Appendix Q
PLFN Open House No. 1 Summary Report

Environmental Impact Assessment
PLFN Open House No. 1
Summary Report

Boat Harbour Remediation
Planning and Design
Pictou Landing, Nova Scotia

Nova Scotia Lands

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1. Introduction

Nova Scotia Lands (NS Lands) has submitted a project description to the Impact Assessment Agency of Canada (formerly the Canadian Environmental Assessment Agency), which proposes the various ways the Boat Harbour Effluent Treatment Facility (BHETF) and surrounding areas can be remediated. Located on and adjacent to the lands of Pictou Landing First Nation (PLFN) in north central Nova Scotia along the Northumberland Strait, the BHETF was constructed in 1967 and reconfigured several times since its construction. In accordance with the Boat Harbour Act introduced in 2015, the use of the BHETF for the reception and treatment of effluent from the Kraft Pulp Mill must cease no later than January 31, 2020. Once operations have ceased, the Province will remediate Boat Harbour, and lands associated with the BHETF, and restore Boat Harbour to a tidal estuary.

This report summarizes the Open House No 1 (POH#1) that was held with PLFN Community Members as part of the Federal Environmental Impact Assessment (EIA) for the Boat Harbour Remediation Project. The POH#1 was held on August 27, 2019 at the Fire Hall in Pictou Landing First Nation and was the first Open House held specifically for PLFN residents as part of the EIA for this project. The first Open House for the general public was held on August 1, 2019.

2. Background

An EIA is an important planning tool for predicting the potential environmental impacts of a project. It is a means of identifying environmental impacts before they occur and determining appropriate mitigation measures. Outlined by the Canadian Environmental Assessment Act of 2012, Section 2.2 of the EIA Guidelines requires meaningful participation included as part of the process, specifically indicating the following opportunities:

- The public, rightsholders and stakeholders are provided with an opportunity to participate in the EIA
- The public, rightsholders and stakeholders have an opportunity to comment on the draft EIA report
- Additional opportunities for participation may also be provided

Section 4 of the EIA Guidelines describe the ongoing and proposed public participation activities that NS Lands will undertake or that have already been undertaken and must include a description of the information and materials made available to the public and details on how this information was distributed. The EIS will indicate how and where the consultation was held, the persons and organizations consulted, the concerns voiced and the extent to which this information was incorporated in the design of the project as well as in the EIS. The EIS will provide a summary of key issues raised related to the project and the potential effects to the environment, as well as describe any outstanding issues and ways to address them.

This Summary Report will be included as part of the final EIA Report and will reflect the specifications indicated above.

2.1 PLFN Open Houses

As part of the EIA, NS Lands will host two open house events for the PLFN community at key decision-making milestones:

- POH#1 provided PLFN with information on the project timeline, work completed to date, the EIA process, information on baseline studies, and the possible solutions for the remediation and treatment of Boat Harbour.
- POH#2 will build on POH#1 by providing additional information on the project progression, including but not limited to: a review of the EIA results of the preferred solutions, including potential environmental effects, recommended impact management measures, proposed monitoring requirements, and proposed approvals/permits required for implementing the preferred solutions.

2.2 Purpose of PLFN Open House No. 1

The purpose of the POH #1 was to provide PLFN with an opportunity to review information, ask questions, seek clarification, and provide comments to the Project Team (i.e., NS Lands and GHD) on the following:

- EIA process
- Pilot Scale Testing and sampling work completed to date
- The EIA process and timeline
- The Baseline studies and environmental considerations
- The possible solutions and preferred solution for each project component

2.3 Date, Time, and Location

The Open House was held on August 27, 2019 from 3-6 p.m. at the Fire Hall located at Pictou Landing First Nation, Nova Scotia.

3. Attendance and Notifications

3.1 Attendance

There were 31 people in attendance at the POH#1, including local residents of PLFN, including Chief and Council. Please note that a separate Open House was held with the general public on August 1.

The Project Team members that were present represented NS Lands and GHD. The Project Team includes:

NS Lands

Ken Swain, Project Leader, Boat Harbour Remediation Project
Angela Swaine, Senior Project Manager, Boat Harbour Remediation Project
Donnie Burke, Executive Director of Environmental Assessment and Remediation

Jo-Ann Fewer, Vice President
Darren Lawless, Environmental Project Manager
Marrinna Wells, Analyst
Krise Jones, Community Engagement Strategist
Chad Lucas, Communications Advisor

GHD
Christine Skirth, Vice President and Project Manager
Peter Oram, Senior Environmental Specialist
Blair Shoniker, Senior Waste and Environmental Planner

3.2 Notifications

NS Lands notified PLFN community members about the Open House through the following means. The methods were chosen and implemented in consultation with the Community Liaison Coordinator, who works directly with the PLFN community on the Boat Harbour Remediation Project.

Facebook – POH #1 was advertised on the Pictou Landing First Nation Facebook page on August 13, 14, 15, 20, 22 and 26 leading up to the Open House. The PLFN Facebook page has 911 members. The Open House was also shared as an event in the closed A'se'k Facebook group, with 263 invitees (see screencap at right).

Print – POH #1 was also advertised through a print poster that was placed on bulletin boards throughout the PLFN community, including the PLFN council office. (See flyer attached as Appendix A)


Located at the PLFN Firehall. This Open House is for PLFN Band & Community Members Only. Another session happened August 1st for the general public at the Pictou Landing Fire Hall from 2-7pm (off reserve).
Lights snacks and refreshments will be provided.

The Boat Harbour Remediation Project is holding public consultations as part of the federal environmental impact assessment process. This Open House is a drop-in format to learn more, including:
- A project overview and anticipated timeline
- What's been done so far, including pilot scale testing
- An overview of the assessment process
- The proposed cleanup approach for Boat Harbour
- Public consultation to date and how to stay involved

For more information, go to https://novascotia.ca/boatharbour

Responses

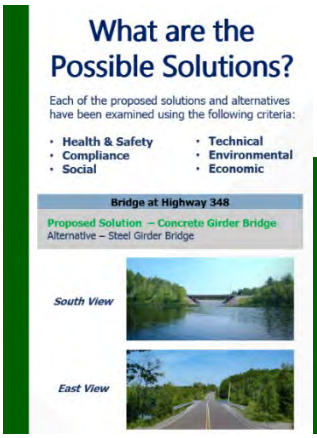
Going	Maybe	Invited
44	15	263

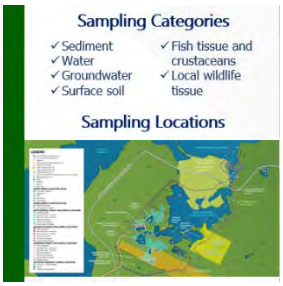
4. Format

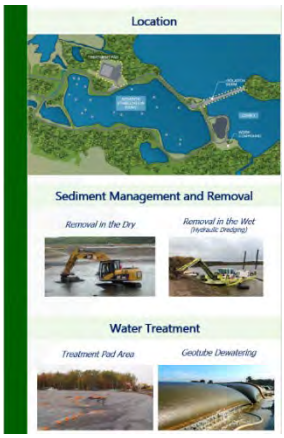
POH#1 was arranged as an informal drop-in session where members of PLFN could stop by any time during the given hours, review the information, and meet individually with Project Team members to discuss the project. The session began with an introductory presentation to those in attendance.

