

Appendix S
Pictou Landing First Nation Well-Being
Baseline Study

PICTOU LANDING FIRST NATION WELL-BEING BASELINE STUDY

December 2019



BOAT HARBOR, PICTOU COUNTY, N.S.

BY F.O. MACLEOD
NO. 191

Prepared by Diana Lewis, PhD, Assistant Professor, Western University; Mindy Denny, Information Governance & Data Projects - Union of Nova Scotia Mi'kmaq; and Chyloe Healy, Data Analyst. Under the guidance of the Mental and Social Well-being MSWAC, Pictou Landing First Nation and with the assistance of Information Governance & Data Projects Project Assistant and Coordinator Bertram Bernard Jr., and Wasuek Googoo.



PICTOU LANDING
FIRST NATION



NUJO'TMU'K AQQ NIKANA'TU'K EKINUA'TAQN
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Disclaimer: This report has been prepared for the sole use of Pictou Landing First Nation and Nova Scotia Lands, Inc. in the preparation of the Environmental Impact Statement for the Boat Harbour Remediation project. Any use of the data beyond this purpose is not permitted. Information included in this Study was current as of the date of publication.

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Glossary of Terms/Acronyms

A'se'k – The other living space. When the PLFN community refers to *A'se'k*, they are referring to the past, what *A'se'k* once was.

Baseline Study – Pictou Landing First Nation Well-Being Baseline Study

Boat Harbour - When the PLFN community refers to Boat Harbour, they are referring to the Boat Harbour Effluent Treatment Facility, or what *A'se'k* has become.

CEAA – Canadian Environmental Assessment Agency

Kisu'lk – Creator

Mi'kmaq - plural¹

Mi'kmaw – singular of Mi'kmaq, adjective when preceded a noun (e.g. Mi'kmaw people, Mi'kmaw treaties)²

Pictou Landing First Nation (PLFN) – Comprised of the five (5) reserves of Boat Harbour West 37, Fisher's Grant 24, Fisher's Grant 24G, Franklin Manor No. 22 (co-owned with Paqtnkek First Nation, and Merigomish Harbour 31

Piktuk – One of seven traditional territories of the *Mi'kma'ki*.

Piktukowaq - Person from the traditional territory of *Piktuk*.

Remediation Project – Boat Harbour Remediation Project

Tan teli ikaluksi'ekip kisu'lk - the way Creator placed us here.

Weji skaliatiek'ip tet - we sprouted from here.

1 Mi'kmaw Resource Guide, Atlantic Policy Congress of First Nation Chiefs, 1999.

2 Mi'kmaw Resource Guide, Atlantic Policy Congress of First Nation Chiefs, 1999.

Executive Summary

In May 2019, the Canadian Environmental Assessment Agency (CEAA) released the Guidelines for the Preparation of an Environmental Impact Statement (Guidelines) for the Boat Harbour Remediation Project (Remediation Project). In late August 2019, NS Lands Inc. (NS Lands) approached Pictou Landing First Nation (PLFN) to discuss the process that would be required for the Proponent to meet the requirements set by CEAA. NS Lands has provided the support and autonomy for PLFN to determine what is required to gather the data deemed appropriate to inform the preparation of the Environmental Impact Statement, including the requirement to integrate Mi'kmaw knowledge, in order for CEAA to make an assessment of how the Remediation Project affects the PLFN community and its membership.

From November 10-18, 2019, PLFN undertook the Pictou Landing First Nation Well-Being Baseline Study (Baseline Study), using a quantitative survey, and qualitative focus groups and interviews, guided by the Mi'kmaw Logic Model for Indicators of Mi'kmaw Well-being (Mi'kmaw Logic Model), using indicators of well-being that align with a Mi'kmaw ontological and epistemological way of being in the world, reflective of a (w)holistic and relational worldview, which enables the Mi'kmaw to self-determine and assert their own vision of what constitutes a healthy and thriving population, and to assess whether that vision is being achieved. It was agreed between NS Lands, CEAA, and PLFN that data would only be presented in narrative format, and that percentages of the total sample would only be provided on the demographics of survey participants, to ensure that the outcomes of this study are OCAP® compliant. PLFN has established that the appropriate spatial boundaries extend to the traditional territory of the *Piktukowaq*, including the area in and around *A'se'k*; the temporal boundaries extend from the time that the effluent started to flow into *A'se'k* until the full remediation brings *A'se'k* back to the state that *Kisu'lk* created. PLFN has also established their own determination of significance. The *Piktukowaq* cannot be *Mi'kmaw* if they cannot conduct themselves as fully *Mi'kmaq* as they were when they were living the life *Kisu'lk* intended for them. If the *Piktukowaq* do not get back to being who *Kisu'lk* intended them to be, then the Province has failed in the remediation of the Boat Harbour Effluent Treatment Facility.

The following highlights some of the findings:

- The Project team achieved a response rate of 87% (261) based on the projected target of 300 surveys, or 53% based on the total on-reserve population of 491;
- Almost half of all adults (age 18 years and older) in PLFN rate their health as fair to poor, compared to just under one-fifth of First Nation adults in Nova Scotia, and just over one-fifth First Nation adults nationally;
- PLFN residents believe that relationships with Pictou County residents is suffering as a consequence of the Remediation Project. Over half of the survey participants think that remediation has divided PLFN from Pictou County residents. Over half responded that remediating Boat Harbour is affecting the relationships within Pictou County and county residents think they don't care about them, even though almost all survey participants state that they don't want what happened to them to happen to anyone else.

- Many in the focus groups felt that the knowledge transfer of their Mi'kmaw traditions was disrupted by the creation of the BHETF at A'se'k and youth expressed that they felt they missed out on learning their Mi'kmaw traditions because of Boat Harbour;
- PLFN residents are not pursuing traditional hunting and fishing, or gather berries or medicines around the area.

Chapter 1 Pictou Landing First Nation Well-Being Baseline Study

Mi'kmaw ways of knowing and being are rooted in Mi'kmaw lands, language, customary practice, and spirituality. We Mi'kmaq, believe that we were created in this place we know as *Mi'kma'ki* and that we did not come from anyplace else. "We did not migrate to this land – *Weji skaliatiek'ip tet* (we sprouted here)." – Bernie Francis (Sable, Francis, Lewis, & Jones, 2012)

"Mi'kmaw epistemology and ontology shape Mi'kmaw values, principles, and beliefs, all of which grounds us in being Mi'kmaq. From these understandings, Mi'kmaq know that materials that were required to sustain our ways of being were weaved into our way of life and our environment by *Kisu'lk*. Further, this system of knowledge forms our laws of interaction, with one another, and with all living things in our environment." – Mindy Denny

"Since Mi'kmaw ways of being and knowing have been encroached upon by settler society, our ways of being in this place have been interfered with, and so *Kisu'lk's* intention for Mi'kmaw people has been disturbed. The current state of living and ways of life is not *tan teli ikaluksi'ekip kisu'lk* (the way Creator placed us here), rather this current state of living is the result of international, federal, and provincial policies that support imposition on the Mi'kmaq." – Mindy Denny

"Creator, we know that you will provide us with all that we need to survive. We need your intervention so that *Piktuk* will be safe for generations yet unborn. Please come into our present surroundings and help us save this beautiful place that you created for us, and for all the living things you have blessed us with, so that the generations that follow will also be able to enjoy your creation. Touch our hearts and spirit, move us more deeply with respect and dignity." – Elder Joe Sark (adapted by Elder Don Francis)

1.1 Purpose

In May 2019, the Canadian Environmental Assessment Agency (CEAA) released the Guidelines for the Preparation of an Environmental Impact Statement (Guidelines) for the Boat Harbour Remediation Project (Remediation Project). The Boat Harbour Remediation Project Environmental Impact Statement (EIS) is used by CEAA or a review panel to prepare a report for the Minister of Environment and Climate Change to issue a decision statement on the Remediation Project. CEAA directed Nova Scotia Lands Inc. (NS Lands) that the EIS "must include a full description of the changes the project will cause to the environment that may result in adverse effects on areas of federal jurisdiction...including changes that are directly linked or necessarily incidental to any federal decisions that would permit the project to be carried out (CEAA, 2019, p. 2).

CEAA has directed that NS Lands is expected to respect the intent of the EIS guidelines that have been issued and must consider environmental effects that have not been identified in the guidelines. CEAA has directed that the proponent must demonstrate that all aspects of the project have been planned in a careful and precautionary manner in order to avoid any adverse environmental impacts. If NS Lands excludes any matter as outlined in the guidelines, based on an assessment that the matter is not relevant or significant to the Remediation Project, then NS Lands must clearly indicate and provide justification of their decision to do so. Further, NS Lands is directed that the EIS must provide mitigation measures that are being proposed to avoid or minimize any adverse environmental effects that are identified during the preparation of the EIS. Data provided in the EIS must be sufficient for CEAA to conduct a thorough evaluation of the environmental effects of the Remediation Project by the Agency or review panel.

CEAA has directed that NS Lands take an ecosystem approach in describing and assessing the environmental effects to the environment, considering both scientific and Indigenous knowledge and perspectives regarding the health and integrity of the ecosystem. An ecosystem approach is defined as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”, which recognizes humans as an integral component of ecosystems, the scale of which should be determined by the problem being assessed, and which requires adaptive management to be able to deal with the uncertainties that arise in complex situations (United Nations Environment Programme, n.d., para. 8-12).

The principle of the ecosystem approach recognizes that the management of land, water, and living resources is a matter of societal choice, that different communities, including Indigenous peoples, view ecosystems through their own economic, cultural, and societal lens, and have rights, interests, and knowledges that need to be recognized (United Nations Environment Programme, n.d., para. 8-12). An ecosystem approach will recognize the intangible values that an Indigenous society would place on an ecosystem, be bound by the spatial and temporal scale appropriate to the people impacted to accommodate the longer term benefits inherent in Indigenous societies, will highlight the incongruency between a market value and intrinsic value placed on an ecosystem, and will highlight the need to understand how social constructs may be destructive in the long run, (United Nations Environment Programme, n.d.), which are particularly relevant when the health and vitality of Indigenous communities are at risk.

The Canadian Environmental Assessment Act, 2012, (CEAA 2012) Section 5(1) requires that environmental effects (b)(i) on federal lands, or (c) with respect to Aboriginal peoples’ health and socio-economic conditions, physical or cultural heritage, current use of lands and resources for traditional purposes, or any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance, have to be taken into account.

In August 2019, the Project Manager, Atlantic Region, CEAA, provided guidance to NS Lands to consider the effects of the Remediation Project on the mental and social well-being of the Pictou Landing First Nation (PLFN) members by establishing a baseline status of mental and social well-being, particularly in sensitive sub-groups such as children, women, and Elders, in order to monitor any changes once the Remediation Project is in the post-construction phase, and to provide mitigation measures and long-term

monitoring requirements for inclusion in the EIS. It was further directed that results from a community-led data collection exercise, and effects identified by PLFN, might inform CEAA if there are ways that the Remediation Project design can be changed to mitigate any concerns on the mental and/or social well-being of PLFN members, and that NS Lands should engage PLFN in the design, implementation, management, interpretation and communication of results from any monitoring of mental and social well-being effects that may be required.

1.2 Project Description - Remediation Project

The Remediation Project includes:

- Wastewater effluent pipeline
- Effluent ditches
- Existing twin settling basins
- Existing aeration stabilization basin
- Existing Boat Harbour stabilization lagoon
- Boat Harbour estuary and adjacent marine environment in the Northumberland Strait
- Wetlands
- Existing sludge disposal cell (including overflow pond, spillways and catch basin)
- Existing liner and leachate collection system
- Geotubes
- New Landfill gas management system
- Residual mill effluent
- Existing causeway along Highway 348
- Existing dam
- New replacement bridge
- Pilot study berm and cove
- Dredging
- Wastewater management system
- Site clearing, earthmoving, leveling and drilling activities
- New and upgraded access roads
- Transportation corridor construction or improvement
- Storage of petroleum products and reagents
- Water supply (industrial and drinking)
- Power supply
- Infrastructure decommissioning
- Existing administrative, maintenance, support, treatment and storage buildings

1.3 Valued Components

The Valued Components (VCs) to be examined are intended to reflect biophysical or human features that may be impacted by the Remediation Project, and relate to the value people place on the VCs, that is, they have been identified as having scientific, social, cultural, economic, historical, archaeological or aesthetic value. VCs must reflect the knowledge acquired through public consultation and engagement

with PLFN. Should other VCs be identified during the environmental assessment (EA), the baseline condition for these components must be described in the EIS. The following VCs have been listed:

- Atmospheric environment
- Geology and geochemistry
- Topography and soil
- Riparian, wetland and terrestrial environments
- Groundwater and surface water
- Marine environment
- Fish and fish habitat
- Migratory birds and their habitat
- Species at Risk
- Mi'kmaq of Nova Scotia

NS Lands has been directed by CEAA to provide a rationale for selecting or justification for excluding specific VCs. Any exclusion of a VC coming from PLFN must be justified based on lack of data or information coming from engagement with PLFN.

The spatial and temporal boundaries used in the EA may vary depending on the VC and will be considered separately for each VC. NS Lands is encouraged to consult and take into account PLFN comments when defining the spatial and temporal boundaries used in the EIS. Spatial boundaries will take into account PLFN knowledge about the current or traditional land and resource use by PLFN, and other, ecological, technical, social and cultural considerations. The temporal boundaries are intended to span all phases of the Remediation Project, including after decommissioning, and NS Lands is required to taken into consideration PLFN knowledge when defining temporal boundaries.

In late August 2019, NS Lands approached PLFN to discuss the process that would be required for the Proponent to meet the requirements set by CEAA. NS Lands has provided the support and autonomy for PLFN to determine what is required to gather the data deemed appropriate to inform the preparation of the EIS, including the requirement to integrate Mi'kmaq knowledge, in order for CEAA to make an assessment of how the Remediation Project effects the PLFN community and its membership.

By October 2019, the PLFN Chief and Council had determined that the community would conduct a *Pictou Landing First Nation Well-Being Baseline Study* (Baseline Study). The Baseline Study was conducted by the Union of Nova Scotia Mi'kmaq (UNSM) in November 2019 and the data compiled and analyzed into this report in December, 2019. The Baseline Study was designed by the Information Governance & Data Projects Department (USNM) to inform the EIS process as set out by CEAA to Identify potential adverse effects to the well-being of PLFN community members.

PLFN knowledge is recognized as the knowledge that has been acquired or accumulated by the community over millennia. By inclusion in the Baseline Study, PLFN is giving NS Lands the permission to incorporate the knowledge that is shared here, recognizing that PLFN knowledge will be integrated into the methodology used in the EIS, especially where it may concern, for example, the definition of spatial and temporal boundaries, definition of significance, establishment of baseline characteristics,

effects prediction, the development of mitigation measures, residual effects, or cumulative effects. The EIS will identify where and how PLFN knowledge has been used.

CEAA has directed that the EIS include a description of the biophysical and human environment appropriate to the likely effects of the Remediation Project, include information that characterizes the environment before any disturbance due to the Remediation Project occurred, and include conditions resulting from historical conditions in the study area. PLFN has done this from the perspective of the *Piktukowaq* using metrics that are appropriate to the way the *Piktukowaq* will achieve health and well-being, and the way that the *Piktukowaq* health and well-being will be impacted by this Remediation Project. Therefore, PLFN asserts that the project disturbance started in 1967 when the Boat Harbour Effluent Treatment facility (BHETF) became operational, and has continued since, necessitating the Remediation Project in the first place.

Finally, NS Lands must use best available information to include an assessment of the predicted future conditions with the effects of the Remediation Project, and the effects without the Remediation Project.

Where scientific, engineering and technical knowledge are inconsistent with PLFN knowledge, NS Lands must present their perspective on the issue and present a statement on how they came to their conclusions. Thus, prior to submitting the EIS to CEAA, NS Lands is required to provide PLFN with an opportunity to review and provide comments on how NS Lands has used the information provided by PLFN in the Baseline Study and will respond to any comments PLFN may have to ensure PLFN's comments are adequately addressed.

Chapter 2 Background

Mi'kma'ki is homeland of the *Mi'kmaw* people and has been for at least the last 11,000 years (Sable, Francis, Lewis, & Jones, 2012). *Mi'kma'ki* is divided into seven districts (see Figure 2.1): *Kespukwitk*, *Sipekni'katik*, *Eskikewa'kik*, *Unama'kik*, *Epekwitk aq Piktuk*, *Sikniqt*, and *Kespek* (Sable et al., 2012). *Epekwitk aq Piktuk* is the traditional territory of the *Piktukowaq*.

Archaeological evidence suggests "Indigenous occupation of Pictou Harbour...dating to at least the Ceramic Period (ca. 3,000-500 BP) (Boreas Heritage, 2019). Archaeological sites are found near Indian Cross Point, and shell middens, which indicate habitation, are found along the Northumberland Strait and point to marine subsistence practices (Boreas Heritage, 2019). In 2017, a small precontact habitation site was uncovered at Boat Harbour during the Remediation Project but has not been registered in the Maritime Archaeological Resource Inventory (MARI) (Boreas Heritage,



Figure 2.1: Traditional Districts of Mi'kma'ki
(Source: <http://www.muiniskw.org/images/>)

2019). Multiple sites within the vicinity date from the precontact to historic archaeological periods (Boreas Heritage, 2019). *Piktuk* is, and has been, a traditional gathering place for Mi'kmaw people, and is where Glooscap (Creator) taught the Mi'kmaw arts and crafts (Boreas Heritage, 2019). The Mi'kmaw way of life included what Lewis (2007) refers to as seasonal rounds which followed terrestrial, marine, freshwater resources inland and out to the coastline, based on the availability of the resource. Pictou Harbour was described as "a land of abundance, of large meadows with ample game...and waters filled with large quantities of 'immense oysters'" (Boreas Heritage, 2019, p. 21).

When settlers first arrived in Pictou County, the Merigomish area appeared to be the headquarters of the *Piktukowaq*, and their principal encampment was at the foot of Barney's River, east of Big Island (Patterson, 1877). PLFN men recalled:

Prior to contact [*Piktukowaq*] members, as Mi'kmaw people, had roles and therefore purpose within the collective society, for example, men were seen as providers. Knowledge and protocols associated with these roles were known by each member and this created a sense of community...once there was a disruption from settlers... issues like poverty became common as the knowledge regarding these roles and responsibilities became lost.

Encroachment of settler society into the traditional territory of the *Piktukowaq* has been taking place since their arrival on the shores of *Mi'kma'ki*.

In 1783 the colonial government in Nova Scotia granted the *Piktukowaq* a license of occupation to live on their lands south-east of Merigomish Harbour, with the liberty to hunt and fish in the woods, rivers, and lakes of the district (Patterson, 1877), even though the Mi'kmaq have lived on this land for millennia.

