habitat under their departmental authorizations. When DFO decides to obtain a financial assurance, it generally requires that proponents provide letters of credit as security, because these are issued by financial institutions and are readily cashable. While the Department has established national guidance for its staff on how to obtain and manage these financial assurances, we noted that each regional office has its own system and provided limited information to the national headquarters.[131] [emphasis added]

[243] The Commissioner goes on to express their concern with the Department's management of such environmental financial assurances:

> **There are weaknesses in the Department's management of environmental financial assurances**
>
> 2.35 We noted that in 2008 the Department implemented a system—the Program Activity Tracking for Habitat (PATH)—to capture information on securities held. However, key information is not being captured in this database, such as information on securities obtained by the Department prior to 2008, the estimated compensation costs, the value and type of security held, and the expiry date of these securities. According to the PATH database, DFO obtained approximately $122 million in support of habitat compensation plans between November 2008 and August 2012. Since this figure does not include environmental financial assurances obtained prior to November 2008, DFO was not able to confirm the total dollar value of the securities it held, whether the securities were still valid, or if they fully covered the estimated costs of the compensation plans.
>
> [...]
>
> 2.38 **Recommendation**. Fisheries and Oceans Canada should determine the effects of program change on the environmental financial assurances it holds or is expecting to obtain. The Department should strengthen its monitoring and tracking of such assurances to provide consistent information on all securities required and held.[132] [emphasis added]

[244] GRK been unable to locate any information about an environmental financial assurance or irrevocable letter of credit from Nalcor in respect of environmental mitigation measures and we fear that this commitment never came to pass.

Monitoring, Mitigation and Management

[245] Dr. Rosenberg, presented to the JRP on behalf of GRK, and noted the importance of follow up and monitoring to the success of environmental impact assessment ("EIA"):

i) **Speaking of the experimental approaches used by proponents for mitigation**: "these predictions need to be followed up in post-project monitoring to judge their accuracy. The

[131] "*2012 Fall Report of the Commissioner of the Environment and Sustainable Development*" at section 2.35 http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_02_e_37711.html#hd5f
[132] *Ibid* at section 2.35

EIA process improves in this iterative way. [...] Neither has the EIA process been really successful in dealing with cumulative environmental effects of development of entire river systems. These effects are now noticeable at global scales, but are mainly the purview of research studies." *(page 2)*

ii) **Regarding the monitoring an follow up on mitigation**, Dr. Rosenberg states based on his 40 years of experience: this phase of EIA is often neglected: opponents of development have "lost the battle" and move on to other projects, the proponent wants to operate the development at minimal cost, and government agencies responsible for monitoring fail to keep the proponent's feet to the fire.[133] [emphasis added]

[246] GRK has researched previous environmental assessment processes, fish habitat compensation and the like and has consistently reiterated its concern that the mitigation plans are unproven and without monitoring and enforcement the prospects of positive outcomes are bleak. As Dr. Rosenberg asks "Who monitors the monitors?"

[247] Dr. Rosenberg suggests the following: **"**If the project is approved, I would suggest that a panel of monitoring experts from across Canada should be convened to help Nalcor establish a scientifically defensible monitoring program. Scientifically defensible is extremely important."[134] In our view, this is an essential element of the Project.

[248] Dr. Rosenberg and GRK recommended that post-project monitoring should inform mitigation, which then should be carried out in an adaptive management approach.

[249] **Adaptive management** is part of a body of science developing new approaches that endeavour to "more closely link science, management and policy at an ecosystem level". It is described as follows:

> At base, these efforts represent a search for a research and development model and practice which combine the features of:
>
> i. management-based experimentation and innovation
> ii. natural resource system management on scales larger than individual enterprises and communities
> iii. methods for bringing about capacity for action among multiple agencies and actors (with typically divergent, not to say antagonistic points of view and interests)
> iv. facilitation of the social processes and organisational capacity to accomplish these.
>
> One promising initiative in this area can be seen in the area of adaptive management (or adaptive environmental assessment and management), the emerging directions of which can be seen to be developing through the integration of ecological and participatory research approaches.
>
> Adaptive management thus focuses on learning and adapting, through partnerships of managers, scientists, and other stakeholders who learn together how to create and maintain

[133] JRP Transcript 49334E page 228, 229
[134] *Ibid* page 228, 229 and attached at Tab 38

> sustainable ecosystems. It helps managers maintain flexibility in their decisions, knowing that uncertainties exist and so provides the latitude to adjust direction to improve progress towards desired outcomes.[135] [emphasis added]

[250] In Dr. Rosenberg's presentation he notes that:

> The lack of post-project monitoring does not allow the pre-development predictions made in the environmental impact assessment to be tested, so EIA, environmental impact assessment, doesn't improve.[136]

[251] GRK further notes that the outcomes and objectives of monitoring, mitigation and management are unclear and as such are difficult to measure and report on. Further, in recent years, wildlife and monitoring agencies have been subject to staffing cuts and have a reduced capacity to adequately monitor outcomes.