Project information was presented on large coloured display panels, with Project Team members stationed around the room to encourage discussion and answer questions from the community. To provide additional detail for those attendees wishing to gain a deeper understanding of specific project elements, a resource table provided additional information on environmental baseline studies and

other relevant reference material. Copies of the Display Panels and Baseline Studies Booklet and are included in Appendix B.







Display panels were arranged by station around the perimeter of the room as follows:

Station	Station Overview	Information Presented
1	Welcome and Background	• Purpose of the event and the process for submitting comments • Background information on the Project • Overview of the Project and timelines • What's been done to date • Pilot and bench scale testing; Consultation; EIA documentation and approvals
2	Consultation, Engagement and Government	• Consultation PLFN and Public consultation and involvement • How does government play a role? CEAA, NS Lands, Federal Agencies
3	Project Overview and EIA Process	• What needs to be done and what has taken place • Scientific and technical planning, regulatory phase, clean up phase • The EIA Process
4	Remedial Approach	• Areas of Environmental Impact • Contamination Sampling • Pilot Scale Testing • Baseline Studies
5	Remedial Approach	• How the decisions are made • Possible solutions for components of remediation
6	Wrap Up	• What's Next and submitting comments

5. Summary of Comments Received

Many engaging discussions took place at the event between Project Team Members and members of PLFN. Participants were encouraged to write down their feedback on the comment sheets provided, while NS Lands staff also recorded notes from verbal conversation following the presentation. The following table summarizes the comments received and NS Lands' responses.

Comment	Response
1. Strong belief that the contamination cell should not be kept on location. I'm sure there are other options available. Who is to say this cell will not break down over time? It has been around long enough to determine the actual longevity of this membrane? What about the contaminated wetlands? How are the contaminated wetlands going to be disposed of? Is there any contamination or concern around the trees and bushes surrounding Boat Harbour, like if we wanted to burn the wood surrounding Boat Harbour, would this be safe to do so?	The proposed solution is to use the existing containment cell onsite. A containment cell is an engineered and proven way to ensure contaminants stay confined. This technique is used around the world for managing waste long-term. The existing containment cell will hold the waste securely, in a manner protective of human health and the environment. The existing liner and containment structures are effective in preventing contaminants from spreading into the ground, groundwater and surface water. This has been proven through routine monitoring programs required by Nova Scotia Environment. In addition, this was validated during GHD's site assessment. The existing containment cell base liner is constructed with partial leachate collection system, natural clay (low permeable soil) and underdrain water collection system. A second geomembrane liner and will be constructed over the top of the clay liner for added protection and a leachate collection system will be added over the new liner to remove liquids from the containment cell. These steps will result in a sound and safe solution for the containment of the waste long-term. Once remediation is complete, an expanded long-term maintenance and monitoring program will be conducted with regular reporting on the cell performance to regulators in accordance with a regulatory approved environmental management plan. Regarding the wetlands, we are still determining which areas of the wetlands may need to be remediated, and what the preferred solution will be. Sampling has shown that vegetation such as trees and bushes in and around the areas of sediment and surface water contamination at the Boat Harbour area are not contaminated and would be safe to burn.
2. PLFN wants to be able to be happy and celebrate the work that has been happening in remediation. At this point, we are not happy with the waste management plan of the containment cell. We feel we have not been heard on this or presented with any other real options. Since you are containing sludge inside containment cells, they should be safe to remove. Remove	We understand that community members do not wish to see the current containment cell used for storing sludge removed from Boat Harbour. In preparing the project plan, we did look at other options for waste management. The current containment cell is the only one in Nova Scotia approved to hold the waste material from Boat Harbour.

by truck, boat, train, whatever. Get it out of here. Sick of being re-victimized!	Construction of a new, off-site containment cell would require going through extensive public consultations and regulatory processes with municipal, provincial and federal regulators. We estimate that process could take 5-8 years, along with another year for construction. This would potentially push back the start of remediation at Boat Harbour by 6-9 years. It is not certain that a proposed offsite cell would receive the required approvals. Removing the estimated 500,000-1,000,000 cubic metres of sludge from Boat Harbour to an offsite cell would create a large amount of truck traffic and pose a greater risk to public health and safety. Our estimate is removing materials and containing offsite would also increase project costs by at least $60 million. Given the risk of significant delay, increased health and safety risks and the estimated costs of siting and constructing an offsite containment cell, using the onsite cell is the preferred option.
3. Hope the containment will be moved. Water line. Are you trustworthy? How long will it take to clean? Will the plants like seaweed grass grow back? Our medicines. We are looking forward to seeing this cleaned up in our lifetime.	Please see responses #1 and #2 regarding the containment cell. The current estimation for cleanup time is 4-7 years once all approvals are secured and remediation can begin. A study done by university researchers who sit on the Boat Harbour Environmental Advisory Committee indicates that grasses like eel grass and salt marsh grass are likely to grow back in Boat Harbour over time. We are hopeful that the remediation process will allow the area to be used for traditional purposes once again.
4. I have very deep and overwhelming concern over the proposed containment cell. The gestures will forever serve as a painful reminder of all the loved ones that we have lost due to cancer and other diseases. I have talked to a lot of people from Pictou Landing that won't even go to any of these meetings because they don't want to lose control of their emotions in public. We are very proud people that deserve to be treated as such. I want there to be another option to contain these geo sleeves somewhere else, or even better. Dispose of the waste in a proper facility designed to do so. In the most professional way possible.	We understand that continuing to use the existing containment cell is an emotional subject for some community members. The current cell is a proper facility designed to receive and hold the waste from Boat Harbour. Hopefully the responses to comments #1 and #2 above will give some context as to why the existing cell is the preferred option for timing, cost and safety reasons. Along with the concerns listed above, moving the waste offsite would create other negative environmental effects, including a large increase in truck traffic in the area and increased carbon emissions.