By the early 1800s, sustained efforts are being made by government officials to induce the Mi'kmaw people in Nova Scotia into settled habits under the auspices of improving their social and spiritual condition (Lewis, 2018; Patterson, 1877) with the intended effort, as Lelièvre (2012) notes, "to civilize them and to curtail their wandering over the land" (p. 58). Settler discourse often projects frustration with the constant movement and wandering of Indigenous peoples, and the wish to remove them from settled colonial spaces (Lelièvre, 2012; Lewis, 2018; Wolfe, 2006). Colonial authorities treated the Mi'kmaq as a nuisance (Cullen, Castleden, & Wien, 2018). For the Mi'kmaq, the wandering was in reality the cultural norm, governed by *netukulimk*, for being on the land, a sustainable and altering use of territory so as not to deplete available resources (Prosper et al., 2011). An Elder recalls that "we did travel quite a bit...different places...different seasons...we didn't settle into one spot like...this, we were forced into this!"



Figure 2.2: Indian Land (1879)
(Source: Allan, C.R., 1879).

Colonial authorities treated the Mi'kmaq as a nuisance (Cullen, Castleden, & Wien, 2018). For the Mi'kmaq, the wandering was in reality the cultural norm, governed by *netukulimk*, for being on the land, a sustainable and altering use of territory so as not to deplete available resources (Prosper et al., 2011). An Elder recalls that "we did travel quite a bit...different places...different seasons...we didn't settle into one spot like...this, we were forced into this!"

The ancestors of the *Piktukowaq* were largely dispossessed of their lands until Fisher's Grant Indian Reserve No. 24 (see Figure 2.2), which is the current settled reserve, was created in 1864 (Boreas Heritage, 2019; MEKS, 2018, p. 28)³. The burial site at Indian Cross Point (*Sukle'katik*) was in use until the 1870s and likely predates Fisher's Grant creation by hundreds of years and may even extend to the precontact period (Boreas Heritage, 2019). *A'se'k*, the Mi'kmaw name for what is known to settlers as Boat Harbour, was long established as a cultural center of the *Piktukowaq* (Boreas Heritage, 2019).

Many of the Elder's shared their memories of *A'se'k*.

One Elder shared "[E]verything was right there". Another Elder said, "that was one of our playgrounds. *A'se'k* was even a place we used to hide from Indian agents....[if] there's a car coming in our community, could be either people from Indian Affairs or police... you high tail it home... [W]hat those people are doing is they're collecting kids. They're kidnapping them. [B]ecause of my grandparents teaching us...we were never kidnapped. We were never stolen from our community."

In 1965, Scott Maritimes decided to build a pulp and paper mill at Abercrombie Point (Pictou Landing Native Women's Group et al, 2016). Once operational the mill required a site to dump its effluent, so a decision was made by provincial government officials to pipe the effluent under water and over land to a proposed treatment site at *A'se'k*, knowing that the toxicity of the effluent from the pulp and paper mill would be quite high (Lewis, 2018, p. 138). Provincial officials and Scott Maritimes take two members of the PLFN Chief and Council to what they call a similar facility in Saint John, New Brunswick, to show that the water would be so clean you could continue to drink it (Pictou Landing Native Women's Group et al, 2016). An agreement-in-principal is signed and soon after, PLFN is paid \$60,000 for the loss of fishing and hunting revenue and other benefits derived from land and estuary use (Pictou Landing Native Women's Group et al, 2016). The Elders on the MSWAC recall their Elders protesting the pipeline and their objection to the project before Boat Harbour was developed into an industrial area. The money for their loss did not bring prosperity to the band, it has only brought pain.

In recent years, the province has committed to decommissioning the BHETF several times - in 1991, 1995, 1997, and 2005 (Nova Scotia Legislature, 2017). In 2008, then Nova Scotia Minister of Transportation and Public Works, the Hon. Murray Scott, wrote a letter to then Chief Anne Francis-Muise recognizing the adverse impacts of the effluent treatment facility on the PLFN community members (Nova Scotia Legislature, 2017). In the letter, Scott pledged that the province was finally committed to closing the treatment facility "...to end the negative impacts on [the PLFN] community caused by the BHETF", the effects of which were echoed by Minister of Justice and Aboriginal Affairs, the Hon. Michael Baker, who stated "that the Band has been long suffering would be a masterful understatement of the obvious" (Nova Scotia Legislature, 2017, p. 11).

3 Since Fisher's Grant reserve was established, the federal government added smaller parcels of land to the original 50-acres that were granted as Fisher's Grant Reserve using Indian monies to do so (Boreas Heritage, 2019). Today, Pictou Landing First Nation consists of 5 reserves: Boat Harbour West 37 (98 hectares/.98 sq. kms), Fisher's Grant 24 (143 hectares/1.43 sq. kms), Fisher's Grant 24G (60 hectares/0.6 sq. kms), Franklin Manor No. 22, co-owned with Paqtnkek First Nation (212 hectares/2.12 sq. kms), and Merigomish Harbour 31 (14 hectares/0.14 sq. kms) (Government of Canada, n.d.).

Not surprisingly, given the legacy of how Indigenous people are treated and, more specifically, how PLFN has been treated since 1965, by 2014 the province was no closer to following through on those commitments than it was at the time the minister wrote his letter, or for that matter, than decades earlier when concerns began to emerge (Lewis, 2018, p. 160).

On June 10, 2014, a member of PLFN discovered a leak at a pipe that was carrying effluent from the Northern Pulp Mill to Boat Harbour (Pictou Landing Native Women's Group et al, 2016, p. 69). The deteriorating pipe released an estimated 47,000,000 litres of effluent into the East River/Pictou Harbour (Pictou Landing Native Women's Group et al, 2016, p.71). The effluent leak sparked protests by the community members, leading to a commitment by the Province to set a legally mandated deadline to stop the flow of effluent and start to plan for the remediation of Boat Harbour (Pictou Landing Native Women's Group et al, 2016, p. 5). In 2015, the *Boat Harbour Act* passed, which commits the province to close the BHETF by January 31, 2020 (Pictou Landing Native Women's Group et al, 2016, p. 5).

On April 27, 2018, Nova Scotia Minister of Environment Iain Rankin called the experience at Boat Harbour "one of the worst examples of environmental racism in the province, and possibly the country" and rectifying the legacy of Boat Harbour would be one of the province's largest environmental remediation efforts ever undertaken (Bundale, 2018, para. 1). He announced that the Remediation Project would be registered for environmental assessment in the coming months, with remediation to be concluded by 2025 (Bundale, 2018). Given promises made by previous governments since 1995 that Boat Harbour would close, PLFN members remain skeptical. Premier Stephen McNeil of Nova Scotia made an announcement on December 20, 2019 that the province would not extend the *Boat Harbour Act* and that the Effluent Facility will close as scheduled.

The environmental degradation and dispossession that has occurred at *A'se'k* is a continuation of the colonial processes set in place prior to 1783 and PLFN asserts will continue until the full remediation back to *A'se'k* has taken place.

Chapter 3 Pictou Landing First Nation Well-Being Baseline Study Design

The Project Manager, Atlantic Region, CEAA, provided guidance to NS Lands to consider the effects of the Remediation Project on the mental and social well-being of the Pictou Landing First Nation (PLFN) members in order to monitor any changes once the Remediation Project is in the post-construction phase, and to provide mitigation measures and long-term monitoring requirements for inclusion in the EIS. CEAA, however, has directed NS Lands to describe the predicted environmental, economic and social benefits of the Remediation Project, which will be necessary to assess the justifiability of any significant adverse residual environmental effects as defined in section 5 of CEAA 2012, if such effects are identified. Environmental effects with respect to Aboriginal peoples as per Section 5(1) of CEAA 2012 must consider environmental effects on health and socio-economic conditions, physical and cultural heritage, current use of lands and resources for traditional purposes, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. We have included the requirements of CEAA in the preparation of the Baseline Study.

3.1 *Piktukowaq* Theoretical Framing

In order to fully understand the impacts of the Boat Harbour Effluent Treatment Facility (BHETF) on the *Piktukowaq*, it is necessary to present the findings based on an environmental health theoretical framework developed by Lewis (2018), one that centres a place-based epistemological, ontological, and axiological understanding of the *Mi'kmaw* place in the world. Indigenous theory is grounded in and reflects the sense and reality of who one is as an Indigenous person (Tuhiwai Smith, 2012). Understanding Indigenous health and well-being requires an acknowledgement of the importance of Indigenous knowledge, worldview, spirituality, culture, and language, and relationship to land and environment (de Leeuw, Lindsay & Greenwood, 2015).

This framework informed the development of the *Mi'kmaw* Logic Model, a data sovereignty framework which reflects the unique aspects of the *Mi'kmaw* worldview and is intended to guide the *Mi'kmaw* to self-determine indicators of well-being that more adequately reflect their aspirations of achieving well-being. Logic mapping allows leadership to track whether the vision of well-being, or the definition of what constitutes a healthy population, is being achieved (Union of Nova Scotia Indians, 2018). The first step in adapting this to the *Piktukowaq* is to decide on what those indicators should look like. This will be explained in the methodology section that follows.

3.2 Methodology

The development of the Baseline Study was guided by the principles of Ownership, Control, Access, and Possession (OCAP) (First Nations Information Governance Centre (FNIGC), 2019) and a community-based participatory approach (CBPR) which seeks to engage with participants as equitable partners in a research process that is meaningful to them, so that the outcomes are meaningful to their needs (Castleden, Garvin, & Huu-ay-aht First Nation, 2008; Castleden, Mulrennan, & Godlewska, 2012; Flicker et al., 2007; Israel et al., 2010; Khanlou & Peter, 2005; Minkler & Wallerstein, 2003). CBPR is operationalized from the moment that the relationship is initiated, through the design of the tools, to the collection, analysis, and dissemination of the data (Castleden, Sloan Morgan, & Lamb, 2012).

CBPR is particularly useful for research with Indigenous groups on health and environmental issues (Flicker et al., 2007; Israel et al., 2010), and has emerged as a transformative approach (Wallerstein & Duran, 2010) that seeks to make space using culturally relevant theories (Castleden, Garvin, & Huu-ay-aht First Nation, 2008; Hall et al., 2015; Latulippe, 2015). The data collected reflects the lived reality of the participants—the participants can see themselves in the new knowledge that is generated. We acknowledge that the development of the baseline study was not a research project per se, however, the methodological insights of CBPR were important for this project.

The Baseline Study was developed under the guidance of the Mental and Social Well-being Advisory Committee (MSWAC), which was sanctioned by the PLFN Chief and Council. A call for applications to the MSWAC went out to the community and all residents were invited to participate in the process. Over a two-week period, the Boat Harbour Remediation Project team reviewed applications and successfully recruited ten (10) MSWAC members.

The composition of the MSWAC includes representatives from various community groups such as elected leadership, Elders, women, men, and youth. The MSWAC held their inaugural meeting on October 26-27, 2019 in PLFN at the Training and Education Centre.

Members of the MSWAC include:

- Sheila Francis, Education Director
- Candace Denny, University student
- Lucie Francis, Community Member
- Mr. & Mrs. Don Francis, Elders
- Janey Stevens, Elder
- Shyanna Denny, Youth Council Member
- Derek Francis, Band Councillor
- Tonya Francis, Customary Care Coordinator and Ceremonial Lead
- Pamela Francis, Teacher

Mindy Denny leads the Information Governance & Data Projects team, a department of the Union of Nova Scotia Mi'kmaq committed to supporting Mi'kmaq data sovereignty, which includes Bertram "Muin jij" Bernard, Jr., Projects Assistant, and Wasuek Googoo, Projects Coordinator. The project Researchers include Chyloe Healy, Data Analyst, and Dr. Diana Lewis, Assistant Professor, Western University.

The inaugural MSWAC meeting served to introduce the project scope, the project team (comprised of the Project Leads and the academic research team) to the MSWAC, and to develop a Terms of Reference for the MSWAC going forward. The next meeting on November 3, 2019 took place in PLFN for the MSWAC to provide guidance to the project team on the development of the community engagement processes and tools. Additional meetings were held on November 22nd, November 29th, and December 5th to provide updates on the data cleaning and to develop significance criteria for the quantitative and qualitative analysis of PLFN's data. Standing items were established for the MSWAC meetings to ensure consistent dialogue on the project, and agenda items consistently included updates on the progress of data cleaning and analysis, project coordination, and the final report design.

The MSWAC meeting held on December 12, 2019 allowed the researchers to present preliminary findings from the quantitative data that had been released on December 3, 2019, one week past

the anticipated release date of November 25, 2019. The final meeting of the MSWAC took place on December 21, 2019, to review the first draft of the report and to get final direction before a report would be released to NS Lands, and a report prepared for release to the community members on January 9, 2020.

3.2.1 Methods

The Baseline Study was initiated with an eight (8) week deadline from start to finish. At the inaugural meeting of the MSWAC on October 26 -27, 2019, it was determined that the only way that the deadline could be achieved would be to conduct an intensive outreach to the community conducting one quantitative baseline survey and several qualitative focus groups and interviews. The MSWAC, Project Leads, and academic support co-developed the survey instrument, and the focus group and interview guides over the following week, then discussed and finalized the instrument with the MSWAC on November 3, 2019.

3.2.1.1 Quantitative Method

It was originally estimated that an approximately 40-question survey tool would be programmed and tested to start data collection in ten (10) days. In the process of PLFN self-determining well-being and creating indicators, the questionnaire grew to include additional questions required by Nova Scotia Lands on country food and fish food use, and the proposed Land Use Plan. A 45-page, 269-question survey instrument was co-developed by the academic researchers and approved by the MSWAC on November 3, 2019. The final draft questionnaire was sent to project support at the First Nations Information Governance Centre (FNIGC) in Ottawa on November 5, 2019.

FNIGC, a First Nations' national partner organization that specializes in OCAP and national survey work for First Nations, contracted FNIGC/UNSM software vendor Voxco to script the questionnaires into the Voxco computer assisted personal interviewing (CAPI) programme and upload the questionnaire to the mobile tablets provided by the UNSM for data collection in PLFN. PLFN data was automatically synced to a secure server at the FNIGC and is only accessible by Band Council Resolution (BCR), as written in a strict data warehousing agreement between the PLFN and the FNIGC.

In total, eighteen (18) mobile tablets were deployed in PLFN for data collection, and an additional three (3) were onsite and available for backup if needed. Each tablet was programmed with a unique username and password and assigned specifically to a designated area or individual mobile data collector. This method supports the tracking of data uploads and ensures if errors were to occur, a search could be narrowed to a specific tablet, and by time and date. PLFN Youth Council representative were employed to direct walk-ins to a designated area to complete the questionnaire and to support the mobile data collectors by compiling the signed and completed participant log forms.

The Project Leads designed a blitz data collection process that would see three (3) data collection sites with three (3) data collection stations at each of the three (3) sites throughout the community of PLFN. Over a four-day period (November 15-18, 2019), the walk-in data collection sites were open between 8 a.m. and 8 p.m. daily. The walk-in collection sites were identified as the PLFN Training Centre, PLFN

Fire Hall, and PLFN Health Centre, and were attended by a member of the research and project teams throughout the data collection period.

There were six (6) mobile data collectors trained for house-to-house data collection so as to reach individuals who were unable to attend on-site in-person. A communication was shared with the community via social media, word of mouth, and website, that individuals could schedule a time for a mobile team member to collect their data by calling or texting, as well. However, for the most part, mobile data collection was organized by the Project Coordinator (UNSM) who worked with the PLFN housing clerk to map (utilizing housing maps) sections of the community that would be assigned to each of the mobile data collectors to mitigate overlap in data collection. Each mobile data collector was assigned a particular street and area. Most mobile data collectors were mobile by vehicle, while others walked from home to home.

An OCAP compliant research process ensures that research skills are transferable to the community. The Information Governance and Data Projects team is committed to supporting communities with achieving data sovereignty. With that comes the commitment to build culturally appropriate research capacity with participant communities and their members who in turn serve their community's research needs with integrity and are committed to confidentiality. The PLFN mobile data collection team was recruited by the PLFN Remediation Project Coordinators three (3) weeks prior to the blitz data collection phase of the project. Each of the recruited mobile data collectors provided a criminal record check and resume, and applications were assessed based on merit and experience with engaging community members. Successful applicants were interviewed and hired by the PLFN.

The PLFN mobile data collectors who demonstrated their ability to speak and understand Mi'kmaq were classified as priority candidates. In this process we are pleased to report that our mobile data collectors, with abilities to speak and understand Mi'kmaq, were able to successfully translate the questionnaire, thus affording the respondents an opportunity to participate in a language that they feel comfortable with.

Prior to mobile data collection, the data collectors were trained by the Information Governance & Data Projects Project Assistant and Project Coordinator (UNSM) to navigate the data collection tablets, and to convey the free, prior and informed consent process to respondents and their guardians. They were instructed to record the appropriate information on the participation log form and seal it in the presence of the respondents. *It is noteworthy to mention that at the time of the blitz data collection a prominent Elder member of the community was being waked and band council elections were nearing.*

The combined efforts of the Project team and data collectors ensured the successful upload of 261 surveys, achieving an 87% response rate based on the projected target of 300 surveys. This achievement speaks volumes with respect to the value PLFN places on having their perspectives included in a study regarding the issue of mental and social wellbeing. Based on the total on-reserve population of 491 (Government of Canada, n.d.), 261 represents a response rate of 53%. Regardless, the response rate is high according to statistical standards. Moreover, in considering the MSWAC had estimated a moderate proportion of PLFN community members were currently off-reserve either working, studying, in hospital, or away for other reasons, we were able to collect a substantial amount of reliable data to analyze.

Limitations and accessibility to post-secondary institutions, specialized medical care, and the labour market are additional factors worthy of consideration when assessing an on-reserve population count.

A process form titled 'participation log form' was developed by the UNSM to track individual consents and consents for children and youth in their household – emancipated youth were considered "able to consent" for themselves. The participation log form is a method used to record an individual respondent's name, address and random unique identifier (RUID). The random unique identifier (RUID) is a random number that is generated by the software program to replace the name of the individual responding to the survey, further deidentifying the data. This process further enhances anonymity and gives comfort to the respondents who have concerns about confidentiality. Each individual is provided with a copy of their RUID and is informed that should they wish to withdraw from the study at any time they are able to by contacting the Information Governance and Data Projects team at the Union of Nova Scotia Mi'kmaq and providing their RUID number followed by a request to remove their data from the dataset.

Each of the data collectors were equipped with hand-out information about the project and information to connect respondents with a mental wellness team member that was associated with the PLFN Health Centre or the Confederacy of Mainland Mi'kmaq (CMM), should they feel triggered by the questionnaire content. The mental wellness responders were available at the Health Centre throughout the survey data collection period. At the time of this report, we are not authorized to report the number of incidences where individuals may have contacted the mental wellness support teams in regard to this study.

At the time the blitz data collection was concluded our reports indicate that the majority of data collected was collected by the mobile data collection team, although on the first day of data collection the walk-in data collection sites did experience heavy traffic. We report that there was lighter traffic at the walk-in data collection sites on the remaining days. By day three, two of the data collection sites remained open while one was closed. The remaining tablets were brought to the open walk-in data collection sites and provided to mobile team members who were able to support multiple people responding to the questionnaire simultaneously.