Collapse of the George's Island Caribou herd

[252] The collapse of the George's Island Caribou herd is provided below to illustrate the lack of capacity and resources available for wildlife management. In February 2018, CBC interviewed Tony Chubbs, a wildlife biologist: "Chubbs was a member of the Labrador Woodland Caribou Recovery Team, organized by the provincial government. He still is — technically — but the team hasn't met since 2011." [137]

[253] The article examines how the Mealy Mountain herd that crossed the ice onto George's Island were collared in order to study them closely. However, the Inuit and scientists warned that once the herd began to multiply there would be a problem of overpopulation due to limited resources on George's Island and recommended a controlled hunt to keep the herd at a sustainable size. However, before the hunt was sanctioned, the herd collapsed and all 300 caribou perished.

[254] The article continues: "To hear Chubbs and Michelin [*angajukKâk*, or mayor, of Rigolet from 2006 to 2010] tell it, Ottawa's slow-moving bureaucracy couldn't decide whether to sanction a hunt, so the herd collapsed. To hear the provincial minister of fisheries and land resources [Gerry Byrne] tell it, the death of the George's Island caribou is a cautionary tale about species-at-risk legislation."[138]

[255] GRK is concerned that that neither Government is making progress on the recovery process of Woodland Caribou in Labrador, as illustrated by the recent mismanagement of the George's Island Herd

[135] http://learningforsustainability.net/adaptive-management/
[136] Dr. Rosenberg's Presentation at Tab 38, Page 3
[137] https://www.cbc.ca/news/canada/newfoundland-labrador/labrador-caribou-collapse-1.4528328
[138] https://www.cbc.ca/news/canada/newfoundland-labrador/newfoundland-government-says-no-to-listing-labrador-caribou-as-endangered-1.4510419

Conclusion

[256] It is difficult not to be cynical about Newfoundland's relationship with Labrador and its Natural resources. GRK participated actively in all aspects of the consultative processes leading up to sanction in good faith and believed that given the known significant and detrimental impact that the Project would have on the River, its ecosystem and the local residents who rely on it, such a project could not ever be sanctioned.

[257] Dr. Rosenberg describes environmental impact assessment ("EIA") in Canada:

> I contend that environmental impact assessment has not progressed much in the past at least three decades that I've been a practicing scientist in Canada. It usually is **a rigidly defined bureaucratic process**. It produces large amounts of descriptive work that does little to predict the effects of the upcoming development.[139] [Emphasis added]

[258] To GRK and many Labradorians, the fact that the Government of Newfoundland was not required to comply with the recommendations of the Joint Review Panel prior to commencing construction meant that the process was nothing more than an illusion of consultation to justify a foregone conclusion. Perhaps the most cynical among us believe the EA was a distraction to keep us busy while the politicians and businesspeople made deals.

[259] It was not until construction began and inundation was imminent that the community realized this process had been a sham. At that point, all formal legal avenues had been exhausted and the only way to stop the Project was direct action, which resulted in many Labradorians being subjected to the colonial justice system.

[260] GRK is hopeful that this Inquiry can provide some guidance to Proponents of future projects; however, until the recommendations from Environmental Assessments are enforceable and environmental and public interest groups are granted standing (like in Australia), we fear history will continue to repeat itself to the detriment of Labradorians.

[139] JRP Transcript 49334E

Muskrat Falls, She Speaks

By Denise Cole
October 2014

Ceremony by the River is a powerful force, she talks to me in sounds and images behind closed eyes. Deep in prayers and drumming songs by a sacred fire I hear the paddles dipping deep, the long canoes with many travellers. I see families, I hear their footsteps on the beach as their canoes rest, paddles down, and I feel them all around me, these ancient spirits, the ancestors of many Labradorians including my own.

I see them around fires. I hear them singing. I feel the ground move from them dancing like a heartbeat all around. Great warriors in traditional dress. Inuk Elders in seal skins with drums smile at me, lines of hard work creasing their face as they laugh joyfully in this sharing place. Women and children dancing with me and as they play their drums, I play mine too, and we beat in rhythm together.

The River mist lifts up and takes shape to the songs and the River, she dances, she speaks her truths. She tells me to never give up, to never doubt her power, and always know she is watching. She hears the prayers, she dances to the songs, and she feels the destruction all around. The Ancient Ones who travel the river, they are watching too, and they are taking action. They assure me to keep to the path. They embrace me and remind me we are never alone.

I awaken from prayer as the canoes scrape across the beach and I hear the paddles, reaching deep, take them back out to the River. In humble ceremony, I tie my prayer ribbon to a sacred tree on Spirit Mountain, I give tobacco to the River and pray for forgiveness and guidance in a thankful way. I know my ancestors are standing with me, I know the River hears my prayers. I trust her. I believe in her. I know she speaks to those who listen.

Spirit Mountain still guards over Muskrat Falls in Labrador. The people entrusted with this responsibility may have forgotten the many ceremonies, the sacred space, and the honoured role as protectors of the River, Land, and Animals. Still the River, she never forgets and she still feels every paddle that's touched her surface, every hand dipped in, and every spirit that flows through her. She is still watching, flowing, and moving with the spirits.

Quiet your mind people, open your hearts, you will hear the paddles coming and the River, she will speak to you. She will tell you what you need to do and remind you of the consequences if you choose to do nothing.

Grand River with Spirit Mountain to the right, downstream from Muskrat Falls, Labrador, Canada 2013