5. At the present time the containment cell is necessary, however at the end of the clean up the ideal outcome is for it to be removed. Ultimately, the clean up and returning boat Harbour to its original purpose is the greatest desire. Hopefully the remainder of what the containment cell represents can and will be removed.	We understand the community concern around the containment cell. For an explanation of why the current cell is the preferred option for timing, cost and safety reasons, please see the responses to comments #1 and #2.
6. 1) CEAA approval / approval with conditions or rejection - is there an appeals process if the project is rejected? What will happen if the project is rejected? 2) Containment cell - I do not want the containment cell solution to be used. Is this solution based on finances alone? If so, what are the financial implications of removing the containment cell versus the 25-year maintenance/monitoring plan? 3) My primary concern is removing this containment cell from this community. There is remediation and then there is recovery. Having a constant reminder in the community will not aid in recovery of the community! This trauma has impacted generations and it needs to be removed in order to recover 4) I want to make sure that all cultural considerations have been explored with regards to the pipe removal, testing and closure at Indian Cross Point.	1) If the project is rejected, then we would have to seek advice from decision makers in moving forward with another plan. 2) The proposed use of the current containment cell as the preferred option is not a solution based on finances alone. It is the preferred option for several reasons, including public concern, project timing, regulatory approvability, environmental impact, risk and cost. In general terms, the use of the existing containment cell would likely cost around $30 million, while using an alternate site would likely cost between $90- $100 million. 3) We understand the concern around leaving the containment cell in place. It is our sincere hope that a remediated and restored A'se'k will be a lasting benefit to the community. 4) There are three potential solutions for decommissioning the pipeline at Indian Cross Point: a) Clean, inspect, plug and abandon in place b) Clean, fill and abandon in place c) Complete removal NS Lands has engaged a consultant to do a ground-penetrating radar survey to help determine which areas near the pipeline, or along the pipeline right of way, may be historic burial sites. The PLFN community will have the final say on which decommissioning option is chosen at Indian Cross Point.
7. What do we really know about the containment cell? How long do they last? What will happen if they leak, and how will they fix it? Who will be responsible for damage control?	Please refer to the response to comment #1. The containment cell will be constructed with a combination of natural and synthetic materials to provide a service life greater than the contaminating life span of the waste placed within it. These calculations are performed as part of detailed design and are used to select that final material properties for the liner and cover materials. The Province of Nova Scotia will be responsible for any long-term liability associated with the containment cell maintenance and monitoring.
8. Just heard about this and whatever is dug up. I was worried about the removal of the sludge.	The proposed solution for the sludge removed from Boat Harbour is to remove excess water in geotubes, manage the removed water, and store

	the remaining material in the existing containment cell onsite. For more information on the containment cell, please see the responses to comments #1 and #2.
9. If the effluent is going to be dump into the Northumberland Strait, why can not the waste be ship(ped) to Quebec?	For an explanation of alternatives explored and why the current containment cell is the preferred option, please see the response to comment #2 and #6.
10. I do not agree with filling the containment cell with sludge. The community feels highly against but I also don't want this to hold up the project and if it needs to be done, it should.	Thank you for the comment. The onsite containment cell is the only approved location for disposal of the waste within the Province of Nova Scotia. As noted in response to Comment #2, all other options would have a significant delay on the start of remediation.
11. I just feel lost in the meetings because I don't have perfect English. I wish it could be explained in laymen works. Other than that, I think the project is coming along great and receive excellent feedback on one to one basis.	Thank you for the comment. As part of the Boat Harbour Remediation Team, we have a full-time Community Liaison Coordinator (CLC) who works within Pictou Landing First Nation to help community members understand and engage with the project. Please feel free to contact the CLC at any time with any questions about the project.
12. I do not think the poison should be stored behind A'se'k. I want to live to see A'se'k cleaned. I used to swim in A'se'k.	Thank you for your comment. We understand the concern around the continued use of the containment cell. For a fuller explanation of how the existing containment cell works and why it is the preferred option, please see the responses to comments #1 and #2.
13. A'se'k being turned into a treatment facility is environmental racism. Having a containment cell is not returning it to its original state. This isn't reconciliation. Take the contaminants somewhere else. To Quebec, anywhere. We don't want it. We also don't want to hear about how the containment cell is 'an economic opportunity' for jobs over the next 25 years. We don't care or want it. I want remediation but tired of PLFN constantly trying to explain ourselves, how we feel about this. Leaving the waste here isn't right, even if we can't see it. This affects us mentally, emotionally, physically. "We cannot heal in an environment that made us sick"	Thank you for your comment. We know that many community members do not want the containment cell to remain as a permanent fixture. We did investigate alternate options, and the current containment cell is considered the safest and most effective option for human health and the environment. For a fuller explanation of how the cell will safely contain the waste and why it is the preferred option, please see the responses to comments #1, #2 and #4.
14. When the work starts at Boat Harbour and there is no one actually able to give those that have heavy machinery operators cert. Make it so the people that are the hired contract give these people the training and experience needed.	Our number-one priority is to ensure that Boat Harbour will be cleaned up effectively and in a manner protective of human health and the environment. We will take whatever steps we can to ensure that there are opportunities for employment during the remediation. We will support associated training needs. The procurement process for the full-scale implementation of the remediation will request that

	proponents who bid provide a workplan explaining how they will have the engagement and participation of the Pictou Landing First Nation community members and businesses in their plan.
15. My main concerns are on the containment cells and the impact it would have on our community. I believe it is not a solution to our major problem, just a big Band-Aid and this is a serious issue that needs to be addressed right away.	We understand the concern around the continued use of the containment cell. For a fuller explanation of how the existing containment cell works and why it is the preferred option, please see the responses to comments #1 and #2.
16. I really don't want a containment cell. Rather see it put somewhere else, no matter how many jobs it might create.	Thank you for your comment. We did explore other options. The responses to comments #1 and #2 above help explain why the existing containment cell is the preferred option.
17. Why bother cleaning up Boat Harbour if we are just going to get stuck with the containment cell? Cleaning Boat Harbour means it's gone completely, not sitting there for months, or years.	The goal of remediating Boat Harbour is to remove the contaminants and restore the harbour to tidal so the community can benefit from using the land once again. For a fuller explanation of how the existing containment cell works and why it is the preferred option, please see the responses to comments #1 and #2.
18. As a member of this community I find it frustrating voicing my concerns meeting after meeting. This whole process is starting to get repetitive and once again our concerns are not being heard. The only voice that seems to be heard or valued is the project manager. They want to hear our concerns and they are ignored. Ever wonder why the crowds are getting smaller???	Thank you for the comment. Remediating Boat Harbour is a large, complex project and we are working to ensure community members are informed and engaged at every step. We understand that community members may have concerns and frustrations around some aspects of the project. It is our hope that a restored A'se'k will be a benefit to the community for generations to come. We have held multiple meetings on the containment cell design to ensure all community members have detailed information on containment cells as well as an opportunity to ask questions. We understand that this has been repetitive but the frequent sessions were requested by PLFN.
19. (Oral questions) What are the alternatives to existing cell? Will the federal assessment process lead to alternatives? Can material be trucked offsite to Quebec? Members of PLFN community don't want waste to remain at Boat Harbour.	For an explanation of why the current containment cell is the preferred option, please see the response to comment #2. We have looked at alternatives to the existing cell during our planning processes and the use of the existing cell is an integral part of our proposed remediation plan. This proposed plan is being evaluated through the federal environmental assessment. The federal assessment can result in an approval, an approval with conditions, or a rejection. It will not provide alternatives.
20. (Oral questions) Who is "we?" Who is responsible for making decisions, project oversight, approvals, etc.	Nova Scotia Lands is the proponent and is managing the Boat Harbour Remediation Project on behalf of the Province of Nova Scotia. The project is undergoing an Environmental Assessment requested by the Impact Assessment

	Agency of Canada (IAAC). IAAC is the federal regulator who will either approve the project, approve with conditions, or reject the project. Once IAAC makes its decision, Nova Scotia Lands will proceed (if approved) to obtain activity-specific approvals from Nova Scotia Environment and other federal agencies, such as the Department of Fisheries and Oceans, to remediate Boat Harbour. NS Lands will be responsible for implementing the remedial solution in accordance with the EA and activity-specific approval conditions.