The tight timeline could not accommodate a process where all PLFN residents could complete the quantitative survey instrument, so a decision was made by the MSWAC that off-reserve members could not be included, and for the on-reserve population, it would only be possible to reach those who were in the community and available over the four (4) day blitz period. *The MSWAC has plans to revisit the idea of including off-reserve respondents in this project by later merging on and off-reserve datasets. It is understood, as mentioned above, that for varying reasons PLFN members temporarily migrate off-reserve; however, their need to respond to the questionnaire is highly valued by the MSWAC and the PLFN Chief and Council.*

OCAP is a tool intended to support First Nations to self-determine parameters around research and the governance of their information – advancing unique information management needs and data sovereignty. How OCAP is then applied is also determined by the PLFN Chief and Council, via recommendations from the MSWAC. We note that including the off-reserve members in this study is of significant importance to the MSWAC, since off-reserve members are also stakeholders in the well-

being of their nation. Nonetheless, there was a limited amount of time provided to start the project and finish this report and therefore the off-reserve members of PLFN were excluded from participation in this project.

3.2.1.2 *Qualitative Method*

Qualitative data collection occurred over a four (4) day period, between November 10-14, 2019. The Director of Education was assigned to inform the appropriate school Principals and Mi'kmaw student supports at each of the off-reserve schools where PLFN children attended. The Project Leads co-developed a consent form that included contact information for the project team, a background of the project, and the purpose of the consent form. Each form was handed out to each of the PLFN on-reserve students attending schools on and off-reserve. The students were asked to have their care-givers' consent for them to participate in the focus groups and return the form to their school over the days leading up to the focus group sessions. The consent forms were compiled by teachers and provided to the principals who in turn provided the consents to the qualitative researcher and the project team the morning of the scheduled sessions. Children and youth whose parents did not provide consents were not included in the qualitative focus groups.

Interviews and focus groups were held in both English and in Mi'kmaw between November 10th, 2019 and November 14th, 2019. A Mi'kmaw language expert and translator was on-site at each of the qualitative sessions to reiterate the questions in Mi'kmaw and translate Mi'kmaw responses. In cases where statements were returned in the Mi'kmaw language the Mi'kmaw language expert translated the response to English. Each of the group sessions were recorded with a quality audio recorder and saved on an encrypted memory card that was then later used to transcribe the dialogue.

The interview themes and questions were advised by the MSWAC during the development stage of the quantitative tool. Each question was carefully designed not to be leading for PLFN Children (aged 0-11) and Youth (aged 12-17), however, questions were asked in a manner that was culturally appropriate, yet relevant, and comprehensible to younger PLFN community members. Additionally, the Adult (18+) questions were also carefully designed not to be leading for PLFN Adults, and to ask questions in a manner that was culturally appropriate and relevant to older PLFN community members.

PLFN children attending school on-reserve were brought together at the on-reserve school in an available classroom, with the exception of one Grade six (6) and one Grade 12 student who could not participate in a group setting – these PLFN members were accommodated by a one-on-one interview with the researcher and Mi'kmaw language expert. The on-reserve resident school children were brought together in the following groups: Kindergarten to Grade three (3), aged between five (5) and eight (8) years; Grade four (4) to Grade Eight (8), aged between eight (8) and twelve (12).

PLFN on-reserve resident children and youth attending school off-reserve were brought together on-reserve after school hours at the Training and Education Centre in the following 2 groups: Grades Primary to Grade three (3)/aged five (5) to eight (8) years; Grades four (4) to Grade 8/aged eight (8) to twelve (12) years. School children were reached at the off-reserve school(s): grades 4 to Grade 12/ages 8 to 18 years. It is important to note that PLFN youth who were not attending school were also invited

to participate in the qualitative focus groups, however they were required to attain consent from their caregiver if they were not legally emancipated. In total 23 PLFN Children and Youth contributed their feelings and perspectives through the qualitative focus groups.

Adults aged eighteen (18+) years and older were recruited by open invitation through social media, word of mouth and the PLFN website. No individual was paid to participate. The Adult focus groups were organized by sub-groups of the following: Women eighteen to fifty-five (18-55), Men eighteen to fifty-five (18-55) and Men and Women Elders aged fifty-six plus (56+) years. Younger Adults were brought together at the PLFN Training and Education Centre while PLFN Elders were brought together at the PLFN Health Centre. A Mi'kmaw language expert and translator was on-site at each of the qualitative sessions to reiterate the questions in Mi'kmaw and translate Mi'kmaw responses. It is worthy to note that the majority of the dialogue was had in the Mi'kmaw language – this contributed significantly to the delay in qualitative analyses, as the transcribing process required more time than originally anticipated. At the conclusion of transcription, the researcher reported over two hundred and fifty pages of transcripts from the adult components alone.

3.2.1.3 *Mi'kmaw Logic Model*

Development of the Baseline Study was guided by the Mi'kmaw Logic Model for Indicators of Mi'kmaw Well-being (Mi'kmaw Logic Model), using indicators of well-being that align with a Mi'kmaw ontological and epistemological way of being in the world, one that reflects a (w)holistic and relational worldview, enabling the Mi'kmaw to self-determine and assert their own vision of what constitutes a healthy and thriving population, and to assess whether that vision is being achieved (Lewis, 2018).

Defined in this way, the *Piktukowaq* have determined that the Mi'kmaw Logic Model that guides the work of the Baseline Study evokes a standard of well-being that aspires to reflect living a life that *Kisu'lk* (the Creator) intended for the *Piktukowaq* to live in their traditional territory, including the air, water, and lands around *A'se'k*. The *Piktukowaq* are embracing their concepts and instructions for how to live a good life, a vision to live a life that is healthy and thriving, one that has been denied to them since the BHETF became operational in 1967.

The MSWAC refined the Mi'kmaw Logic Model by mapping *Piktukowaq* concepts into the *Piktukowaq* Logic Model framework (see Figure 3.1), so that data collection exercises enable the *Piktukowaq* to achieve their aspirations. Recognizing that not everything *Piktukowaq* perceive can be quantitatively measured, the Mi'kmaw will want to ensure that concepts can be captured to reflect the vision of what constitutes a healthy future as relationships are being restored. The empirical approach to the development of an EIS is not sufficient to capture the intangible aspects of development that also have to be taken into consideration. For example, the social value that comes from families being together to pass on knowledge, the cultural values that come from gathering (picking berries) or fishing and hunting, and the spiritual values that come from gathering and learning about medicines. *Piktukowaq* well-being metrics will achieve health and well-being that is important to the *Piktukowaq*.

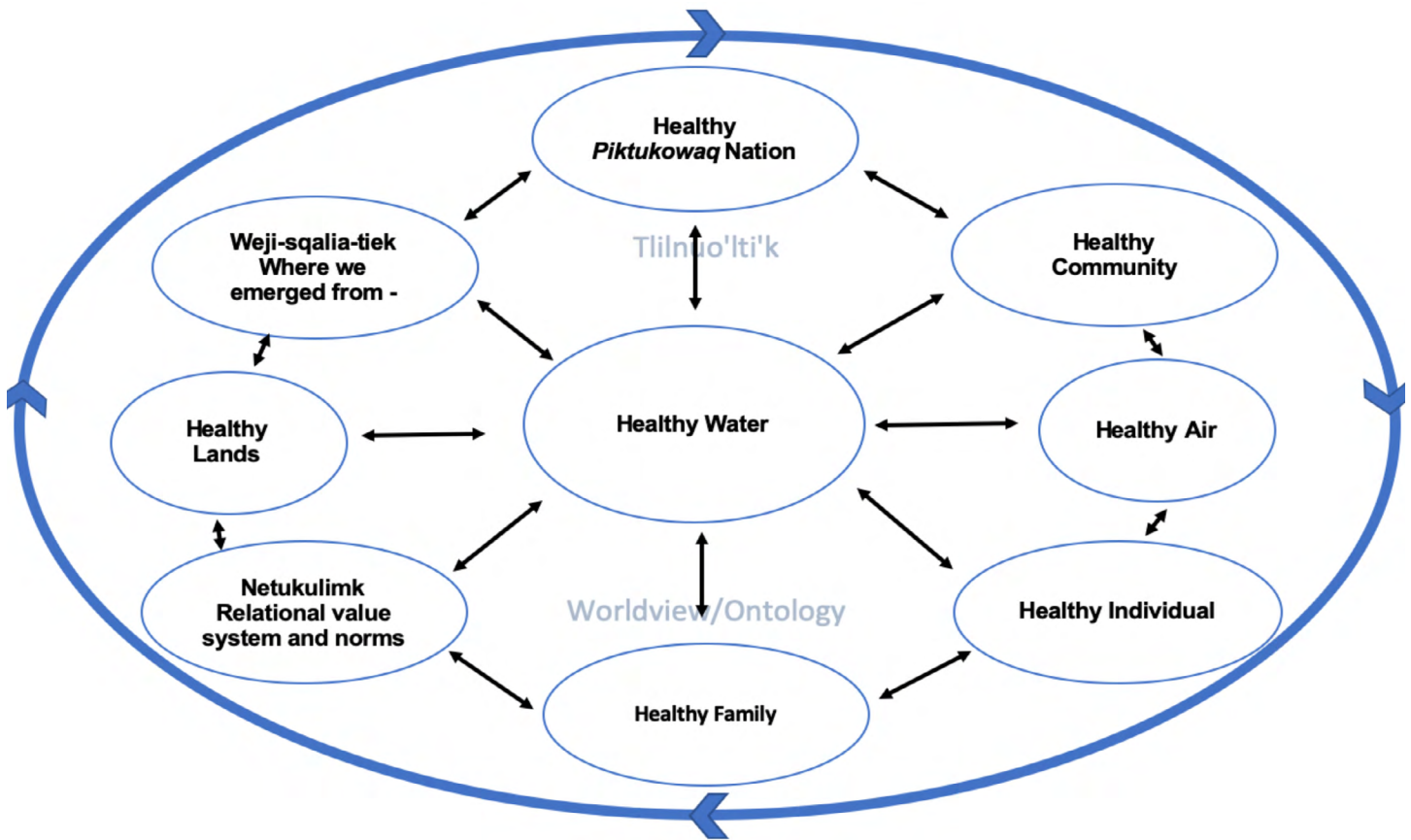


Figure 3.1: *Piktukowaq* Logic Model - *Tan teli ikaluksi'k*

3.2.2 Analysis

PLFN mental and social well-being quantitative data was automatically synced from the Voxco CAPI programmed tablets directly to a secure server housed at the FNIGC in Ottawa, Canada. The data was later downloaded from the FNIGC's secure server and transmitted via encrypted file by the FNIGC to the primary researcher. The quantitative data was tabulated using Stata (Vers16) software.

It's important to note that prior to the implementation of the PLFN Baseline Study the PLFN negotiated with NS Lands that data would only be presented in narrative format, and that percentages of the total sample would only be provided on the demographics of survey participants. This approach was approved between consultation with CEAA and NS Lands and PLFN. Further, this approach serves to ensure the OCAP parameters self-determined by PLFN are respected and adhered to by recipients of this report, and that secondary readers are limited with abilities to manipulate the responses of PLFN community members in this particular context – Boat Harbour Remediation.

3.2.2.1 Secondary Analysis

There was an inconsistent message with PLFN participant responses in the Baseline Study and focus groups about the decision to have the containment cell on site, so a further analysis of minutes from community Open Houses and meetings was conducted to determine where PLFN “participants... indicated verbally to members of the Project Team that they were happy about the remediation of Boat Harbour and were looking forward to the project progressing” (Province of Nova Scotia, n.d., p. 1).

3.2.3 OCAP compliance

OCAP® stands for Ownership, Control, Access and Possession (FNIGC, 2019). OCAP sets the standards for how First Nation data is collected, protected, used, and shared, and ensures that First Nations retain control of the data and how it is used (FNIGC, 2019).

3.2.3.1 Challenges

Because of the harms that have occurred in research relationships with Indigenous communities, it is necessary to assert strict guidelines and protocols for data that is collected in First Nations. There are challenges inherent in ensuring research is OCAP compliant.

3.2.4 Consent to disclose information

The Adult members of PLFN have signed consent forms to share these findings as they are presented in the Baseline Study Report.

PLFN Care-givers have signed consent forms to share these findings that depict perspectives of Children and Youth in their care in the Baseline Study Report.

3.3 Spatial and Temporal Boundaries

PLFN knowledge will be integrated into the methodology used in the EIS, especially where it may concern, for example, the definition of spatial and temporal boundaries. The MSWAC has determined that spatial boundaries extend to the traditional territory of the *Piktukowaq*, including the area in and around *A'se'k*. The temporal boundaries extend from the time that the effluent started to flow into *A'se'k* until the full remediation brings *A'se'k* back to the state that *Kisu'lk* created.

3.4 Determination of Significance

PLFN knowledge will be integrated into the methodology used in the EIS, especially where it may concern, for example, the definition of significance. The MSWAC has discussed what constitutes significance. We again refer to Figure 3.1 here. *Tan teli ikaluksi'k* translates to how we were brought here, how we came to be. The worldview is based on *Tlilnuo'ti'k*. *Nassitamk* is the Mi'kmaq word for connection. All of these elements must be connected and in balance, these elements impact how the *Piktukowaq* come together – *mawitamk*. And until *A'se'k* is reclaimed (*api'jatu'k*), impacts are considered significant. If the *Piktukowaq* do not get back to being who *Kisu'lk* intended them to be, then the Province has failed in the remediation of the BHETF. *A'se'k* was destroyed by the effluent. The *Piktukowaq* cannot be *Mi'kmaw* if they cannot conduct themselves as fully Mi'kmaq as they were when they were living the life *Kisu'lk* intended for them. Everything is interconnected, from the ancestors, to the present, to the future generations yet to come.

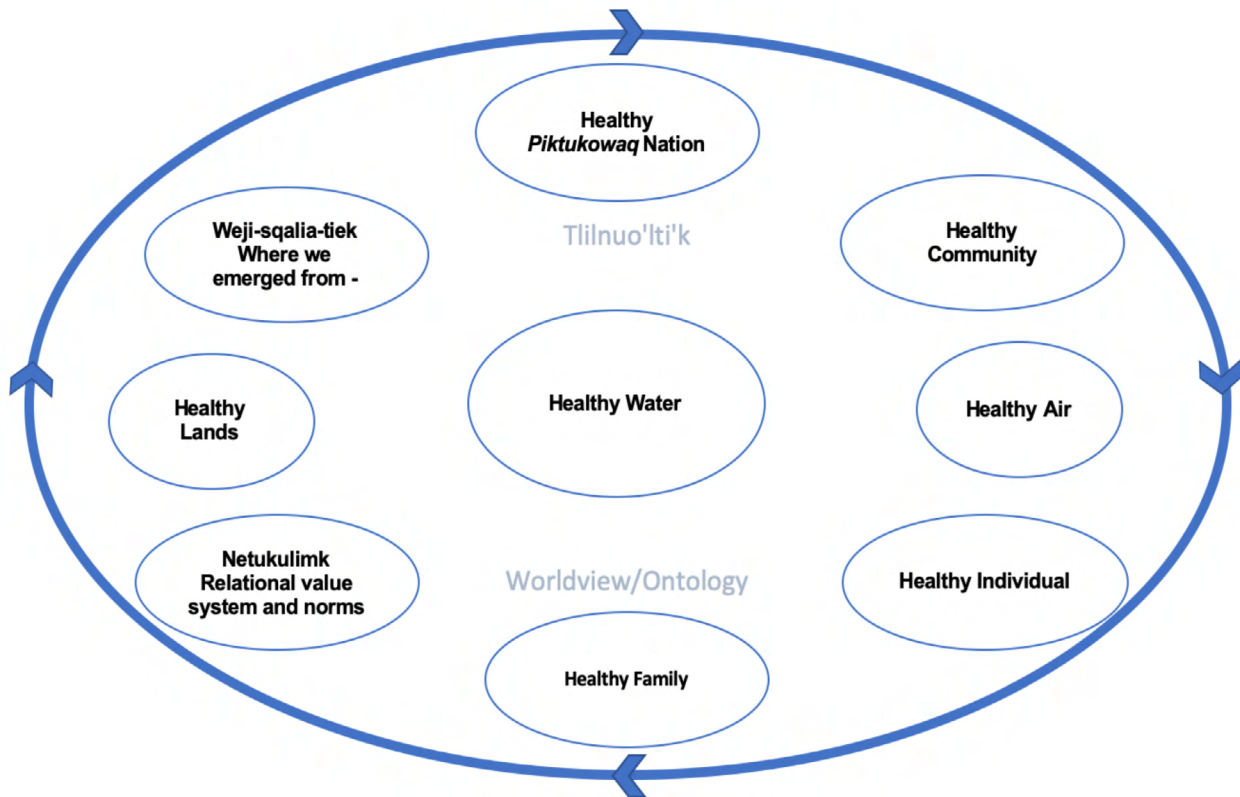


Figure 3.2: Determining Significance - The Relationships Are Severed

A member of the MSWAC has this to say, ““Everybody looked at us as if we were poor, but I never considered myself that way. When I went outside, everything was there...But when they took *A’s’e’k*, that’s when I started to look at myself as if I had nothing”. MSWAC members said they can no longer be caretakers of the environment, there is no knowledge transfer, the relationship with *Kisu’lk* is broken due to the loss of the ceremonial and sacred space at *A’s’e’k*. Another member says government and industry “broke every law that we had...the natural order... [where] we were all interconnected and working together”.

It is not irreparable though, it can be reclaimed when the land, air, and water are healed.

Chapter 4 Impacts to potential or established Aboriginal or Treaty rights

An Aboriginal right is an inherent right that flows from an Indigenous group’s continued use and occupation of an area since before European contact. A treaty right flows from an historical or modern-day treaty. These Rights are enshrined (recognized and affirmed) in the Constitution Act, 1982, s. 35(1) which states that “the existing Aboriginal and treaty rights of Aboriginal peoples of Canada are hereby recognized and affirmed” (Canada, 2018a, para. 1). The Crown has a constitutional and legal obligation to consult and accommodate Aboriginal and treaty rights and must justify any action that might infringe a right, or the infringement can be deemed unconstitutional (Morellato, 2008). The federal courts have recently overturned the National Energy Board’s approvals of the Enbridge Northern Gateway project and the Trans Mountain Pipeline expansion, citing inadequate consultation, a flawed review process, and a failure to engage in meaningful consultation with First Nations (Bryden, 2018; Federal Court of

Appeal, 2018; National Energy Board, 2018; Proctor, 2016).