6. Next Steps

NS Lands would like to thank all the individuals from PLFN who attended POH#1 and provided comments for consideration.

A second Public Open House will take place in Fall 2019 to provide information on how the project is progressing. Information presented will include, but is not limited to: a review of the EIA results of the preferred solutions, including potential environmental effects; recommended impact management measures; proposed monitoring requirements; and proposed approvals/permits required for implementing the preferred solutions. The issue of the containment cell will also be discussed in further detail and in consultation with PLFN.

Comments on the Project are welcome at any time. All feedback received will be non-attributable and will be included as part of public record. Comments can be submitted through the following methods:

Project website | www.novascotia.ca/boatharbour

Email | boatharbour@novacotia.ca

Mail | Nova Scotia Lands, PO Box 186, Halifax, NS B3J 2N2

Appendix A – Public Notice

Facebook post – PLFN

Boat Harbour Remediation Project
Open House – Tuesday, August 27th, 2019
3-6 pm Pictou Landing First Nation Fire Hall

The Boat Harbour Remediation Project is being undertaken to clean up Boat Harbour and restore it to a tidal estuary. The project is subject to a federal environmental assessment (EA) process, which includes consultations with Pictou Landing First Nation and the general public.

The Open House is an opportunity to learn more about the different parts of the project, including:

- An overview and anticipated timeline
- What's been done so far, including pilot-scale work
- The assessment process
- The proposed cleanup approach
- Public consultation and how to stay involved

It is important that community members who have questions, comments, concerns & feedback engage in this environmental assessment process and attend.

This session if for PLFN Community Members ONLY at this time. Another Open House for the general public was held at the Pictou Landing Fire Hall (5761 Pictou Landing Road) on August 1 from 2-7 pm.

For more info – Contact N.S. Lands
Email:boatharbour@novascotia.ca
Web: novascotia.ca/boatharbour

Boat Harbour Remediation Project
Nova Scotia Lands
PO Box 186
Halifax, NS B3J 2N2

Boat Harbour Remediation – PLFN Community Liaison
Email: Michelle.f.d@plfn.ca
Phone: 902 759-4929

Located at the PLFN Firehall. This Open House is for PLFN Band & Community Members Only. Another session happened August 1st for the general public at the Pictou Landing Fire Hall from 2-7pm (off reserve).
Lights snacks and refreshments will be provided.

The Boat Harbour Remediation Project is holding public consultations as part of the federal environmental impact assessment process. This Open House is a drop-in format to learn more, including:

- A project overview and anticipated timeline
- What's been done so far, including pilot scale testing
- An overview of the assessment process
- The proposed cleanup approach for Boat Harbour
- Public consultation to date and how to stay involved

For more information, go to https://novascotia.ca/boatharbour

Responses

Going	Maybe	Invited
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– POH #1 was advertised on the Pictou Landing First Nation Facebook page on August 13, 14, 15, 20, 22 and 26 leading up to the Open House. The PLFN Facebook page has 911 members. The Open House was also shared as an event in the closed A'se'k Facebook group, with 263 invitees.

Appendix B – Display Panels and Baseline Studies Booklet

WELCOME!

The purpose of this event is to discuss the Environmental Impact Assessment (EIA) for the Boat Harbour Remediation Project

Today we will:

- Provide information on the Boat Harbour Remediation Project and associated EIA
- Outline the EIA process and anticipated timelines for completion
- Present information on the existing conditions in Boat Harbour
- Discuss the process for remediation
- Collect your views, ideas and concerns about the project

A summary report will be available following today's Open House by visiting

www.novascotia.ca/boatharbour

Thank You For Joining Us

Background

Boat Harbour, known as A'se'k in Mi'kmaq, was originally a tidal estuary connected to the Northumberland Strait. It is currently used for the treatment of wastewater from the Northern Pulp Mill at Abercrombie Point. The Harbour began receiving industry wastewater in 1967 and was isolated from the ocean through construction of a dam.

Maw-Lukutinej ***Waqama'tuk A'se'k***

"Let us work together and clean up Boat Harbour"

Pictou Landing First Nation

In 2015, in consultation with Pictou Landing First Nation (PLFN), we established that the vision for the future of Boat Harbour is to return it to tidal. That is our remediation objective.

Background

Nova Scotia Lands (NS Lands) is the proponent for the Project. NS Lands is a provincial Crown corporation whose mandate includes remediating Crown-owned properties.

GHD was retained to help complete the planning and design of the Boat Harbour Remediation Project.

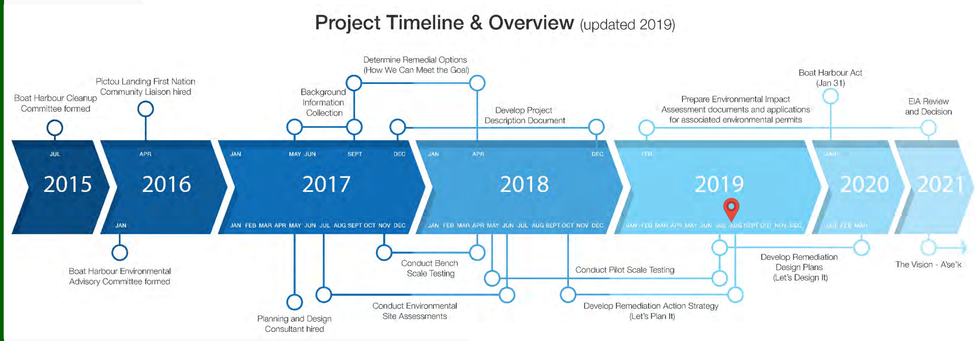
Our Goal

We will remediate Boat Harbour and restore to a tidal estuary.

A solution is being developed that will be:

- Identified and assessed using a collaborative approach
- Founded on proven technologies
- Evaluated with openness and transparency
- Protective of human health and the environment

What's Been Completed?



- Developed a Remedial Objective
- Conducted Bench Scale Testing
- Conducted Pilot Scale Testing
- Completed Baseline Studies
- Consulted with PLFN and Agencies
- Completed Environmental Site Assessments
- Determined Remedial Options
- Developed a Remedial Action Strategy

Consultation and Engagement

Consultation Objectives

Enhance public awareness and the communication of project information

Provide multiple consultation opportunities

Collect input and demonstrate consideration of issues raised

Pictou Landing First Nation

- Boat Harbour Clean-up Committee (BHCC)
- Boat Harbour Environmental Advisory Committee (BHEAC)
- Community Information Sessions
- Informal Focus Groups
- Employment and Business Opportunities

Public Consultation to Date

NS Lands has held three public meetings with the broader community in October 2016, April 2018, and May 2018.

At these meetings, Project concepts and plans were presented and discussed with a focus on pilot scale testing activities.

How does government play a role?

Canadian Environmental Assessment Agency

The Canadian Environmental Assessment Agency (CEAA) will coordinate the process, review the EIA results, and make a decision. They will approve or reject the project as proposed, based on the predicated environmental effects.

NSLands
nova scotia lands

As the proponent, NS Lands represents the province of Nova Scotia who are responsible for cleaning up Boat Harbour.

Other Agencies

Other federal and provincial agencies will provide expertise on the studies and requirements for remediation, as well as related approvals.

- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Indigenous Services Canada
- Infrastructure Canada
- Transport Canada

- Environment
- Lands and Forestry
- Office of Aboriginal Affairs
- Transportation and Infrastructure Renewal

What needs to be done?

Returning Boat Harbour to tidal requires removing infrastructure and industry contaminants from Boat Harbour. This process includes:

- Decommissioning and/or repurposing the existing infrastructure
- Removing and managing contamination
- Removing the causeway and building a new bridge
- Removing the existing dam to restore Boat Harbour

It is expected that cleanup will take 4-7 years

Complete/ Nearing Completion | In Progress | Pending

Scientific and Technical Planning

- Develop remedial objectives, with the vision to return Boat Harbour to a tidal estuary
- Conduct studies to determine the extent of contamination and evaluate environmental baseline conditions
- Conduct studies to ensure that human health and the environment are protected
- Develop and assess remediation solutions in order to propose methods for the cleanup

Regulatory Phase

- Regulatory review and consultation
- Conduct Environmental Impact Assessment
- Indigenous /Public Consultation and Engagement

Clean Up Phase

- Permits and Approvals and Contractor Selection
- Remediation Implementation
- Environmental management and monitoring

What is an EIA?

What is an Environmental Impact Assessment (EIA)?

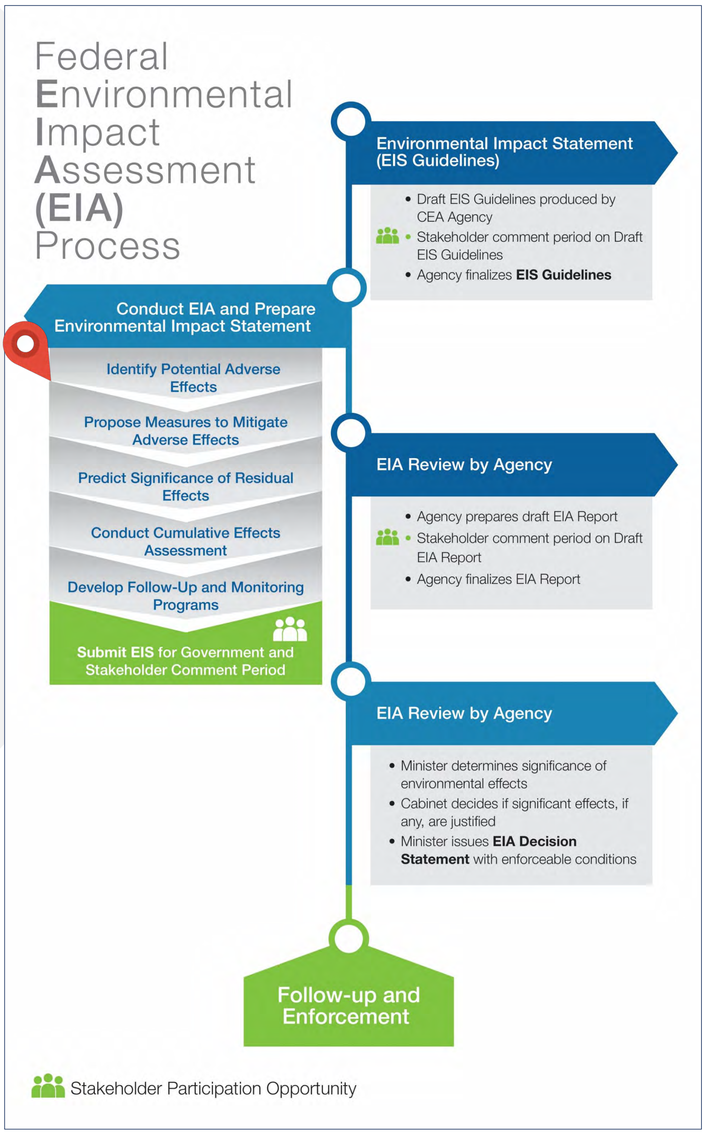
It is a planning and decision-making tool. The objectives of an EIA are to minimize or avoid environmental effects before they occur and incorporate environmental factors into decision making.

Why is an EIA being completed?

To understand how the cleanup will impact and protect human health and the environment. Before remediation can take place, the EIA must be approved by the government of Canada.

What is examined in an EIA?

- Environmental effects and cumulative environmental effects and their significance
- Public and PLFN comments
- Mitigation measures and follow-up requirements
- Solutions to carry out the project
- Changes to the project caused by the environment
- Results of any relevant regional study and any other relevant matters



What are the Areas of Environmental Impact?

What are the contaminants?

Contaminants found within the BHETF include metals (zinc, mercury, cadmium), PAHs (polycyclic aromatic hydrocarbons), and dioxins and furans found in water and sediments.

How much contamination is there?

At this stage, it is estimated that 1 million cubic metres of sediments will need to be removed and managed.

How far has the contamination spread?

Our studies have shown that contaminated sediments are confined to the active BHETF and wetlands. Lower concentrations of contaminated sediment have been found outside the dam structure, in the estuary. No contaminated sediment has been found beyond the estuary or in the Northumberland Strait.

How will we know if it is "truly" cleaned up?

We will be testing during and after the cleanup to ensure that the remediation was successful. The tests must satisfy the requirements of all regulators and will be made public.

Long-term monitoring will take place and results will be made available to the public.