“Oral history transferred from generation to generation in *Mi’kma’ki* speaks of the spirit and intent of Mi’kmaq Treaties – that being the spirit and intent was rooted in the need to preserve a way of life for the Mi’kmaq Nation – that way of life is the way of life that was intended for Mi’kmaw people by *Kisu’lk*. Performing customary practices like hunting, gathering and fishing for sustenance is existential to our distinct Mi’kmaq identity. Teachings stem from these activities and these activities have specific Mi’kmaw language associated with them – changing our landscape and our ability to access these Rights are hindering our ability to transfer Mi’kmaq knowledge and our language over generations.” – Mindy Denny

The Assembly of First Nations recognizes “that First Nations self-determination over health systems is fundamentally rooted in treaty, inherent, and international rights to health” (Assembly of First Nations, 2014, p. 6). The inherent right derives from the Creator, and our collective right to care for one another (Assembly of First Nations, 2014, p. 8). The treaty right derives from written and oral promises made in the negotiation of historic treaties (Assembly of First Nations, 2014).

Further, the Mi’kmaq have asserted Aboriginal title over Nova Scotia and are in a process of negotiation with the provincial government to define the parameters of what that means. Aboriginal title includes the right to be involved in decisions about how the territory is used (Morelato, 2008).

Beyond Aboriginal and treaty rights and Aboriginal title, the Mi’kmaw can assert protections under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In 2016, Canada formally announce its’ commitment to endorse the Declaration without qualification (Fontaine, 2016). The following articles are relevant (United Nations, 2008):

- Article 5 protects Indigenous peoples’ right to maintain and strengthen their distinct political, legal, economic, social and cultural institutions;
- Article 18: Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions;
- Article 20: Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities;
- Article 21 protects Indigenous peoples right to improve their economic and social conditions, including in the area of health;
- Article 25: Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard;

- Article 29: Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources; and
- Article 32: 1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources; and 2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources; and 3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impacts.

In December 2016, the Prime Minister of Canada committed to a process to advance reconciliation with Indigenous peoples by committing to implement the Calls to Action released by the Truth and Reconciliation Commission (Justin Trudeau, n.d.). The calls to action address health inequities experienced by Aboriginal peoples as a result of their colonial experience in Canada.

Canada, along with 172 UN Member Nation States, committed to the United Nations Sustainable Development Goals (SDG) (Canada, 2019). Canada commits to end poverty, end hunger and achieve food security, ensure health and well-being, reduce inequalities, promote sustainable ecosystems including halting land degradation and achieve justice for all (Canada, 2019).

The Government of Canada is further guided by ten principles for reconciliation to ensure that Indigenous peoples live in strong, healthy and thriving communities (Canada, 2018b). This will be achieved by ensuring that Indigenous people have a right to be self-determining, that the Crown will be honourable in all of its dealings with Indigenous peoples, that treaties, agreements, or other arrangements must be respected, that government engagement must ensure free, prior, and informed consent when actions may impact Indigenous peoples rights including their lands, territories, and resources, and that any infringement on those rights must meet a high threshold of justification (Canada, 2018b).

NS Lands uses the term of reconciliation in its dealings with PLFN on the Remediation Project. In the focus groups, one member shared, “[a] word they like to toss around is reconciliation. To me that’s not reconciliation to have the containment cell”. Or, for instance, in the Project Description, NS Lands (2018) states:

[A]s part of the remediation process, the DFO has noted that fish in Boat Harbour are likely to have genetic and/or tissue impairments and therefore may need to be removed and euthanized. Removing the fish at the BHETF site from the food chain would prevent the potential for bioaccumulation of contaminants in the predators of fish. If it is determined that the existing fish have to be removed and euthanized, the effect that the Project’s activities, including the placement and storage of the impacted sediment would have on fish would be inconsequential (p. 46).

In the *Piktukowaq* relational worldview, this action would be very consequential, as all living things are related, and activities such as euthanizing fish would have to be approached in a culturally sensitive manner that respects that relationship that the *Piktukowaq* have with all of creation. In fact, NS Lands (2018) notes that “numerous stories were also shared of dead fish floating on the water’s surface shortly after pulp mill effluent began to flow into Boat Harbour” (p. 31). When stories like this are recalled by the Elders, they are very emotional to share, because they had to watch helplessly as their relations died. Conceptions of reconciliation strive to achieve “respectful relationships among peoples and with the land and all living things” and support cultural revitalization and connections with the natural world and is not exclusively about relationships among people (McGregor, 2018, p. 223).

The MSAWC note that PLFN has nothing to reconcile because they have not done anything to harm NS or Canada. Rather it is them (NS and Canada) who need to reconcile with PLFN and Mi’kmaq as a Nation.

The *Piktukowaq* Logic Model (see Figure 3.1) reflects a standard of well-being when the *Piktukowaq* are living a life that *Kisu’lk* (the Creator) intended for them to be living in their traditional territory, including their relationship to the air, water, and lands around *A’sé’k*.

CEAA has required NS Lands to identify potential adverse impacts of the Remediation Project on the potential or established Aboriginal or Treaty rights and the measures they have taken to accommodate those adverse impacts in all phases of the Remediation Project, how they intend to implement them, beyond mitigation measures developed to address potential adverse environmental effects. This includes the perspectives and specific suggestions raised by the potentially impacted Mi’kmaq of Nova Scotia, as well as their views on the effectiveness of mitigation measures. Further, NS Lands must identify potential adverse impacts including from residual and cumulative environmental effects, on potential or established Aboriginal or Treaty rights that have not been fully mitigated or accommodated as part of the EA, including the perspectives of potentially impacted Mi’kmaq of Nova Scotia that were shared with NS Lands.

4.1 Impacts of the Containment Cell and Geo-Tubes on Rights

The *Piktukowaq* are embracing the concepts and instructions of the *Piktukowaq* Logic Model (*Tan teli ikaluksi’k*) for how to live a good life, a vision to live a life that is healthy and thriving. Figure 3.2 reflects what the standard of well-being will be if the containment cell is left on-site, all of those relationships will be severed. We asked participants to tell us “when you hear the proposed plan of the ‘containment cell’, how does it make you feel?”, almost all participants responded that it does not make them happy, nor does it make them feel optimistic. Many report that they are angry or sad about it.

One woman in the focus groups stated:

It [was] very clear that during the sessions, [as] community members spoke up and said they did not want this containment cell on site, [at] the Open Houses...they’re like oh well. And that really, it hurts us. It really hurts us. And we never trusted them to start. And they haven’t really done anything to build that trust.

We asked participants “do you feel you have all the details about the containment cell?”, and almost two-thirds responded no. When asked “do you feel you have enough information to make an informed decision about the containment cell?”, again, almost two-thirds responded no. When PLFN members were asked, “do you support the containment cell?”, almost all respondents said no or don’t know. Asked if the province is hearing their concerns, almost two-thirds of the participants responded no.

Participants were asked whether they agree with the following statement. “The containment cell will be constructed with a combination of natural and synthetic materials to provide a service life greater than the life span of the contaminating waste that is placed within it”. One-third say no, and over half respond that they don’t know. Then participants were given the following statement again. “The containment cell will be constructed with a combination of natural and synthetic materials to provide a service life greater than the life span of the contaminating waste that is placed within it” and were asked if they know what the lifespan is? Almost half respond no and over a third replied that they don’t know. Asked if they trust the above statement, over a third respond no, and half respond that they don’t know. At a community meeting in June 2018, NS Lands stated that the “containers are designed to last 300 years”.

Regarding the issue of the geo-tubes, when PLFN community members were asked if they agreed with the statement that “the province says the geo-tubes that will hold the sediments under *A’sé’k* are too dangerous to transport?”, two-thirds say no, or they don’t know; however, when asked if there are “comparable situations where dangerous substances are transported from one location to another?”, over half of survey participants responded that they believed so. And, when asked if they thought that “transporting dangerous substances has been fully explored?”, again, over half said no.

When PLFN community members were asked if they believe *A’sé’k* can be restored with the containment cell in place, almost half of the survey participants responded no. When asked if they will be able to enjoy *A’sé’k* again with the containment cell present, over two-thirds responded no or don’t know.

When participants are asked how they feel about dust coming from heavy equipment and transportation during remediation, over two-thirds express concern. When asked how they feel about the sludge being removed during remediation, over two-thirds express concern. When asked how they feel about the noise coming from traffic at the Boat Harbour site, less than half are concerned. Participants were then asked how they feel about the pollution from traffic at the Boat Harbour site, and over half express concern.

4.2 Indian Cross Pipeline and Wetland Remediation on Rights

Participants were asked if they are aware of the Indian Cross pipeline remediation options, and over half respond that they are not. We asked participants “do you feel you have enough information about the wetland remediation?”, almost two-thirds of survey respondents said no.

4.3 Alternative Means of Carrying out the Remediation Project

CEAA has directed Nova Scotia Lands, Inc, in the preparation of the EIS to factor alternative means of carrying out the Remediation Project that are technically and economically feasible and to provide environmental effects of any such alternative means. At a minimum, NS Lands must consider the remediation and disposal options for hazardous waste (solid and liquid) and location of key Remediation Project components that PLFN has identified as their key areas of concern.

In the Project Description, Nova Scotia Lands recognizes that PLFN has serious concerns with the placement of the sludge disposal cell adjacent to Boat Harbour, dating back to April 2017.

Asking survey participants if they “have been given other options than the containment cell?” or “have you been given other options for the location of the containment cell?”, again almost all participants responded no or don’t know.

In an April 3, 2017 meeting of PLFN community members with NS Lands, it was asked where contaminants were going, and the province responded that a decision had not been made. At a community meeting on November, 2017, NS Lands responded:

So far, for the off-site disposal option, GHD is working with regulators to determine if regulations can be modified to make an option available for the remediation project so that waste can be disposed of. There are other issues that impose restrictions and risks with this option, such as 17,500 truck loads required to remove the waste to an off-site location. The option of creating a new containment cell for the waste was considered, however the time that it would take to get the proper legal requirements for this to happen could take up to 8 years to get, long after the project’s beginning.

Waste management volumes is still being determined. The sludge waste volume is about 1.2 million meters cubed. The 2 options that are being considered currently is an on-site waste disposal that will hold it indefinitely. The second option is off-site disposal. So far, GHD is having difficulty finding an acceptable place that can accept this waste and at this volume.

In the Remediation Project description, Nova Scotia Lands states that:

Since 2017, the Project Team has been open and transparent about possibility of the selection of this site; the regulatory issues around its use; the risks associated with alternative sites; the engineering integrity of sludge disposal cells; and, specifically the performance and integrity of this sludge disposal cell. (NS Lands, 2018, p. 53)

At a community meeting in December 2017 NS Lands responds to a question asked about where the contaminated soil will go and responds that it is “[c]urrently not determined”. In January 2018, NS Lands is asked if “remedial options include leaving the treated solids in a containment area on site. Will this option be voted on by the community, or is this an option that will be suggested by GHD, and then completed without any community say?” NS Lands responds:

Depending on which remedial option reveals the best course of action, the option to leave the treated waste may be an option. We (GHD) and the studies being conducted, will determine what option is the best option for remediation, and which option will be the best for the clean-up while maintaining a minimum impact on the environment and local ecosystems. So, if the option to leave the solids on the local area is selected, measures will be taken to make sure that it will not impact the environment and the area, and that it will be adequately contained. An on-site containment cell will have to meet a specific standard to ensure the protection from the waste. HOWEVER, the option to remove the waste and have it moved to an offsite hazardous waste material treatment and disposal facility is still an option.

When asked “[w]here does hazardous materials go?” NS Lands responds that “[a]ll hazardous materials go to Quebec, to a hazardous materials treatment and disposal facility...”. In March and June of 2018, NS Lands advises that off-site options are still being considered. In June 2018, it is made clear by NS Lands that the final decision on remedial options lies with the NS Provincial Cabinet; however, NS Lands acknowledges that if an on-site containment cell is used, from an engineering perspective, it is possible for containment cell contents to be removed at a later date. In September 2018, NS Lands is responding that the containment cell will be “there [on-site] forever”. At a meeting later in September 2018, NS Lands is communicating that the issue considering an off-site option, is that from an environmental assessment perspective, there is already an existing approved option of the containment cell on-site.

Participants were asked if they would support the containment cell as an interim (temporary) measure while other options are explored to permanently move the contaminants off site, only one-quarter said no. Many residents stated they were not aware of other options, or if there were options, they were told they were not possible in this case. One woman said, “they never told us what the other options were, and then when we asked they just say why they’re not options”.

The proposed solution is to use the existing containment cell onsite as it is the only one in Nova Scotia that is approved to hold the sludge from Boat Harbour. As a result, it will not be moved to another municipality within Nova Scotia. (Province of Nova Scotia, n.d.).

One Elder also made it clear he was frustrated when he said, “all you are doing, what you’re talking about with the containment cell, is you’re just sweeping it underneath the rug”. When PLFN members were asked if they are prepared to wait on remediation to have the containment cell moved, nearly half of the respondents feel they cannot make an informed decision. One woman shared, “we never really had a choice in the first place,” prompting another woman to interject:

I feel like they tried intimidating us, so we asked, why can’t another containment cell be built somewhere else in Nova Scotia [because the closest facility they can take the contaminants is Quebec], and they said...that can take between 8 to 10 years in order for it to get approved. And a new one has to be built... [if] there’s a perfectly good one on site... they’ll reject it. So, what’s the point.

The women also felt that the government was playing on the community’s emotions and using the pressuring statement, “oh but your Elders would have to wait.”

Nova Scotia Lands states that:

... the concerns of the PLFN community and the Project Team's analysis were considered in the executive direction set for the Project, which includes use of the sludge disposal cell constructed adjacent to Boat Harbour. This direction sees use of the sludge disposal cell for the containment of sludge removed from the Boat Harbour site with capping of the sludge disposal cell at Project completion. (NS Lands, 2018, p. 53).

NS Lands does acknowledge, however, in September 2018 that it took only six (6) months to construct the current containment cell but stated that an environmental assessment for its approval would take about ten (10) years. GHD clarified that it would take a year to find a suitable site, complete designs, go through environmental assessment, go through a tendering process, and then construct after EA approval is granted. NS Lands repeats the ten (10) year timeline for approvals of an alternative site in October 2018 and responds when asked if "the location of the containment cell [has] already been decided" that "an existing...containment cell on site in Boat Harbour will be used in this proposed remediation option."

Two-thirds of the participants in the survey feel that the province is not hearing their concerns, they feel they have not been given options other than the containment cell or for the location of the containment cell. NS Lands reports however, that "participants... indicated verbally...that they were happy about the remediation of Boat Harbour and were looking forward to the project progressing" (Province of Nova Scotia, n.d.(c), p. 1), seemingly inconsistent with all of the responses recorded in minutes, and responses in the Baseline Study and focus groups.

Participants were asked how the remediation work make them feel. Over three-quarters responded it does not make them feel positive. Two-thirds say it does not make them feel hopeful. But it was good to see that only a small number of people say it makes them apprehensive or stressed. Then they were asked, if they knew about the Remediation Project, how did they hear about it, it seemed the most effective ways was through social media, through community meetings, talking at home, and talk with peers, in that order. When asked the best way to notify people about the meetings, social media ranked top, closely followed by newsletters, with community meetings third. Surprisingly, text messaging ranked second last. Asked if the Facebook A'se'k Community Group is useful, almost two-thirds responded yes. Asked if participants were comfortable being part of this group, over half responded yes.

Participants were asked if they avoided community meetings about A'se'k because the topics are too emotional for them, because they don't feel their concerns are being listened to, or because they don't feel their concerns are being heard, most say that is not the case. But when asked again if the participant feels the province hears their concerns, almost two-thirds respond no. In the men's focus group, one man stated "The government doesn't hear us. Nobody hears us." One young woman shared:

I don't overly trust the province cause of the fact that they did put [Boat Harbour] there. So, I mean it would really be nice to trust them to believe that they would clean it up but my personal view on it is I don't overly trust them.

During the focus groups it was apparent that feelings of mistrust stemmed from historical treatment of not being heard or listened to from provincial officials and mill representatives, and that this treatment continues during the development of the closure plan. One woman was very disheartened and said:

I think the worst part is, you don't feel like you're being listened to. Not that, you know, understanding is one thing. Just being not listened to, it's like they're sitting there and they're talking and they're nodding their heads, uh huh, uh huh, uh huh... and 5 minutes later if you ask them what you said, they wouldn't be able to tell you.

Participants were asked if they believed the federal and provincial governments are concerned about their community, and again, almost two-thirds replied that they did not. Asked if they feel listened to, only one-quarter of survey participants agree.

Participants were asked if they trust that the remediation can bring *A'se'k* back to its' original state, less than one-quarter think so. Coming from the focus groups, residents want the province to stop using the phrase "getting it back to its original state". One lady said in frustration, "it's never going to be back to its original state. Especially with the containment cell".

When asked if they think that *A'se'k* can be put back to its original condition, just over a third think it can. When asked if they look forward to seeing *A'se'k* back to its original state, over two-thirds reply that they do.

4.4 Land Use Plan

CEAA has requested that NS Lands provide the Mi'kmaw perspectives on the importance of the land on which the Remediation Project is located and how it intersects with any land management uses and/or plans they may have. The options being considered by NS Lands will impact established Aboriginal or Treaty rights, and potential rights that might arise from the modern-day land claim agreement that is being negotiated by the Mi'kmaq Rights Initiative with the federal and provincial governments concerning Aboriginal title in Nova Scotia.

When asked if they believe *A'se'k* can be restored with the containment cell in place, almost half of the participants are certain it cannot, and almost all participants report they cannot enjoy *A'se'k* again with the containment cell present. Despite this, Nova Scotia Lands has requested that PLFN prioritize land uses with the option of the containment cell being present on their lands.

PLFN invited Membertou Geomatics to develop the LUP, including a Proposed Future Land Use Map, Proposed Zoning Map, and supporting Zoning Guidelines for the Boat Harbour Remediation Project Lands to be transferred to PLFN (Membertou Geomatics, 2019, p. 3). The LUP incorporates PLFN Reserve parcels, adjacent PLFN fee simple parcels, and future prospect parcels. The Boat Harbour LUP covers a land area of approximately 6.8 km².

The LUP was developed over 5 months in 2018 due to time constraints created by the planning-design needs of the Boat Harbour Remediation Project (Membertou Geomatics, 2019, p. 6) using target groups

Elders (1 meeting), Band staff (1 meeting), Student Worker Engagement (1 meeting), school children (1 meeting), and at open community sessions (2 meetings), the PLFN Boat Harbour Land Use Planning Committee (5 meetings), the PLFN Boat Harbour Land Use Planning Working Group (2 meetings), and the PLFN Lands and Economic Development Office. Chief and Council (1 meeting) provided letters of support and reviewed draft documents which further strengthens a LUP for Boat Harbour that is representative of community wishes and is owned by PLFN (MGS, 2019, p.5). The LUP was presented and accepted by Chief and Council. The Final LUP will be made available to the community. The MSWAC believes that an interim LUP was presented to the community at an open meeting, but no one attended (MSWAC meeting, December 21, 2019). Michelle Denny, Community Liaison, Boat Harbour Remediation Project, has advised that the LUP is not final, that it continues to be an evolving and unfolding process, because community may not be informed of it.

It is stated in the LUP that all meetings started with the acknowledgement that the wish list of land use ideas and services shared by the community may not happen. Community engagement emphasized that the land be returned to a natural state, that the lands and waters of Boat Harbour will be safe, and that the community have a voice on the final outcomes.

The Vision Statement for the LUP is as follows:

PLFN is reclaiming the lands around *A'se'k* by creating economic, social, cultural and environmental opportunities while also developing a sense of safety and sustainability.

The major assumption used in the preparation of the PLAN is that all transfers of lands and waters will be deemed safe based on relevant national, provincial, or PLFN acceptable standards. PLFN is still working on what their acceptable standards will be. The LUP was modeled on the National Aboriginal Land Managers Association (NALMA) model. The development of the LUP was restricted by the shortened timeframe with which MGS was given to work with the community, challenges which MGS stated they were successfully able to overcome.

The LUP (see Figure 4.1) was made available to the participants while they answered questions in the Baseline Study and focus groups on land use.

In the Baseline Study, we asked participants if they had participated in the development of the LUP, and only just over a tenth of survey participants said they had. It was evident from the focus groups that the future LUP meetings were either insufficiently advertised and/or poorly attended. Many were unaware of the meetings. One man stated, "...if I knew...I would try to be a part of something like that". A woman also shared that there were so many meetings she attended that she wasn't sure if one was a future LUP meeting specifically.

When asked if they feel they were ready to have the discussion about the future land use, over half responded no or don't know. Asked if they feel they can answer questions about future land uses, almost three-quarters said no, or don't know. Asked if they feel ready to endorse the land use plan that was shown while filling out the survey, half of the participants said they don't know.

Balancing economic values in the face of environmental degradation may not be possible (Richmond et al, 2005). The objective of the LUP was based on an economic model. The LUP should have been guided by restoring the connection to *Kisu'lk* and restoring the treaty commitments made to the Creator to be caretakers of what *Kisu'lk* has given to the *Piktukowaq*. The LUP process may in fact be unknowingly re-inscribing acts of colonialism (Gibbs, 2003, p. 26; Place & Hanlon, 2011, p. 172).

We asked participants in the survey if they believed that they will be able to use *A'se'k* the way that *Kisu'lk* intended, three-quarters of respondents said no or don't know. Asked if they thought that *A'se'k* could be reclaimed back to the way *Kisu'lk* intended, almost three-quarters of respondents again said no or don't know. Asked if they think *A'se'k* is hurting, over three-quarters responded yes.

Community members were annoyed by the proposed idea of economic opportunities put forth by the province. One woman stated, "the province try pushing...the... containment cell...[as] an economic opportunity... that we can manage the waste facility for the next 20 years or so..." Another woman replied, "that's harmful to us...stop saying it...because it's insulting for them to say, oh but you'll have a job for 25 years, we'll give you money for that".

PLFN Chief and Council and community members have made it clear that they do not support a remediation process that leaves the containment cell on PLFN lands. They feel the province is not hearing them.

From the focus groups, it was evident that community members felt land utilization after remediation would be jeopardized if the containment cell remained on site. As one boy in the youth group who attended school off-reserve said, "yea that's a huge plot of land that we can't even build around cause I don't think anybody wants to pop up a two-story right beside the harbour". Asked if whether any of these land use options are important if the containment cell is present on and around *A'se'k*, over two-thirds replied no or don't know. Asked if they feel they are protecting PLFN for future generations, three-quarters report that they do.

See Appendix A (Land Use Plan) for results from community sessions conducted by MGS. MGS did not provide any data on how many people attended the various sessions, and we have no indication of how voting took place, or what the various coloured tags mean.

4.5 Other considerations

4.5.1 Cumulative impacts

The International Association for Impact Assessment (2019) defines cumulative impacts as:

impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertake such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. (para. 3)

4.5.1.1 *Industrial Development in Pictou County*

Pictou County has a long history of steel production and coal mining (McCann, 1981). Today, there is the Pictou County Michelin plant and the nearby Trenton Power Station that concern the community of PLFN (Pictou Landing Native Women's Group et al, 2016).

4.5.1.2 *Climate change*

PLFN is located on the northern shore of Nova Scotia, on the Northumberland Strait which opens to the Gulf of St. Lawrence. The Gulf of St. Lawrence is expected to see many effects of climate change from greater extremes and higher frequencies of seasonal events such as winter and tropical cyclonic storms, resulting in enhanced coastal erosion, storm surge (an elevation of water resulting from meteorological effects on sea level where the elevation is the difference between the normal tide in the absence of a storm and the observed water level during the storm) (Vasseur & Catto, 2008), or sea-level rise, which in Atlantic Canada has seen a 0.3 m sea level rise over the past century, and is expected to experience a 0.6 m sea-level rise in the coming century (Bush et al., 2014; Daigle et al., 2012).

Anthropogenic climate change is intimately connected to the ideologies, systems and practices of colonialism, therefore, can be viewed as an intensification of colonialism (Jones, 2019; Whyte, 2017). Underlying dynamics include intensified forms of patriarchy, western scientific imperialism, aggressive neo-liberalism and subsequent environmental dispossession and ongoing acculturation for Indigenous peoples (Jones et al., 2014; Jones, 2019; Williams et al., 2018).

4.5.2 *Mitigation Measures*

PLFN has identified accidents and malfunctions as a concern, for example, with exposure to H₂S. NS Lands has identified other potential accidents or malfunctions that could potentially happen during the Remediation Project, for example, fuel and hazardous materials spills, erosion and sediment control failure, mobile equipment accidents, or forest or site fires. NS Lands must be required to work with PLFN on the development of mitigation measures that ensure PLFN community members of their safety.

4.5.3 *Residual Effects*

The project description identifies residual effects as mainly the residual management of mill effluent or residual hazardous products within the Remediation Project area. NS Lands must be required to work with PLFN on the development of mitigation measures that ensure PLFN community members of their safety from the residual effects of the above, or any new residual effects that may come to light over the course of the Remediation Project.

4.5.4 *Follow-up and Monitoring*

CEAA requires that considerations for developing a follow-up program include suggestions from the Mi'kmaq of Nova Scotia regarding the design of and involvement in follow-up and monitoring programs. NS Lands states in the community meetings that there will be monitoring programs in place during and

following remediation, as required by regulators, most of which focuses on mitigating the potential effects caused by the placement and storage of the impacted sediment in the existing sludge disposal cell to the nearby federal lands. PLFN have reported that they do not support a remediation effort that leaves the containment cell on site. PLFN participants in the Baseline Study have reported that alternative means of carrying out the Remediation Project have not been considered.

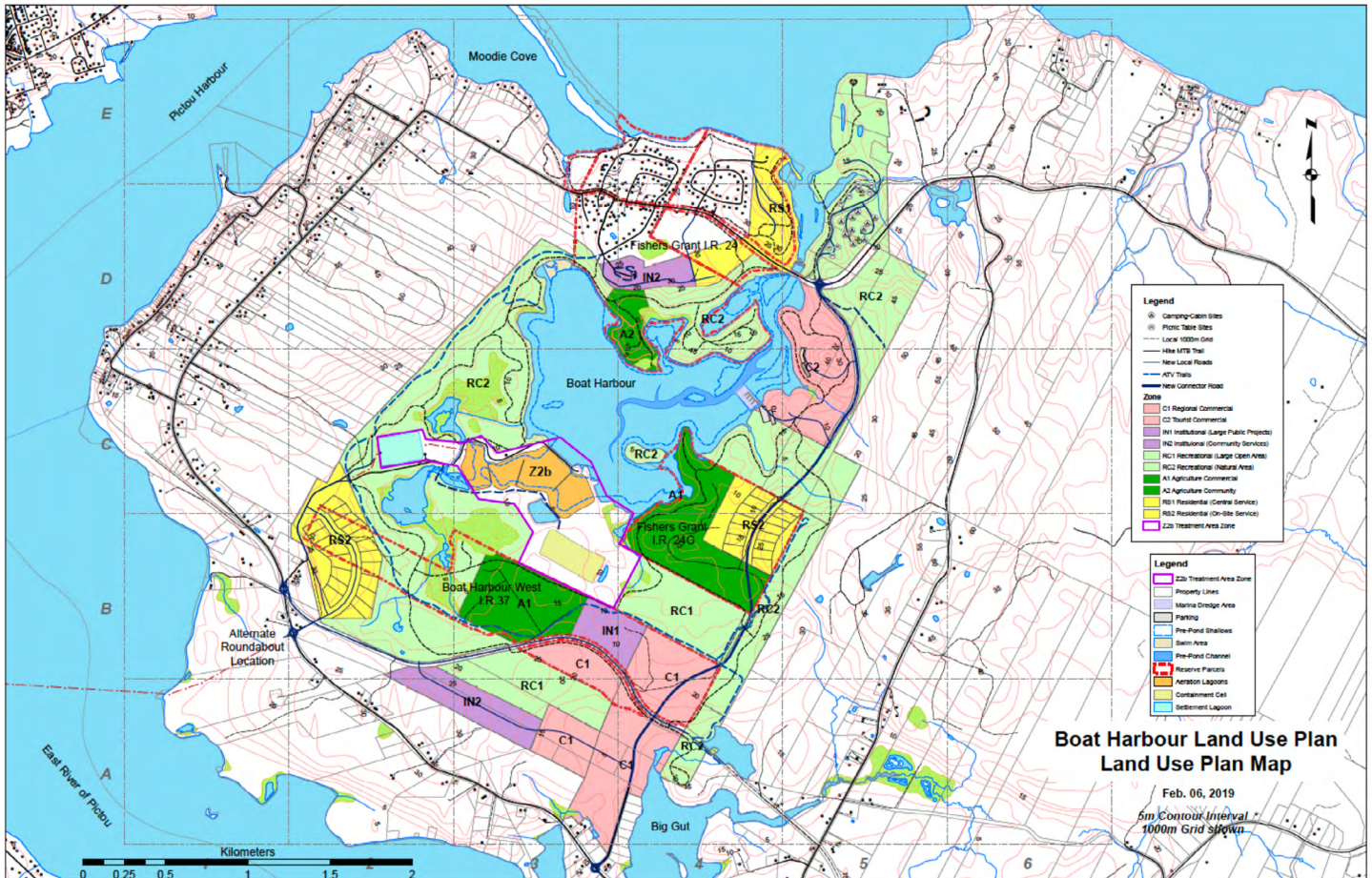


Figure 4:1: Land Use Plan (Source: Membertou Geomatics, 2019)

Chapter 5 Baseline Study Findings

We based our definition of health on definitions that go beyond the social determinants of health, measures such as income, social status, social support networks, education, and employment/working conditions (Public Health Agency of Canada, 2016, para. 1). The FNIGC (2018) recognizes that the definition of First Nation health has to include “the total health of the total person within the total environment” - total health to mean the interconnected, inter-related, and interactive web of life and living, and total person to mean the body, mind, heart, and spirit (p. 8). The National Aboriginal Health Organization’s (NAHO) (2007) definition of health is “the balance among the physical, mental, emotional and spiritual realms, as well as the environment, culture, family, and community, and that Indigenous well-being flows from balance and harmony among all these elements of personal and collective life” (p.1).

We also recognize that Indigenous peoples continue to be impacted by the social structures, systems, and institutions imposed through colonialism (Reading & Wien, 2009). Indigenous people have been subjected to the unique experiences of colonization and assimilative policies, and an imposed Indigenous-settler relationship that has been particularly detrimental to their health (Wilk & Cooke, 2015). Reading (2015) recognizes that there are the deeply embedded health determinants at the structural level (Indigenous worldviews, spirituality, self-determination) that have been, and continue to be, harmed by these colonial structures (Reading, 2015) that lead to a lack of autonomy that Indigenous people have had, and continue to have, over the decisions that impact their health (Lewis, 2018). In the focus groups, participants were asked what well-being means to them. Being self-sufficient was defined by the women, men, and Elder groups, and it is connected with procuring resources from the land – having gardens, hunting, fishing, collecting shellfish – and sharing and having gatherings to eat where all members would come together.

We asked survey participants if they felt that NS Lands understands the Mi’kmaw relational worldview and the responsibilities that go with that, and more than half replied no. Therefore, we present the data from both an empirical and holistic perspective to ensure that all that was heard from the community members is reflected in the Baseline Study and it is clear to NS Lands that they understand how important it is to the survey participants that *A’se’k* be put back to how *Kisu’lk* (the Creator) intended.

5.1 Demographics

PLFN has a total registered population of 674 members. 491 live on-reserve, 161 live off-reserve, and another 22 live on other reserves. The Pictou Landing First Nation Well-Being Baseline Study (Baseline Study) was limited to those who were on-reserve, that is, it was necessary to exclude the off-reserve population since PLFN was not provided with enough time to extend the Baseline Study to those who lived off-reserve at the time of the survey. A total number of 261 PLFN on-reserve member participated in the Baseline Study for a total response rate of 53%. Alternatively, the team projected within the timeframe that was provided to PLFN, it would be possible to achieve a target of approximately 300 on-reserve community members. Based on that projected target, we achieved a response rate of 87%. When asked if PLFN needs to reach out to the off-reserve population at some point in the future in order to have a full picture of the effects of the effluent on the community, over two-thirds replied yes.

Age Groups and Gender

Of the 261 survey participants, 44% of the respondents were male, 56% were female. The following represents the age groups of respondents: 14% are between the ages of 0-9 years (39% male, 61% female); 18% are between the ages of 10-19 years (50% each); 16% are between the ages of 20-29 years (41% male, 59% female); 13% are between the ages of 30-39 years (49% male, 51% female); 16% are between the ages of 40-49 years (51% male, 49% female); 11% are between the ages of 50-59 years (45% male, 55% female); 9% are between the ages of 60-69 years (26% male, 74% female); and 3% are age 70 years and over (37% male, 63% female). 19% of participants are married; 19% live common-law; 5% are widowed; 5% are separated or divorced; 43% are never married (including the children); and 9% do not report.

Annual Income

Of those who work, about one third earn less than \$19,999 per year, a third earn between \$20,000 and \$39,999 per year, and almost a third earn over \$40,000 per year. However, for those who are not working, 50% are relying on social assistance.

Employment Status

We asked those who were 14 years of age and older to report their current employment status, including students who are working part-time. Over one-third of those who work have full time employment, just under one-third are employed part-time or seasonally, and over one-sixth are available for work but are not employed.

5.2 Health

Health and well-being is closely linked to cultural and spiritual connection to land, the ability to engage in traditional activities, and take care of the earth (Ford et al., 2010; Greenwood & de Leeuw, 2007; Lewis, 2018; Richmond, 2009). Place-based epistemological and ontological understandings centre Indigenous peoples, and their understandings of health are intimately connected to the health of the land and environment around them (Lewis, 2018).

Health is about balance. When participants were asked if they felt their life was in balance, over half report that they do not, or don't know. Almost half of those between the ages of 20 to 29 years of age, and the ages of 50-59 years, report their life is not in balance.

Physical Health

FNIGC has kept the self-reported health measure in their survey instruments for two decades as a measure that would allow, on a population health basis, comparability to other Canadian surveys, while incorporating additional measures that make the data culturally valid (First Nation Information Governance Centre, 2011). We asked participants how they would rate their physical health. Over a third of all participants rated their health as fair to poor. Almost half of all adults (age 18 years and older)

in PLFN rate their health as fair to poor, compared to just under one-fifth of First Nation adults in Nova Scotia, and just over one-fifth First Nation adults nationally (FNIGC 2016, UNSI, 2013).

One woman said, “nothing has gone right ever since [Boat Harbour]”. An Elder noted, “everything we’re going through now, we never went through before...” Those who moved to the community noticed how everyone get sick in the community, and a decline in their own health once they were living in the community for an amount of time

The children acknowledged that Boat Harbour made things sick. When children aged 5-6 were shown a picture of the mill they said it was bad, “it makes the animals sick”, and “it makes [us] sick.”

Emotional Health

There are conflicting emotions when it comes to discussing what happened to *A’sé’k*, and what Boat Harbour has done to the residents of PLFN. When asked how they would rate their emotional health, over half of the participants in the survey report good to excellent emotional health. When asked if participants normally feel happy and interested in things, three-quarters say yes.

When asked if they laugh often, three-quarters report that they do. Humour is recognized as a coping mechanism against adversity and serves to reduce stress in First Nation communities, and promotes emotional well-being (Dokis, 2011). In the women’s focus group, one woman shared that:

[W]e’re always on [the] defence...or we’re laughing. We’re laughing alongside them because we don’t know how to respond, or we don’t know how to react.

But, this is not to be mistaken that PLFN do not experience sadness, as one-third of survey participants report that living in PLFN makes them sad. Residents state that what has happened makes them emotional. One woman shared:

[W]hen you look at *A’sé’k*...it could be a peaceful place. You could be at peace there, but there’s too much emotion”. “Another woman shared “sometimes I feel like I would leave because I get so angry. Why stay? What’s left here for us? Our families gone. Like, I get really upset”.

In the focus groups, the feelings that were expressed were anger and hurt. Feelings of anger were even expressed in the children. One child was angry because he felt for his people being lied to when Boat Harbour was negotiated. A girl in the group added, “they tricked us”. Another child, aged 5-6 years old, angrily exclaimed, “I want it to be cleaned up so bad.”

An Elder shared her frustration:

I don’t want to sound racist, but the more injustice that’s happening to us really makes me mad. And I see a lot of people dying from cancer. I’m having a hard time with this, and the reason why I’m having a hard time is because I lost a daughter too...I know what it’s like to lose a daughter. [Elder begins to cry]. I’m ok, I just gotta get this out. That’s why I’m so pissed off. They’re pulling the wool over us.

One man became very heated when discussing the hurt he felt from experiencing the surroundings created by Boat Harbour. He said:

[T]he challenges that we face in trying to make somebody believe you...that pollution is bad, and there's a population out there that doesn't believe you until they are harmed by it..[it's] devastating. It's hurtful. I know I've been hurt over the years by this issue.

An Elder shared that he also felt hurt:

[A]s an Elder, you know, I'm affected. Maybe I never show it, but I'm really affected. I think about it every day. And [I think about] what I used to do when I was a kid...I still walk but, if the place was back to the way it was back then, I would walk it today. And it just, it just hurts that you can't do it".

We asked if survey participant gets a good night's sleep and only half report that they do. Sleep deprivation is connected to emotional and mental well-being (Rhie & Chae, 2013).

The emotions also come from not being able to perform ceremony. A woman on her healing journey became very emotional when she shared her struggle to connect to her spiritual items at [Boat Harbour]:

I struggle with, ever since [what happened at] Indian Cross Point (when the effluent pipe burst)...[T]he ancestors asked me to do [a] ceremony, and really not understanding what that ceremony was, I reached out to another Elder who told me it was a water ceremony. And ever since I started my journey...I struggle the most with bonding with my bundle. Because as I bond with my bundle, I bond with the water, and I bond with the land, and I bond with everybody, and there is so much pain in that water. A couple of women...had come down and we had gone down to the water and we [did] a water ceremony. And your heart just hurt so much because you can feel her [A'se'k's] pain. And we cried so hard that day, all of us. But I really struggle with doing the water ceremonies here.