Remedial reports will be available to the public on the Boat Harbour website

www.novascotia.ca/boatharbour

Contamination Sampling

To date, samples have been taken and tested from the following areas:

- Northumberland Strait
- Estuary
- Boat Harbour Effluent Treatment Facility
- Wetlands and surrounding lands

Sampling Categories

- ✓ Sediment
- ✓ Water
- ✓ Groundwater
- ✓ Surface soil
- ✓ Fish tissue and crustaceans
- ✓ Local wildlife tissue

Sampling Locations

Pilot Scale Testing

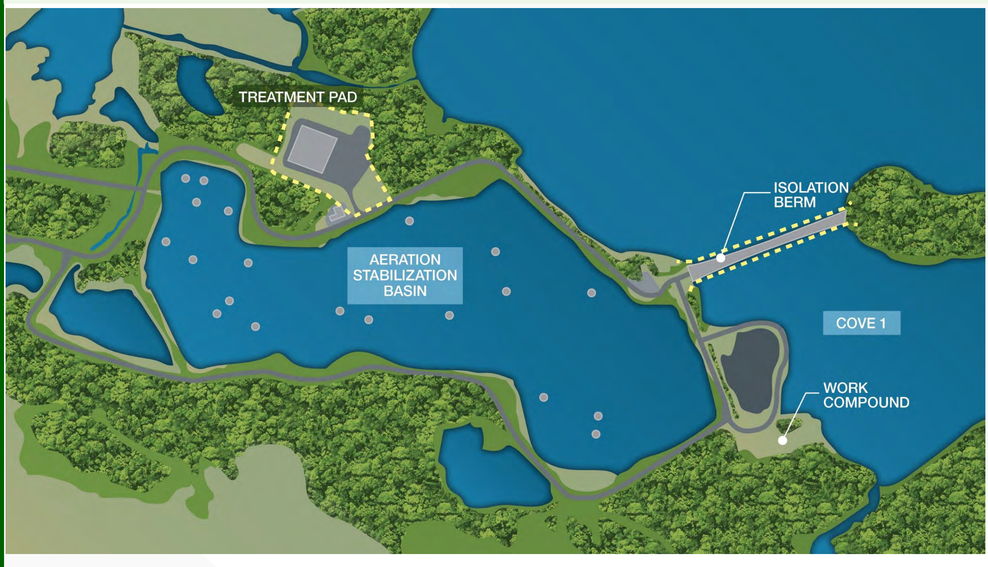
What is Pilot Scale Testing?

Pilot Scale Testing is a series of tests conducted before the full-scale remediation begins. It involves testing excavated material in both dry and wet conditions as well as dewatering of the sludge and treatment of the water.

Why is it completed?

Pilot Scale Testing helps to determine the most effective way to perform the clean up and to prove or disprove assumptions made during the planning phase.

Location



Sediment Management and Removal

Removal in the Dry

Removal in the Wet
(Hydraulic Dredging)

Water Treatment

Treatment Pad Area

Geotube Dewatering

Baseline Studies

The following baseline studies have been completed or are underway:

- ✓ Air Quality & Odour
- ✓ Greenhouse Gas
- ✓ Noise
- ✓ Light
- ✓ Meteorological
- ✓ Groundwater
- ✓ Surface Water
- ✓ Surficial & Bedrock Geology
- ✓ Geomorphology, Topography & Geotechnical
- ✓ Geologic Hazards
- ✓ Terrestrial Habitat & Vegetation
- ✓ Wetlands
- ✓ Mammals & Wildlife
- ✓ Marine Environment
- ✓ Fish & Fish Habitat
- ✓ Migratory Birds & their Habitat
- ✓ Species at Risk
- ✓ Economic & Social
- ✓ Archaeological/Cultural Heritage Resources
- ✓ Mi'kmaq Ecological Knowledge Study
- ✓ Contaminants of Concern and Characterization of Leaching Potential (Disposal Cell)

Have we missed anything in our Baseline Studies that you think should be examined?


Sean Landsman


Wikimedia

If you are interested in learning more about our baseline studies, ask us!
More information can also be found at the resource table or on the Boat Harbour website.

What are the decision making steps?

Complete/ Nearing Completion

In Progress

Pending

What needs to be cleaned up and how will it be evaluated?

Determine what parts of the BHETF need to be cleaned-up and how the approaches will be evaluated

What are the different approaches we can use?

Determine all possible solutions for each part of the BHETF to be remediated

Are the approaches feasible?

Complete a preliminary evaluation of each approach to determine which to develop and consider as possible solutions

What would the solutions look like?

Prepare a design for each possible solution

Qualified Solutions

Evaluate each possible solution for each part of the BHETF to be remediated to identify Qualified Solutions

Verify Design Assumptions

Confirm design assumptions though pilot scale testing and discussions with technology suppliers and Regulators

Evaluate and Confirm Recommended Solutions

Identify the best option to cleanup each part of the BHETF considering environmental impact; comments; and permits and approvals

What are the Possible Solutions?

Each of the proposed solutions and alternatives have been examined using the following criteria:

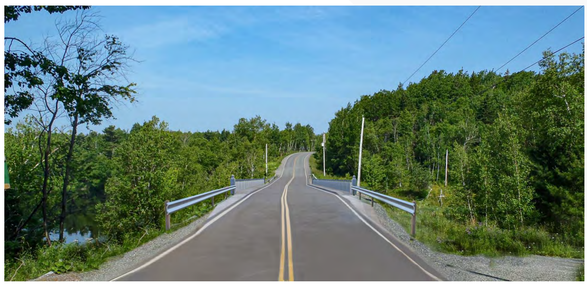
- Health & Safety
- Compliance
- Social
- Technical
- Environmental
- Economic

Bridge at Highway 348

Proposed Solution – Concrete Girder Bridge
Alternative – Steel Girder Bridge

South View

East View



Waste Management

Proposed Solution – Use Existing Disposal Cell
Alternative – Off-Site Disposal

Engineered Disposal Cell

Wetland Management

Proposed Solution – Ex-situ Remediation
Alternative – Natural Attenuation

What are the Possible Solutions?

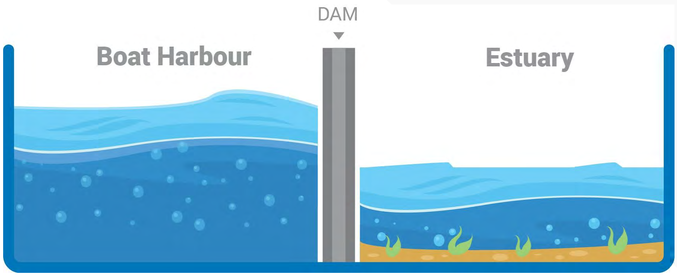
Infrastructure Decommissioning

Pipeline On Land
Alternative 1 – Clean, Inspect, Plug, and Abandon in Place
Alternative 2 – Clean, Fill, and Abandon in place
Alternative 3 – Complete Removal

Pipeline Underwater
Proposed Solution – Clean, Inspect, and Abandon in Place
Alternative – Clean, Fill, and Abandon in place

Treatment Buildings
Proposed Solution – Decommission and Demolition or Repurpose Where of Value

Dam
Proposed Solution – Decommission and Demolition



Remediation Approaches

Sediment Treatment
Proposed Solution – Removal in the Wet with Geotube Dewatering
Alternative 1 – Removal in the Wet with Clay Stabilization
Alternative 2 – Removal in the Dry with Geotube Dewatering
Alternative 3 – Removal in the Dry with Clay Stabilization

Bulk Water Management
Proposed Solution – On-Site Management Using Appropriate Technology Treatment System

Dewatering Effluent Management
Proposed Solution – On-Site Management Using Appropriate Technology Treatment System

Leachate Management
Proposed Solution – Off-Site Disposal
Alternative – On-Site Management Using Advanced Treatment

What's Next?