Almost two-thirds of participants ask why settlers did this to them.

Mental Health

When asked how the participant would rate their mental health, one third of the participants report fair to poor mental health. Just under one-half of those in the age group 10 -19 years report the poorest mental health. A participant from the women's focus group shared:

People always talk about the cancer and those effects that you can see. What about the effects that you can't see? Our suicides. And things like that...They say, well oh well let's look at the cancer rates. No, let's look at the suicide rate. Let's look at the diabetes rate. Let's look at those things that aren't so much talked about because those things impact us because of what happened there too.

One of the Elders shared:

I was going to say, well I don't, I have diabetes and I've been taking care of my health and stuff. But what really affects me is the mental health...the pollution all around, it affects me. It affects my well-being, the way I feel...the fact that this was done to us, makes me mad. And it affects my emotional health and my mental health. And it feels like there's nothing I can do about it, you know...it's been there for so many years...would someone please get rid of it. That's what we're asking. We're begging people to get rid of [it] once and for all.

We asked participants if they needed to speak to or see a mental health professional about their emotional or mental health, and just under one-third of respondents answered yes. Asked if they were able to access care in a timely manner, over half respond that they were able to. One of the men shared:

I don't know what life was like before Boat Harbour, but I do know that I often think about what life would be like... without it. It's hard to think about it. It's hard to think that we live[d] in a beautiful place because it's so disrupted... it's like it's just been a nightmare... Every night you go to bed, it's your nightmare, you wake up to it and that's how people feel.

When talking about the hurt that will be created from leaving the containment cell on-site, one of the men said "it's like taking a picture of your rapist and putting it on the wall for you to see every day and remind you..."

Spiritual Health

When asked if spirituality is important, more than half of participants report that it is. When we ask about spirituality, we are asking about Mi'kmaw traditional spirituality. Ceremony is also important to over half of survey participants. When we ask about ceremony, we are asking about Mi'kmaw traditional ceremony. We asked participants "has the harm done to A'se'k affected your ability to practice your ceremonies?", and just under half responded yes. Asked if they can perform ceremony at or around Boat Harbour, less than one-fifth said they could.

In the focus groups, the women discussed this extensively. One woman referred to the spiritual harm saying:

They don't understand how it affects us spiritually. It is a visual reminder and that hurts... it's just there on our land...that hurts. That hurts spiritually for our land and environment...

This sentiment was mirrored in another woman's statement:

When you talk about the harm and our traditional Mi'kmaw ways...[w]e don't even know what it is. Because we haven't been able to practice it. So, that's the most harmful part of when I look at that question about your ceremonies and traditional Mi'kmaw spirituality, our generation doesn't know what it looks like. Because we haven't been able to practice it all these years.

Community Well-Being

In the past, the community was very close. When asked if the community was able to have gatherings as they used to around *A'se'k*, over half of survey participants said no. Despite that, almost two-thirds of survey participants report that they think PLFN is a close-knit community and they are positive about living here.

Over two-thirds of survey participants report that it matters to them that they live here, they like living in PLFN, they feel they belong, that PLFN is their traditional land, their cultural connections are to this area, their sense of belonging comes from being in PLFN, they get their sense of community from being here, their family connections are in PLFN, they trust their neighbours, and they get comfort from living in PLFN.

Over half would continue to live in PLFN even if given the opportunity to leave. In the focus groups, many community members said they would never leave due to the fact that their roots were there, it was their "comfort zone", and they were stewards of the land with the responsibility of taking care of *A'se'k*. A woman with the opportunity to leave chose not to because she had begun her healing journey and it included helping the water at *A'se'k*.

We asked respondents if they thought their address made a difference in opportunities to make friends, get a job, and so on, and over half responded yes, with almost two-thirds reporting that they believe there is a stigma to living in PLFN. The smell is so well known that Pictou Landing is called the "stinky place". This has impacted the pride of PLFN members. One woman said her grandchild vomits when he comes into the community to visit because of the smell. In the youth focus group, a female shared that she was relieved Boat Harbour was closing so she would no longer be embarrassed when her friends drove her home.

Two-thirds of survey participants are very concerned about the air and land around them. Three-quarters of survey participants are very concerned about the water around the community. Over half are very concerned about the tap water in the community. About half are concerned about the trees around them and using the trees for woodfires or bonfires. Just under a half of survey participants are very concerned about the availability of native plants and animals around them. Half are very concerned about the fish and shellfish around them. Finally, over two-thirds are very concerned about the odours and smells around them and the mist that settles around their community.

Asked if they were concerned about the air quality in buildings that have been closed overnight and on weekends, just under one-half of participants are very concerned. In the focus groups, many women explained that the smell seems to seep into buildings and stick to the walls. Several buildings hold the smell - the band office, the health centre, the school, and the store.

Participants were asked how they feel about the areas that their children play and almost one-half of participants are very concerned, and about one-fifth keep their children indoors to avoid pollution. But the children notice too:

[My daughter] wants to play outside. But when it stinks outside, she doesn't want to be outside. So, what does she do? She sits inside and is on electronics...but she wants to go out and play but it smells like Boat Harbour. It stinks. And she's like, I know what's in there, I know it's pollution, I know it's bad for me, I know I shouldn't be breathing it in...And she hears her dad say he doesn't want to go out, right. So, that just means that nobody wants to go outside and play because it stinks.

Relationships with Outsiders and How it Affects Community Well-Being

When asked if survey participants "think that remediation has divided the PLFN residents from Pictou County residents?", over half responded that it has. When asked if the relationships within Pictou County are being affected by remediating Boat Harbour, just under one half said yes. Over half of participants report that because they want Boat Harbour cleaned up, county residents think they don't care about them. But, almost all survey participants state that they don't want what happened to them to happen to anyone else.

In the focus groups, one man felt that the community would be blamed for lost jobs by residents of the county. One Elder also felt that there would be hostile backlash and said:

You're going to get the odd one here and there, and we gotta be... more vigilant especially at the end...[be]cause there are going to be people [who] retaliate. Don't... be surprised if they do a drive by... I'm scared for our community actually.

Some residents are worried to go into town and are afraid to make a statement about their support for the remediation in public. Asked if the participant feels their personal safety is at risk because of the remediation of A'se'k, almost one third of survey participants responded that they did.

But we were also interested to know if PLFN was receiving support from others. In the focus groups, participants talked about the support they feel PLFN is getting. One man expressed that the closure of Boat Harbour generated more support from other First Nation communities, as they become more aware of the conditions faced by PLFN. Many community members felt that the closure plan didn't divide community members from Pictou County residents, but had in fact created allies and supporters, especially among fishermen.

Participants were asked how they feel when they hear about the concern that mill jobs are being threatened. About one-fifth responded that they are sorry for the loss of jobs, with some saying they feel stress about it. When asked if they felt the province was doing enough to educate Mill employees about the Remediation Project, over half said no. And, when asked if the province is doing enough to plan and educate Mill employees about employment opportunities should the Mill close, half said no.

5.2.1 Health Issues/Concerns

PLFN residents are concerned about the health of their community members.

Asthma

Environment, including exposure to chemicals, odours, or pollution, has been cited by the Asthma Society of Canada (2014) as potential triggers for asthma. We asked respondents if they had been told by a doctor or other health care professional if they have asthma. About one-fifth of participants responded yes, with the highest incidence of asthma occurring in the 40 to 49-year age group and decreasing as the age gets younger. This is contrary to what PLFN residents believe – that asthma is highest in the youngest age group. We asked if the asthma was symptom diagnosed, and three-quarters responded yes. We then asked if the participant got spirometry tested, that is, did they have to blow into a machine to test lung capacity, and two-thirds responded yes. When asked if they have any other respiratory function issue, three-quarters of survey participants responded no. There is a risk that these estimates might be low, as asthma is often underdiagnosed, untreated, or hidden in Indigenous communities (Castleden et al., 2016).

In the focus groups, men and women mentioned the struggles they faced with breathing. One man mentioned his struggles to climb a hill in the community. A woman said she was never a smoker and felt she was in good shape but still experienced shortness of breath climbing up her stairs. A young man explained:

[W]hat the smell we are actually smelling is the hydrogen sulfide on contact with water, such as like your lungs, it turns into sulfuric acid in your lungs. That's why we have respiratory problems.

We then asked if there were specific times of the day that the respiratory function issue is more common, the highest response time was between midnight and 6 am.

There were other issues that people were concerned about and we wondered if survey participants thought that there was a time of the day that these issues were more common. Asked if their eyes ever get irritated, over half of participants responded yes. When asked if there were specific times of the day when irritated eyes were more common, the most common response was between 6 p.m. and midnight. Asked if participants get headaches, two-thirds report that they do, and the most common times are between 6 a.m. and noon and 6 p.m. and midnight. PLFN residents have also reported that nosebleeds are common, and the most common response times were between 6 a.m. and noon and 6 p.m. and midnight.

Fatty Liver/Liver Enzymes

Participants were asked if they have been ever told by a doctor that they have fatty liver/liver enzymes and over two-thirds responded no. But many responded yes. Asked if it was diagnosed by a doctor, almost all responded yes, and almost half believe it has something to do with Boat Harbour.

Skin Issues

PLFN residents have mentioned that skin issues are prevalent, so we asked participants if they have a skin condition that they believe is related to what is happening at Boat Harbour. Less than one-fifth of participants believe so. In the focus groups, skin issues were also discussed. One Elder shared that someone who used to live in the community used to complain about boils. She has since moved into town and has never gotten a boil since she's been off the reserve. The women discussed a worker at the effluent facility who got boils while working there, and this sparked women to question the safety of jobs around Boat Harbour.

Cancer

When the groups discussed cancer, it was not limited to people. Animals were often brought up. One man recalled that:

We stopped eating [rabbits] in the early eighties. It was our nephew and brother that caught the rabbit, skinning it, and there [were] tumors there...I'm very pissed off because I know what happened to the rabbits, we ate them, it was in the food chain, so now whatever happened to the animal is happening to us.

A woman shared that her daughter was diagnosed with leukaemia, and that she attributed her daughter's disease to Boat Harbour because she knew leukaemia was a known side effect of the chemicals used in the bleaching process. One Elder shared that her daughter passed from a very rare type of cancer, and speculated her passing was due to the conditions created by Boat Harbour since it was such a rare disease. In the women's focus group, one woman shared that she was considering moving because of her concern for her children. She said "...I don't want my kids to grow up having that chance of getting cancer or sick."

Other Health Issues

There were concerns about many other health issues in the community and the following were identified by a small percentage of participants, so it is worth reporting. PLFN residents report the following conditions: high blood pressure (mentioned by almost one-third); diabetes (Type 1 and Type 2); heart disease; Alzheimer's/dementia; multiple chemical sensitivities; and chronic fatigue syndrome. Other issues include behavioural issues like ADD/ADHD and autism, and appendix removal, or auto-immune disorders.

Reproductive issues were a concern. The following were noted by participants: miscarriages, hysterectomy, polycystic ovary syndrome (PCOS) (worry that it leads to fertility issues in younger women), endometriosis and caesareans.

In the focus groups, discussion of reproductive health issues caused a very concerned tone within the group and it was suggested that an additional meeting was needed to talk about it in more detail with more women present. Hysterectomies among young women was highlighted as a concern, with a lot of

the young women having hysterectomies. The women felt that “being silent was the norm”, and women need to share more.

Fertility issues elicited feelings of worry and concern. They asked if PCOS, which causes various side effects such as facial hair, testosterone production, weight gain, and fertility issues, was due to the environment they lived in, do pollutants cause fertility issues? PCOS can affect a woman’s ability to have children. The women also mentioned how body fat in women is a concern, and the issue of pollutants that bioaccumulate in body fat concerns them.

PLFN residents were concerned about the girls starting their periods much earlier than they expected, so we asked if participants started their periods at an early age, almost one-fifth replied that they did. Asked what age girls started their periods, over one-fifth were under the age of 10 years, and one third were 11 years of age. This was discussed in the women’s focus group as well. The women agreed that the onset of a girl’s period was happening at a younger age than experienced by older generations, that some girls were as young as 6 years old.

Concerns About Effects of Potential Accidents or Malfunctions

Concern over the effects of exposures to hydrogen sulfide (H₂S) was raised several times in community meetings, especially concern for workers who may be exposed on-site during remediation, and then go home to families during off-hours and continue to be exposed to it in the air coming from the nearby remediation site. The province acknowledges in April, 2017 at an *A’sé’k* Social that:

H₂S is a known risk factor in the project’s remediation. Air monitoring will be closely monitored to ensure the safe operation of the project, and that the levels of H₂S are sufficiently low that they will be a non-risk to community members. The first concern will be for individuals working in the immediate area, such as equipment operators. The individuals exposed to the highest levels of H₂S will be the workers who are in the area. Air monitoring will be constantly conducted, as the project progresses, to ensure that the H₂S levels present are not above a safe working level. Workers in the remediation project will be properly trained for H₂S safety, and H₂S specific respirators will be provided as a precautionary measure. The next level of concern for H₂S is for the community. Air monitoring will be conducted in strategic positions near the community, on a schedule. This is more of a precautionary level, as the levels of H₂S by this point is far lower than at the site of excavation. The H₂S dilutes in the air as it travels, and the levels at the actual excavation site are monitored and kept below a specific limit. These factors combined will ensure the safety of the PLFN community and the people working in and around the remediation project, from H₂S. Due diligence and the safety of everyone involved is a top priority.

5.2.2 Health Care Access

We asked participants about their access to health care. Almost half report they go to the doctor or other health professional, even when feeling well. When asked why, over half report that it was time for a regular check-up, over a third have a health concern, and some report that they go because someone in their family got sick. When asked where people go when they require health care, the majority go to

their family doctor. Almost all of the participants in the survey have a family doctor, and two-thirds are happy to very happy about their health care.

However, access to specialist care may be an issue. One man was experiencing colon cancer symptoms of blood in his stool and expressed frustrations of getting a biopsy 22 months after first experiencing symptoms.

5.3 Socio-Economic

Socio economic conditions include general information such as the population demographics (given above) as well as residential information or drinking water sources. Consumption of country foods, and commercial and recreational activities, are found under land and resources.

We asked respondents if they thought their address made a difference in opportunities for jobs, and over half responded yes. One lady also mentioned the smell created a barrier for the community to host events due to the unpleasant smell.

5.3.1 Employment at Remediation Project

The following questions were answered by respondents age 14 years and older. When asked whether participants are looking forward to the employment opportunities that the Remediation Project will bring, over half of the respondents replied that they were. When we asked respondents “do you believe the remediation of A’sé’k is an economic opportunity?”, over half responded yes. Finally, when asked “do you believe that the job opportunities around remediation are a good opportunity?”, over half again responded yes.

When we asked why participants answered the way they did in the previous question, over one-third participants believe that any job is better than no job, although less than a fifth believe they are good jobs and less than one quarter think they are safe. In the men’s focus group, one man stated that he didn’t think it was safe to work around Boat Harbour, but he did it anyway because he was “tired of being poor” and didn’t want to be on welfare anymore.

The quality of jobs offered to the community was questioned. One man shared “it’s going to be good money-wise, health-wise it will not. As soon as you move dirt, you open up...gas. It will not be good for the people but the Mi’kmaq will get those jobs...The natives will do the shovelling...[t]hey will be given the lowest type of work...”

One woman was very concerned with the safety of the jobs around Boat Harbour and said:

[W]hy would we want to send our people out there to fix it unprepared and unprotected...This whole meeting we’ve been discussing the side effects from it... we’re sending our men and women out there to work in such close proximity. Unprotected. I can’t fathom that.

The youth expressed that they didn't want to work in the clean-up of Boat Harbour and one girl who went to school off-reserve shared "I feel like it shouldn't be our job to clean it up". A boy from the same group quickly added, "yea, it wasn't us that put chemicals in there."

Although most of the community members thought it was not safe to work around Boat Harbour, a woman expressed her son's job at the effluent facility had benefited him. She said, "the job actually was beneficial to him because he was interested in that stuff...he's now going into environmental science because of this". She said that "her son felt safe at work because he did the same work in the same equipment as his boss and...trusted what his boss told him."

The younger children also said they would be proud if someone they loved worked in the clean-up of Boat Harbour. One boy in grade 8 said he didn't necessarily want someone he loved working there, but he would be proud that the person had the courage to clean it up. This might point to how conflicted people are about not wanting to be part of the clean-up and wanting to see Boat Harbour cleaned up at the same time.

When asked if they think PLFN has been sufficiently informed about participating in the tendering process for opportunities coming from the Remediation Project, approximately a third of participants responded yes, but two-thirds responded no, or they were uncertain.

When asked if they think that contractors will hire PLFN members, less than half of all participants think they will, or don't know if they will. When asked if Nova Scotia Lands' policy of "Hire/Contract PLFN first" is sufficient to ensure PLFN members will benefit, over half responded no or they don't know. When asked if the Nova Scotia Lands' policy of "Hire/Contract PLFN first" is effective and whether contractors should be audited to ensure compliance with that policy, almost half of all respondents feel that contractors need to be audited.

Require Training/Certification to Work at Remediation Project

The following questions were answered by respondents age 14 years and older. When asked if they required training or certification to be employed in the remediation process, over half responded that they do. When asked again if the respondent would feel safe working at the Remediation Project, just over one-quarter reported that they would feel safe.

5.3.2 Quality of Life in the home

It is important to understand how people feel about the quality of life in their homes in PLFN. Parents answered on behalf of their children if these experiences impact their children as well.

One prominent factor impacting community member's quality of life was the smell in PLFN. So, we asked about this in the survey, focus groups, and interviews. When asked if in the past twelve (12) months the smell of Boat Harbour has affected the home, almost all responded yes.

In the Elder focus group, one Elder shared:

I don't know about your guys house, but the pollution was that bad that it sinks into the carpets and furniture that we had to get rid of them. And it was a big waste of money.

We asked respondents if they could enjoy the fresh air by opening a window, Over half said no. When asked why not, almost all responded that it was because of the smell. When asked if the smell of Boat Harbour has affected the ability of residents to go outside, over two-thirds responded yes. One woman shared:

I avoid the outside all the time. Especially if it's, the smell is bad. And it's the reason why I don't walk around or anything out here. It's because of the pollution.

When asked if they have an air exchanger in the home, and if it gets used, over two-thirds responded yes. For those who said they did not use their air exchanger, over half respond that they believe the air exchanger brings in the dirty air from outside. When asked if the participant uses an air conditioner when needed, most will do so, but if they don't, one quarter believe it brings in the dirty air.

Concern about the safety of the tap water in the community has been ongoing despite an ongoing water-quality monitoring program in PLFN. We asked participants if they considered the tap water in their homes safe to drink, and almost two-thirds said no. We asked if they filter their tap water, almost half responded that they do. When asked how they would rate the overall quality of the tap water, over two-thirds rated it fair to poor. When asked if they generally use other sources of drinking water than tap water, almost all report that they do, and when asked what other sources, more than two-thirds use bottled water. For those with low incomes, as many in the community experience, this is an added burden they can ill-afford.

In the focus group, a woman stated that due to poverty she was unable to buy bottled water but made light of her situation by explaining that as the week progressed the water began to taste better and by [week's end] she could make a good cup of tea.

5.4 Cultural heritage and Values

Cultural heritage is defined to capture the importance of traditional use areas that are important for inter-generational teaching of language or traditional practices, communal gatherings, and includes the importance of vistas and other intangibles like sacred and spiritual connections.

5.4.1 Self-Esteem and Pride in Being Mi'kmaw

When asked how they would rate their self-esteem, a third report that they would rate their self-esteem as fair to poor. Those with the lowest self-esteem are in the 10 to 19-year and 20 to 29-year age group (one-third rate fair to poor) and the 30 to 39-year age group (half rate fair to poor).

We asked survey participants if they believed that their pride in being Mi'kmaw was affected by what happened at Boat Harbour, and over half report that it has. One woman said she was proud of what her community did but could not recall being proud of PLFN as a place. But one Elder shared:

I'm not embarrassed to be from Pictou Landing [First Nation]. I tell them where I'm from...[A] lot of people are aware of [Boat Harbour] now. And they're curious about it, right. You know, [they ask] how do you live down there?... So, I don't hide anything. I don't hide. I'm not embarrassed to be from Pictou Landing. You know we're survivors. If we can survive the residential school... we can survive that. We can be survivors from [Boat Harbour] too.

The Elders group began laughing at this survivor statement and one added, "Boat Harbour survivors."

5.4.2 Experiences of Loss

Elders in the community feel that the youth do not have the same value for the natural resources. When reminiscing on the past, and being able to do these things, sadness is palpable, as it is in the younger generations who never got to partake in these activities.

When you talk about the harm and our traditional Mi'kmaw ways... [w]e don't even know what it is. Because we haven't been able to practice it. So, that's the most harmful part of when I look at that question about your ceremonies and traditional Mi'kmaw spirituality, our generation doesn't know what it looks like. Because we haven't been able to practice it all these years.

Many in the focus groups felt that the knowledge transfer of their Mi'kmaw traditions was disrupted by the creation of the BHETF at A'se'k. One man stressed "it's hard to know what you're missing out on when you don't know any of the traditions at all."

So you know it affects your culture, it affects your well-being, it affects everything you know as an individual when you have who you are taken away from you...They took the Mi'kmaw away from us, and it's that much harder to try to be Mi'kmaw when you have had everything that's Mi'kmaw about you, basically taken from you...there's a couple generations that have lost the opportunity to be able to know these things, because of that.

Youth expressed that they felt they missed out on learning their Mi'kmaw traditions because of Boat Harbour. One young woman shared, "yea, I think it has affected our culture a lot cause personally I haven't learned a lot of like normal culture things. Yea I learned some, but it has affected our culture."

Elders shared that because teachings have not happened, people don't know, for instance, people are hunting and fishing out of season.

5.4.3 Language

We asked respondents if they speak or understand their language. Just less than half of the respondents in PLFN speak Mi'kmaq, but over two-thirds understand. Asked if they are able to teach the younger generation their language around Boat Harbour, over a third said no.

5.4.4 Cultural Practices

We wanted to assess how strong cultural practices continue to be in PLFN. PLFN is set to celebrate the 30th anniversary of their annual Mawiomi. When participants were asked if they participate, two-thirds report that they do. Asked if they understand the meaning of Mawiomi, over two-thirds say they do. Asked if they believe that the harm that has been done to A'se'k affects their chance to have a strong culture, almost half believe it has. Asked if they get strong cultural learnings despite being in the presence of Boat Harbour, just under half say they do, but one-third reply they are able to pass that down to the younger generation, but it is not by being on the land around Boat Harbour.

Asked if they are able to practice Mi'kmaw laws, customs, and traditions around Boat Harbour, almost half responded no.

When asked if the participant feels "a connection to the ancestors and lost loved ones", over half responded yes. When asked if the participant feels "feels the ancestors or lost loved ones are at rest so close to Boat Harbour in its' current state?", over a third responded no.

5.4.5 Land and Resource

A Mi'kmaq Ecological Knowledge (MEK) Study was conducted by Membertou Geomatics based on interviews with 44 individuals from PLFN and Paqtnkek First Nation. MEK is defined as:

[The] cumulative body of knowledge that is passed on from generation to generation, Elder to child...knowledge [that] is dynamic and changes over time as new experiences bring forward new understandings regarding the Earth's ecology...the collection of wisdom and experiences that the Mi'kmaq have with all components of the natural environment; the interrelationships that exist between all life forms from a unique historical, cultural and spiritual perspective (Mi'kmaq Rights Initiative, n.d., 3; 7).

Also referred to as traditional knowledge (TK), the International Association of Impact Assessment (2018) defines traditional knowledge as "the knowledge, innovations and practices of indigenous and local communities... [d]eveloped from experience gained over the centuries and adapted to the local culture and environment" (para 1). TK can take many forms (stories, songs, values, beliefs, rituals, community laws, language, etc.) and is transmitted orally from generation to generation (IAIA, 2018).

Activities such as harvesting and gathering are not only functional in terms of providing sustenance, but are activities that meet many Indigenous peoples' physical, spiritual, mental and emotional needs (Lewis, 2018; Wilson, 2003).

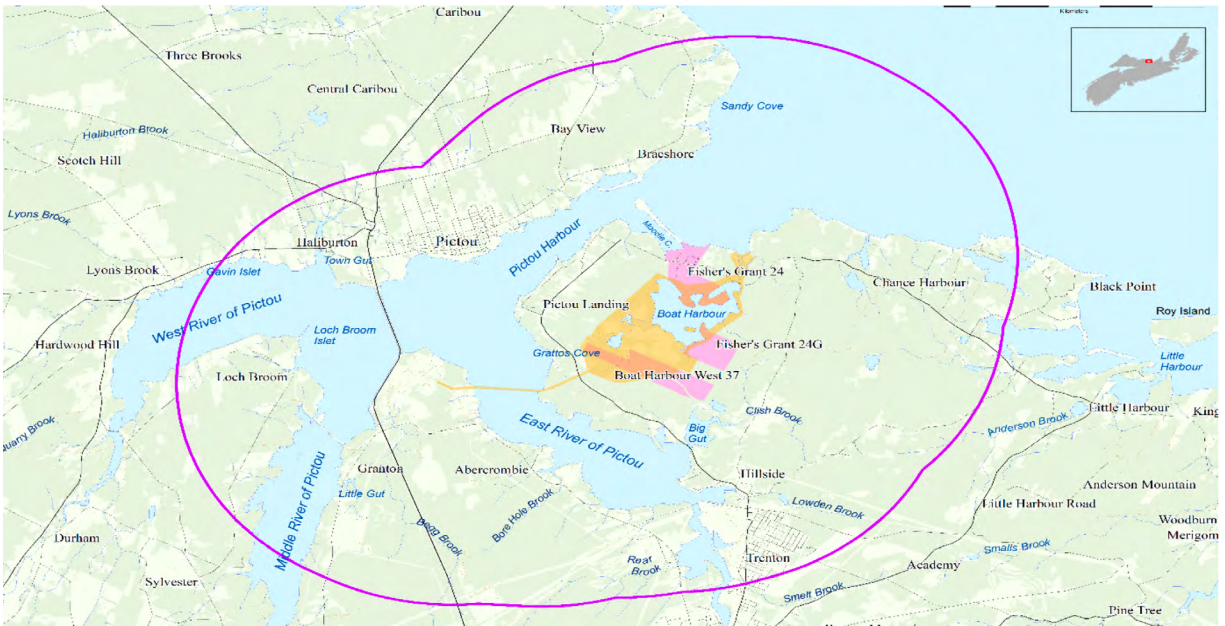


Figure 5.1: MEK Study Area (within Purple line). Source: MGS, 2019

The MEKS looked at past and present traditional use activities in the area, including fishing, hunting, and gathering. Deer hunting and salmon fishing were the most commonly reported activity by informants within the Study Area, followed by trout, smelt, bass, and mackerel bass fishing, as well as rabbit hunting and blueberry gathering (MEKS, 2018, p. vi). The MEKS identifies that informants are distrustful of anything harvested in the area and have also reported animals and fish with cancers and bumps (MEKS, 2018, p. vi), consistent with what has been shared with people from the focus groups.

The following species were reported by the Pictou Landing First Nation (PLFN) community to be historically to currently fished, hunted or gathered from the BHETF area and/or surrounding area (within 5 km radius of the Project Site– see Figure 5.1). Current use is within the last 10 years. Recent Past is within the last 11 – 25 years. Historic Past is anything prior to 25 years (MEKS, 2018, p. 10). The “Type of Use” categories include spiritual use, and sustenance use, such as fishing, hunting or medicinal gathering activities (MEKS, 2018, p.10).

- Fishing: Salmon, Trout, Mackerel, Smelt, Bass, Eel, Clams, Quahogs, Lobster, Crab, Gaspereau, Minnow, Perch, Herring, Cod, Flat fish, and Mussels.
- Hunting: Deer, Moose, Rabbit, Partridge, Beaver, Fox, Muskrat, Bobcat, Coyote, Fisher, Porcupine, Lynx, Minx, Otter, Raccoon, Squirrel, Duck, Pheasant, and Geese.
- Gathering: Blueberries, Strawberries, Apples, Blackberries, Cranberries, Raspberries, Grapes, Teaberry, Sweetgrass, Birch bark, Chaga, Spruce boughs, Crab apple, Eagle feathers, Evergreen trees, Golden Thread, Mayflower, Mushrooms, Cow lily, Pear, Pine, Rhubarb, White Ash, Lady slippers, Princess Pine, Black-Eye Susans, Cherry, Peach, Medicines, Plum, Pumpkin, Sage and White Ash.

In the survey, we asked participants what country foods they can access locally. We defined locally as around PLFN and Boat Harbour. About one-fifth of participants said they can fish or hunt or gather

berries and fruits locally, and less than that can gather grasses or trap locally. Asked where people get most of their food, almost all participants said the grocery store.

We asked participants if they eat large game and over half responded yes. Asked where they hunt or get their large game, less than one-tenth report that it is around PLFN and Boat Harbour, and about half say in Cape Breton. Asked if they eat small game, a third report that they do. Asked where they hunt or get their small game, about one-tenth report that it is around PLFN and Boat Harbour, while over a third say it is on the mainland.

One participant responded “People just trap around here for fur. No one actually eats the meat around here”. A boy stated, “I wouldn’t eat it for like 200 years”. One man shared “once it is restored and then we begin hunting...fish[ing], I’m thinking, I’ll be kinda...weary of it. I’d be kind of nervous to eat it actually...[a]fter knowing what’s been over there.”

When asked if they eat fish, clams or shellfish, more than half of respondents said yes. Asked where they fish, clam, or collect shellfish, very few report that it is around PLFN and Boat Harbour. Over a third say on the mainland but away from PLFN.

When asked if they collect berries and fruit now, over two-thirds of respondents said no. But if they do, they were asked where they collect berries and fruit, and over half say on the mainland but away from PLFN.

When asked how often they, or a member of their household use the lands surrounding PLFN and Boat Harbour for hunting, fishing, trapping and/or gathering activities, almost half say never. Asked if they trust the local area to hunt, fish, trap and/or gather, two-thirds of participants replied they do not. Asked if they believed that hunting, fishing, trapping and/or gathering activities can be restored around Boat Harbour, two-thirds say no, or they don’t know.

NS Lands relied on the *First Nation Food, Nutrition and Environment Study: Results from the Atlantic Region (2014)* (FNFNES) (2017) to arrive at traditional food consumption rates for PLFN in the preparation of the *Quantitative Human Health and Ecological Risk Assessment*. The FNFNES was initiated by the Assembly of First Nations in 2007 in response to a lack of data around the diet on First Nation peoples living on-reserve and the health impacts of environmental pollutants and contaminants in traditionally harvested foods (FNFNES, 2017). Canada had been routinely conducting the Health and Nutrition Surveys and Total Diet Studies among the general Canadian population to understand changes in diets and the environmental safety of store-bought foods but had not included on-reserve populations in their studies (FNFNES, 2019). In the fall of 2014, the FNFNES was conducted in eleven First Nations in New Brunswick, Nova Scotia, and Newfoundland⁴, and included PLFN. Using data coming from the FNFNES as the basis of estimating PLFNs consumption rates may result in an over-estimation of the consumption rates at PLFN, since these other First Nations do not necessarily have their access to traditional foods limited by being sited next to a toxic industrial facility. Based on the data coming from the focus groups and surveys, traditional foods are seldom consumed from the surrounding area.

4 Prince Edward Island and Labrador were not included.

5.4.5.1 Medicines

When we asked participants if they use traditional medicines now, less than one fifth replied yes, and asked if they gather their medicines around PLFN and Boat Harbour almost no one does. Over a third gather their medicines on the mainland but away from PLFN, and a third say other people give them their medicines. We asked respondents “do you access traditional medicines near Boat Harbour?”, and three-quarters of respondents said no. Asked whether they trust the traditional medicines around PLFN, over half responded no. When participants were asked how concerned they were about the availability of traditional medicines around them, three-quarters of respondents were very concerned or somewhat concerned.

5.4.6 Food Insecurity

Almost half of survey participants run out of food for their family before the next time they have money to shop for food, and most reply that being able to access traditional foods would help them stretch their food budget. Canada has made a commitment to end poverty and hunger and achieve food security, for all (Canada, 2019).

Food security could be achieved if people had gardens. We asked participants if they have a garden and three-quarters of respondents said no. Asked if they would like to have a garden, just under three-quarters said yes. Asked how they feel about growing their own food in a garden, over one-third would be very concerned. When asked why they don't have a garden, over a third are worried about the soil. When asked how concerned they are about the soil, over three-quarter are somewhat or very concerned about the soil.

The MEKS also included a Mi'kmaq Significance Species Analysis, considering the resources that were identified as important to Mi'kmaq use. The analysis was based on type of use (Food/Sustenance, Medicinal/Ceremonial, and Tools/Art), availability, and importance, and “if a loss of the resource was to occur through project activities, would the loss be unrecoverable and prevent Mi'kmaq use in the future (MEKS, 2018, p. 10). Species identified include salmon (endangered), moose (endangered), American eel (threatened, and striped bass (special concern).

5.4.7 Structure, site or thing that is of historical, archaeological, paleontological or architectural significance

Epekwithk aq Piktuk is the traditional territory of the *Piktukowaq* (Sable et al., 2012). Archaeological evidence suggests the *Piktukowaq* were in the area since the Ceramic Period (ca. 3,000-500 BP) (Boreas Heritage, 2019). Archaeological sites are found near Indian Cross Point, and throughout *Piktuk* (Boreas Heritage, 2019). The burial site at Indian Cross Point (*Sukle'katik*) was in use until the 1870s (Boreas Heritage, 2019). In 2017, a small precontact habitation site was uncovered at Boat Harbour during the Remediation Project (Boreas Heritage, 2019).

5.4.8 *Structural Impacts*

Indigenous worldviews, spirituality, and self-determination have been, and continue to be, harmed by colonial ideological, political, societal, and economic structures, therefore it is important to account for these structural determinants in the consideration of health outcomes in Indigenous communities in Canada (de Leeuw, Lindsay, & Greenwood, 2015). Not only are these structures detrimental to health, they also contribute to the oppression of Indigenous worldviews, spirituality, and self-determination over the decisions that impact health (Reading, 2015). In the Baseline Study we ask about the structural determinants of residential school experience, the 60s Scoop, and attendance at Indian Day Schools, as well as the impacts of colonialism on gender, and experiences of racism.

5.4.8.1 *Colonialism*

We asked if the participant attended residential school, very few had. But when we asked about familial attendance in residential school, it is more likely to be in the grandparent's generation more so than in the great-grandparent or parental generation. PLFN has residents who are survivor of the 60s Scoop as well. More residents report that they attended an Indian Day School.

5.4.8.2 *Impacts on Gender*

The Native Women's Association of Canada (2010a) recognizes the gendered impacts of colonialism that have resulted in gender inequality and the silencing of Indigenous worldviews which hold the traditional relationship between men and women as one of balance, reciprocity, interdependence, and respect. Historically, Indigenous women were the keepers of traditional practices and customs and were revered for their sacred role to create and nourish life⁵ (NWAC, 2010a). Indigenous women identify as water keepers and maintain a reciprocity with water to respect and appreciate what water has to offer and to honour their spiritual connection to water because of their ability to carry the waters of new life (Anderson, 2010). Indigenous women view water rights as essential to the survival of their families and communities, their cultures, languages, and lifeways, and any disruption of their connection to water disrupts these sacred relationships (NWAC, 2010b).

Exposures to hazardous chemicals in water, such as persistent organic pollutants (POPs), are especially detrimental to Indigenous women, and due to their central role in food gathering and preparation they can be exposed to and absorb contaminants in food supplies (Carmen & Waghlyby, 2012). Populations that consume large amounts of fish, shellfish, and country foods are at even higher risk of exposure making this exposure a real threat to Indigenous communities observing traditional, subsistence-based ways of life (United States Environmental Protection Agency (USEPA), n.d.). Low levels of exposure may lead to endocrine or reproductive abnormalities, therefore, POPs may pose a significant threat to Indigenous women's health due to their tendency to build up in body fat, which can then be passed on to babies through placenta and breast milk (Carmen & Waghlyby, 2012; USEPA, n.d.).

Under reconciliation, Indigenous women are asserting self-determination to revitalize their traditional

5 This role is important for Indigenous women across Canada.

roles and responsibilities, according to their own knowledge systems and worldviews, and in ways that reflect traditional values of mutual respect and relationality, and an absolute belief of a sacred interdependence on each other, the land, and the environment (NWAC, 2010a). Reconciliation in this context requires a social responsibility to end colonial attitudes that have devalued the role of Indigenous women (NWAC, 2010a).

We asked participants if they believe that water has memory, and 43% responded. Only 21% said no and 33% were not sure. In the women's focus group, one woman shared that she had gotten an important teaching that water has a memory. "She [A'se'k] has that memory to help herself," and throughout [her water] ceremony, she could actually feel that "when I held the bundle...it was pretty powerful and emotional ceremony and I'm very thankful of that."

5.4.8.3 *Racism*

We asked participants if they have ever experienced racism, and over two-thirds report that they have. Asked if they have experienced racism in the past twelve months, over a third report they have. Asked if children had experiences of racism in school, 55% responded yes. When asked if the children had been told by friends that they can't visit in the community, 45% responded yes. When asked how that makes the children feel, 21% say embarrassed, 21% say ashamed, 23% say confused, 3% are neutral about it. We asked how that makes the parent feel, and 32% are hurt, 34% are angry, 4% are confused, 8% are neutral about it.