- Input from today's event will be considered by NS Lands
- Responses will be provided on the Boat Harbour website on September 6, 2019
- The Impact Assessment will be advanced with the proposed solutions
- Results will be presented at Open House #2 in Fall 2019

Don't forget to complete a comment form!

To ensure your views are considered, please submit your comments to NS Lands by:

August 16, 2019

How do I submit a comment?

- Complete a comment form today
- Submit a comment on the website *www.novascotia.ca/boatharbour*
- Email Us *boatharbour@novascotia.ca*
- Mail Us

Nova Scotia Lands
PO Box 186, Halifax, NS
B3J 2N2

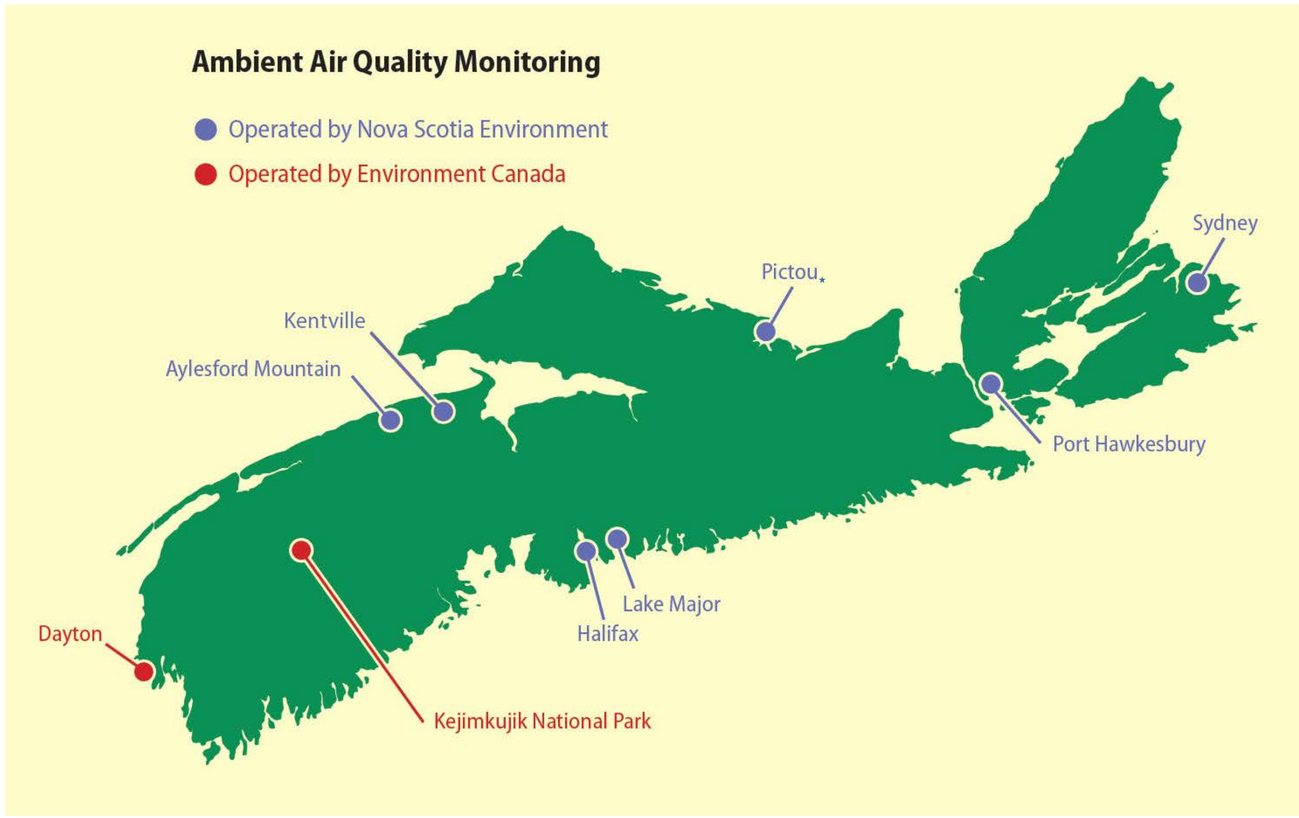
Boat Harbour Remediation Project

Baseline Studies Reference Booklet

Baseline Studies

Air Quality and Odour

- Ambient/existing air quality concentrations for the following contaminants and odorous emissions to be collected from existing monitoring data and compared to appropriate guidelines and standards:
  - Total suspended particulates (TSP)
  - Respirable particulates of less than 10 microns (PM10)
  - Fine particulates smaller than 2.5 microns (PM2.5)
  - Carbon monoxide (CO)
  - Sulphur oxides (SO_x)
  - Nitrogen oxides (NO_x)
  - Volatile organic compounds (VOCs)
  - Hydrogen sulfide (H_2S)
- Direct and indirect sources of air emissions to be identified; significant regional sources to be identified and discussed
- Project-specific Independent Ambient Air Monitoring and Evaluation Program being completed



Pictou (primary), Port Hawkesbury, and Lake Major Monitoring Station data utilized for study

Greenhouse Gas

- Greenhouse Gas (GHG) Mitigation Assessment calculated existing and anticipated carbon dioxide equivalent (CO2e) emissions, assuming continued operation of the Boat Harbour Effluent Treatment Facility (BHTF) for the 25-year period from 2018 to 2043, as follows:
  - Diesel – 28 tonnes CO2e (tCO2e)
  - Disposal Cell – 184,302 tCO2e
  - Electricity – 184,250 tCO

Baseline Studies

Noise

- Baseline Noise Monitoring (2017) indicates noise levels are within acceptable Nova Scotia Environment (NSE) Noise Guidelines levels
- Visual survey to identify and confirm existing noise and vibration sensitive receptors (e.g., residences, daycares, schools, hospitals) and existing historic buildings and structures that may be of concern for vibration impacts
- Pre-construction monitoring program to consist of sound measurements at 5 locations (worst-case sensitive receptors) over 2 days under calm weather conditions – project noise impacts to be compared against these measurements

Light

- Currently classified as "E2 – Rural" with low district brightness which is typical of rural areas

Meteorological

- Historical records of relevant meteorological information (e.g., total precipitation (rain and snow); mean, maximum and minimum temperatures; and typical wind speed and direction)

Baseline Studies

Groundwater

- Shallow groundwater occurs in two main zones:
  - silty glacial till overlying bedrock/where till is thin or absent
  - where thin or absent till occurs in the shallow bedrock
- Surface water and shallow groundwater provide the base flow to Boat Harbour
- Drinking water for PLFN and residences within the watershed from drilled wells
- No hydrogeological connection between deep groundwater and shallow groundwater/surface water flow regime