One of the youth shared with the MSWAC that when she was young, her friends were not allowed to come and visit her at PLFN. She also shared that when she was ready to work part-time, she couldn't get a job in town until she had a Trenton address. She now works at [name of restaurant withheld] but some people won't come to her counter.

In the focus groups, participants made it clear that they see what happened with Boat Harbour, as well as the proposed option of leaving the containment cell on site, as acts of environmental racism. When a youth was asked why he thought Boat Harbour was built where it was, he responded "because we're native". A member of the men's focus group said:

[T]his is ongoing environmental racism. We have very well-known chemicals of dioxins and furans, which are evidently cancer-causing chemicals. And for this to keep going on for, what, 52 years... If [Health Canada, Aboriginal Affairs, Indigenous Affairs]... had spoken up... they would be shutting down that pulp mill... how many more deaths are we going to have to go through?

Chapter 6 – Conclusion

We end the Baseline Study with the words of one of the young people in the community.

A female child shared, “I know that it was once beautiful and I’m excited to see if they can get it back that way”. A youth shared:

I know it was where we used to gather... it was basically the exact opposite of Boat Harbour. It was a marsh, it was beautiful. You could see through the water almost. It had wildlife. You could swim, you could fish. It had berries. It’s now Boat Harbour.

But the words of one young adult are the most powerful:

I do believe that Boat Harbour has affected us in every single way possible, spiritually, emotionally, physically. Our community members are sick, or suffering from cancer, autoimmune diseases. Some young women can’t even have children. So, I do believe that it has affect[ed] us in all ways. I think if Boat Harbour was still *A’se’k*, I would be more culturally involved, more spiritual, more grounded to the community, and have more of a sense of culture and being more aware of our traditions. That my brothers would know how to hunt, they wouldn’t have to go to Cape Breton Island. And just listening to...our Elders, our knowledge keepers...for my generation, for the youth, it’s really important for [us] to hear your...stories and your traditions, and to keep that going. And I know even if remediation does happen that it’s not trusted...at least it’s going to be better and that toxic effluent is going to stop coming in. I don’t know if everyone’s going to trust it, but I think that’s when our healing’s going to start. It has to start somewhere, and I want a better...future for my kids, for my generation. Especially from...hearing the pain that you guys talk about...We all want a better future for our children and younger generation[s]. So, I really do want remediation to happen and I believe...that’s when we are going to start healing and trying to become closer and just having a better life all together.

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Appendix A

Land Use Plan

Recreational Land Use



Figure A.1 Community Session Concepts: Recreational Uses (Source: MGS, 2019)



Figure A.2: Community Session Voting Results: Recreational Uses (Source: MGS, 2019)

Stadium/Outdoor Recreational Uses

When asked to rank outdoor recreational uses for space, just under half of the participants support sports fields with lights, about one-fifth support salt or freshwater outdoor rink, while less than one-tenth support a water/splash park, basketball court or archery range, or a drone obstacle course.

Indoor Recreational Uses

When asked to rank indoor recreational uses for space, over a third of the participants support an indoor rink, and less than one-quarter support an indoor pool, a laser tag facility, a gymnastic facility, or a basketball court or fitness centre.

Large Outdoor Recreational Uses

When asked to rank large outdoor recreational uses for space, powwow grounds ranked first among one-third of participants, while a snow board/sledding park and cottage rental spaces came in at just over one-tenth support. The zip line/on-tree park, zoo/wildlife park, ATV-motocross park, A'se'k beach, campground, pond hockey venue, development of Moodie Lighthouse Beach, picnic park, inner harbour swim area, and marina had the least support.

Large Outdoor Uses in General

When asked to rank large outdoor uses, wetland boardwalks and watercourse foot bridges ranked first among almost one-quarter of participants. Mi'kmaq experience camping/trails ranked second with a fifth of the participants, while an interpretive trail, bicycle/mountain bike trail (shared with hiking), designated ATV trails, designated hunting areas and a golf course ranked lower.

Agricultural Land Use

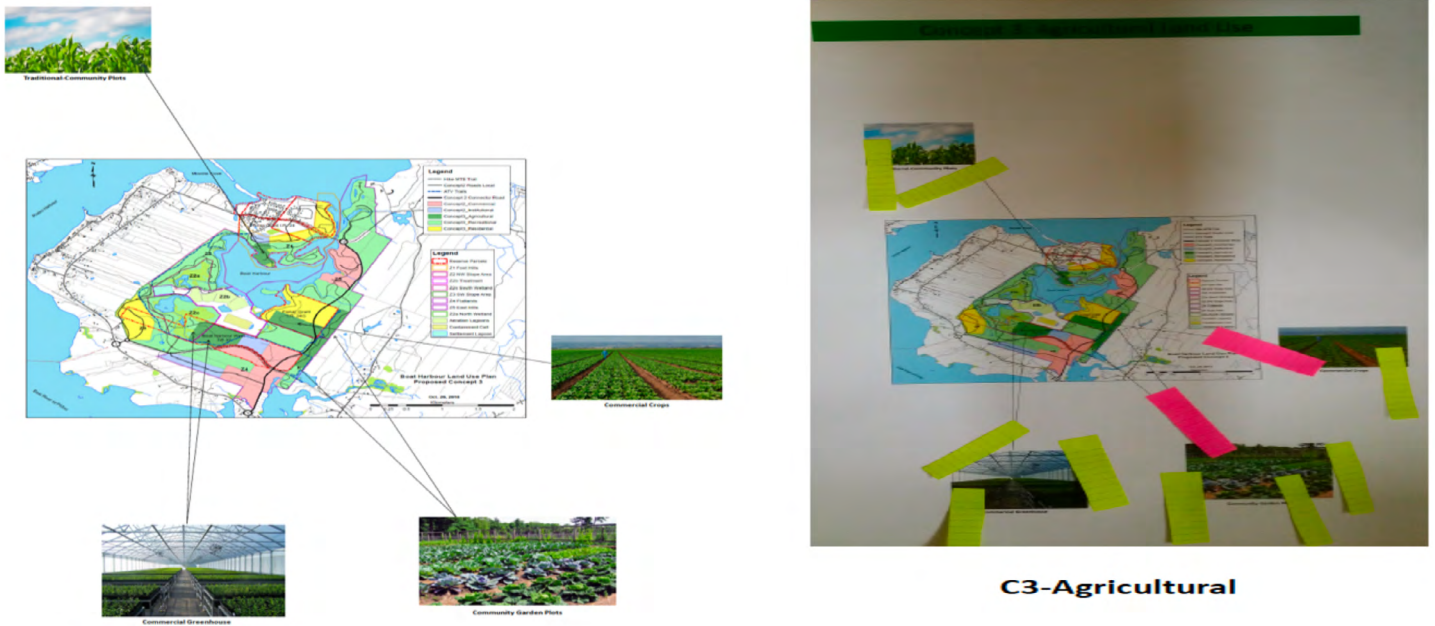


Figure A.3: Community Session Concepts & Voting Results: Agricultural Uses (Source: MGS, 2019)

Large Outdoor Agricultural Uses

When asked to rank large outdoor agricultural uses for space, over one third support aquaculture (mussels/clams), and Christmas trees ranked second. In the focus groups, an Elder did suggest that land could be used to grow Christmas trees if people were still reluctant to eat anything coming from the land. A commercial greenhouse ranked third, orchards and cranberries ranked last.

Small Outdoor Agricultural Uses

When asked to rank small outdoor agricultural uses for space, community garden plots ranked first with over one-third, traditional gardens ranked second, and secure food garden plots ranked third.

Small Indoor Commercial Uses



Figure A.4: Community Session Concepts: Commercial Uses (Source: MGS, 2019)



Figure A.5: Community Session Voting Results: Commercial Uses (Source: MGS, 2019)

Small Indoor Commercial Uses

When asked to rank small indoor commercial uses for space, a carpet and flooring supply store ranked first at over half the participants, a chips, pop and candy store ranked second, and a canteen service ranked third. An electric car charging station, food services/restaurant, Mi'kmaq regalia supply store, traditional craft market, arcade, and hair salon all tied to rank fourth.

Large Indoor (Big Box/Tourist) Commercial Uses

When asked to rank small indoor commercial uses for space, a carpet and flooring supply store ranked first at over half the participants, a chips, pop and candy store ranked second, and a canteen service ranked third. An electric car charging station, food services/restaurant, Mi'kmaq regalia supply store, traditional craft market, arcade, and hair salon all tied to rank fourth.

Large Indoor (Big Box/Tourist) Commercial Uses

When asked to rank large indoor (big box/tourist) commercial uses for space, a movie theatre and Mi'kmaq experience lodge ranked first, a gas bar/convenience store ranked second, a bingo hall, gaming/casino operation, and auto repair service tied for third, a grocery store, indoor theatre/stage, bowling, and a farm market ranked fourth.

Small Indoor Commercial Uses

When asked to rank small indoor commercial uses for space, an outdoor stage/theatre ranked first among almost two-thirds of the participants, a mini golf course ranked second, and a drone obstacle course ranked third.

Large Outdoor Commercial Uses

When asked to rank large outdoor commercial uses for space, a business park ranked first among just over a third of participants, a fish plant ranked second, an industrial park ranked third, and a sawmill ranked fourth.

Small Outdoor Commercial (Tourist) Uses

When asked to rank small outdoor commercial (tourist) uses for spaces, canoe/kayak rentals ranked first at almost a third, a traditional village re-enactment encampment ranked second, a sweat lodge ranked third, a sacred fire/story-telling space ranked fourth, and a boat launch/ramp ranked last.

Large Outdoor Commercial (Tourist/Eco-tourist) Uses

When asked to rank large outdoor commercial (tourist/eco-tourist) uses for spaces, Mi'kmaq experience camping/trails ranked first just below one-third of participants, wetland boardwalks/watercourse foot bridges ranked second, hiking/mountain bike trail and fishing both ranked third, a marina, snow board/sledding park, interpretive trail, campgrounds, and cottage rentals tied for fourth, and a zip line/on-tree park, picnic park and zoo/wildlife park tied to rank last.

Residential Uses for Small/Large Spaces

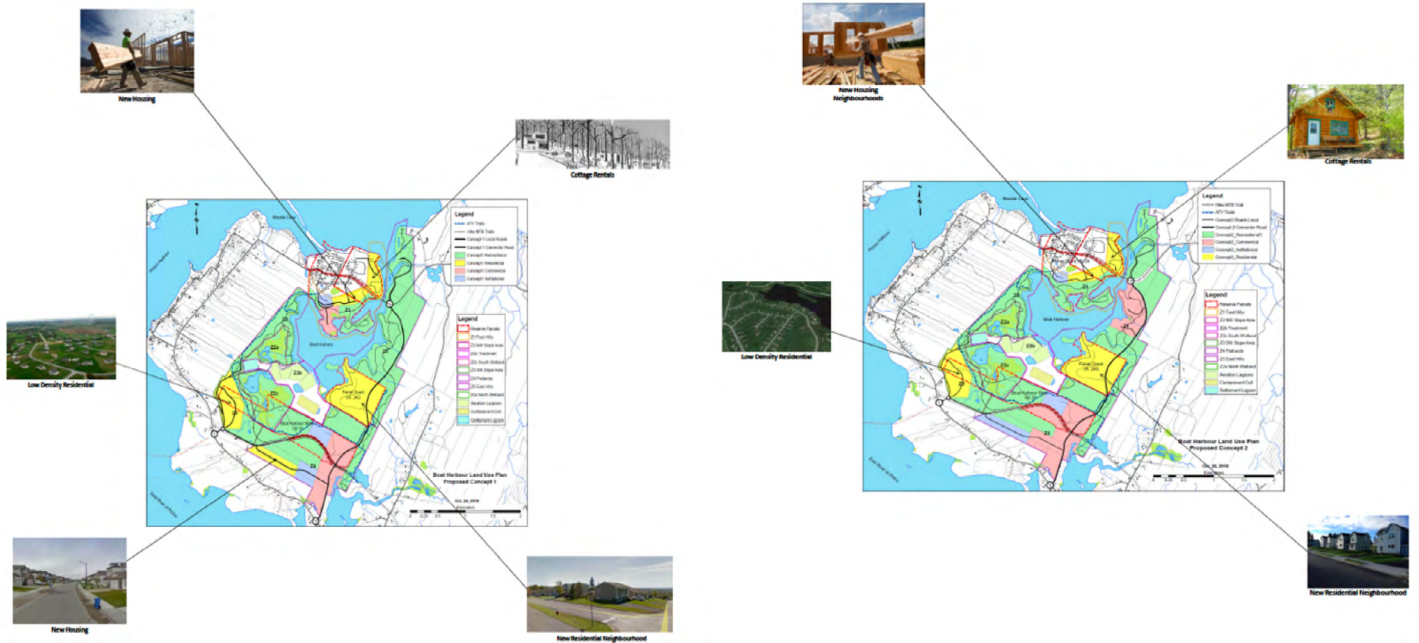


Figure A.6: Community Session Concepts: Residential Uses (Source: MGS, 2019)



Figure A.7: Community Session Voting Results: Residential Uses (Source: MGS, 2019)

When asked to rank residential uses for small/large spaces, single family dwellings ranked first with two-thirds of participants, and multi-unit dwellings ranked second.

Institutional Uses

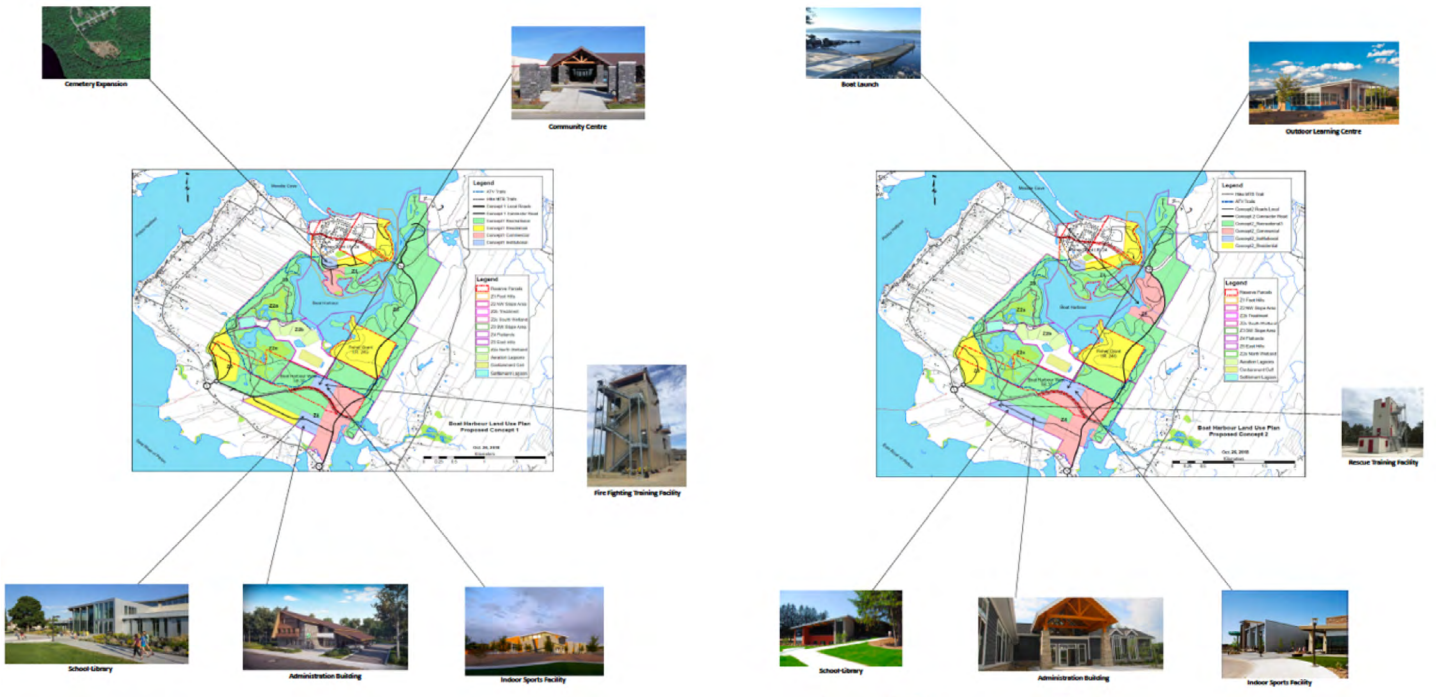


Figure A.8: Community Session Concepts: Institutional Uses (Source: MGS, 2019)

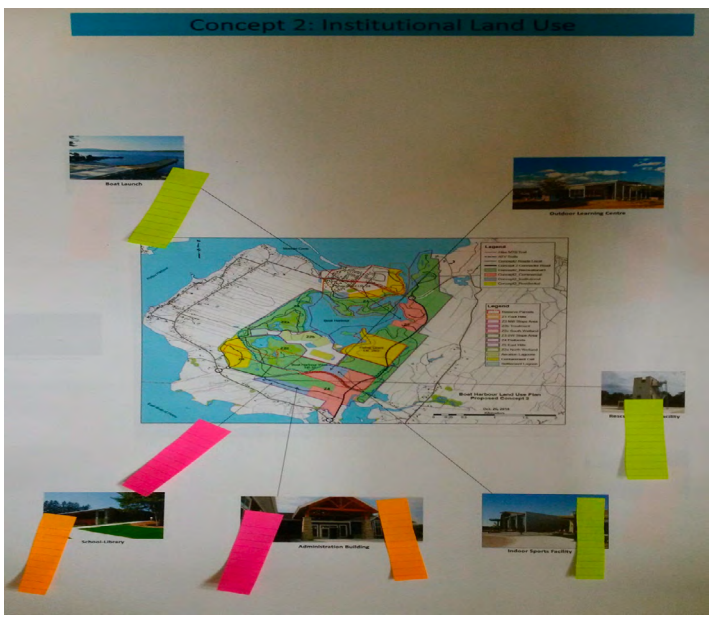


Figure A.9: Community Session Voting Results: Institutional Uses (Source: MGS, 2019)

Institutional Uses for Small/Large Indoor Spaces

When asked to rank institutional uses for small/large indoor spaces, an indoor theatre/stage ranked first, a new school ranked second, and a community centre ranked third.

Institutional Uses for Small/Large Outdoor Spaces

When asked to rank institutional uses for small/large outdoor spaces, an outdoor learning centre and fire-rescue tower training area tied to rank first, a land and sea rescue training centre ranked second, a fun zone ranked third, and a public works depot ranked last.

Institutional Uses for Small Outdoor Zoned Spaces

When asked to rank institutional uses for small outdoor zoned spaces, a wharf/boat launch ranked first, an inner A'se'k dock facility and activity park/fun zone tied to rank second, a playground ranked third, and a cemetery expansion ranked last.

When asked if the story of A'se'k should be prominent in recreational, tourist and institutional future development projects, almost all survey participants responded yes.