Surface Water

- 19 watercourses (2 ephemeral channels, 13 intermittent channels, 3 small permanent channels, 1 large permanent channel), 3 small drainage corridors
- 13 watercourses assessed, 6 of the identified watercourses were dry
- Water temperature average of 13.6°C
- Total dissolved solids average of 0.0779 grams per Litre
- Average pH of the combined watercourses of 6.94
- Specific conductance readings relatively stable with combined average 119.385 microSiemens per centimetre (µS/cm)
- Dissolved oxygen varied from stream to stream

Baseline Studies

Surficial and Bedrock Geology

- Mainly hummocky ground moraine composed of a mixture of gravel, sand, and mud of glacial origin, often with loose inclusions of waterlain sediment, and areas with silty till drumlins
- Depth from 2 – 25 m below ground surface with irregular topography (many local ridges and depressions)

Geologic Hazards

- Data regarding history of seismic activity in the area; isostatic rise or subsidence; and landslides, slope erosion and the potential for ground and rock instability, and subsidence during and following project activities to be collected from existing available public sources

Contaminants of Concern and Characterization of Leaching Potential (Disposal Cell)

- Contaminants of concern in dewatering effluent from geotubes include petroleum hydrocarbons, dioxins and furans, cyanide, and metals (i.e. chromium, copper, mercury, vanadium, zinc)

Geomorphology, Topography, Soil and Geotechnical

- Northumberland Lowlands physiographic region
- Imperfectly drained soils and subject to a wide range of climatic conditions
- Black spruce forests with Eastern Larch prevalent, jack pine throughout, and hardwood forests found in hillier areas; land primarily used for forestry
- Lowest average annual precipitation in Nova Scotia (1128 mm)
- Mostly low lying with some rolling hills, average elevation range 5 – 15 m above sea level
- Surrounding lands at slightly higher elevation, sloping south towards the East River, west towards Pictou Harbour, and north towards Northumberland Strait

Baseline Studies

Terrestrial Habitat and Vegetation

- Baseline assessments conducted from August 2017 to July 2018
- Habitat ranged from landscaped areas to well-drained drumlin hills comprised mostly of upland species (Eastern hemlock, large-toothed aspen)
- 7 main types of forest stands present: Softwood, Eastern Hemlock, Red Pine, Tolerant Hardwood, Intolerant Hardwood, Mixed, and Regenerating
- Dominated by Mixed forest stands, with Tolerant Hardwood stands most notably located along the steeps slopes of the Northern boundary and Eastern Hemlock stands dominating the western and eastern portions
- Regenerating forest stands more apparent in the southern sections, with patches of Red Pine found throughout
- Ages of the stands varied from overmature (mainly in the northern portions) to early successional
- Other terrestrial habitat types observed: Fallow Pasture Lands and Open Fields and Landscaped Areas
- More than 240 vascular and non-vascular species identified – 1 species at risk (SAR), 2 species of conservation concern (SOCC)
- Black ash (Wisqoq in Mi'kmaw) - Threatened under the federal Species at Risk Act and Nova Scotia Endangered Species Act; observed in localized areas to the south; believed to have been planted a few years ago (not naturally occurring)
- Heart-leaved foam flower (Tiarella cordifolia) (1 individual) in north - S2 (Atlantic Canada Conservation Data Centre (ACCDC)), Sensitive (Province)
- ACCDC identified Horned Sea-blight within 0.5 +/- 2 km of the site
- Appressed jellyskin lichen (Leptogium subtile) in limited quantities just outside eastern boundary - S3 (ACCDC), Sensitive (Province)
- Vegetation species observed are largely native species, with exotic species confined mainly in disturbed areas
- Species and communities of vascular and non-vascular plants encountered were typical given the eco-regional context, nutrient regimes, moisture regimes, and disturbance regime

Baseline Studies

Fish and Fish Habitat

- 6 watercourses included in benthic macro-invertebrate assessment
- Relatively low EPT (Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddis flies)) ratios were observed
- Diptera species (flies) made up 68.3% of all organisms collected
- Water temperatures at the BHTF site were within range for salmonid species
- The fairly neutral pH readings throughout the site (average of 6.94) within accepted tolerance range for Brook Trout
- Majority of watercourses lack appropriate physical habitat features to sustain populations of adult Brook Trout – select few may have adequate spawning or rearing habitat for portions of the year
- Relatively stable specific conductance throughout watercourses (average 119.385 µS/cm) – good for salmonids

Mammals and Wildlife

- Environmental baseline assessments were conducted from July to October 2017
- The softwood, hardwood, mixed forests, fields, wetlands and open water habitats present provide suitable habitat for many common mammal species, especially smaller ones (hare, red squirrel, meadow voles, shrew species)
- Evidence of white-tailed deer, black bear, Eastern coyote, striped skunk, snowshoe hare, North American porcupine, raccoon, muskrat and beaver, maritime garter snake, leopard frog, green frog, American bull frog, spring peeper, and American Toad
- Active trapping within the Project Area (beaver and muskrat harvesting for fur); no known hunting for larger game species

Baseline Studies

Wetlands

- Wetland field surveys were conducted from August to November 2017
- 25 wetland areas identified and assessed (3 marsh, 10 swamp, 11 marsh/swamp complexes, 1 marsh/saltmarsh complex)
- Total wetland area delineated approximately 86.24 ha
- Wetland function: most of the wetlands identified have a moderate or high value pertaining to sediment retention, and all wetlands have low potential for anadromous fish habitat. In general:
  - Hydrologic group function – Mostly Lower
  - Transition habitat group – Mostly Moderate or Higher
  - Water quality support group – Mostly Moderate or Higher
  - Wetland Condition – Mostly Moderate
  - Aquatic support group – Mostly Moderate
  - Wetland Risk – Mostly Moderate or Higher
  - Aquatic habitat group – Mostly Moderate or Higher
- Most in moderate condition, but moderately or highly prone to degradation
- Hydrologic functions considered lower
- Generalized score for aquatic habitat was mostly moderate or higher
- Moderate / higher in the transition habitat group, meaning contribute to a diversity of native birds, mammals, vascular plants, and pollinating insects
- Wetlands located further from the effluent treatment infrastructure observed to be in better condition than those in immediate vicinity

Baseline Studies

Marine Environment

- Pictou Road section of Northumberland Strait
  - Various marine species, including fish and shellfish, depend on the diverse habitat of Northumberland Strait; considered an important feeding and foraging area within the Atlantic Ocean
  - Sandy substrate provides significant foraging habitat for marine species (8 species at risk identified)
  - Considered to be a vital part of the local commercial fishing community
- Pipeline corridor
  - Habitat supports a variety of endofauna (polychaetes and bivalvia)
  - Observed endobenthic community consists of 48 different taxa
  - Epibenthic community taxa (e.g., mussels, Atlantic rock crabs, clams) identified

Baseline Studies

Migratory Birds and their Habitat

- Nearest Important Bird Area (IBA) approx. 32 km northeast (southeast coast of PEI, Highbank IBA)
- 2 Biologically Significant Areas for breeding terns in the vicinity: Pictou Bar Site of Ecological Significance (SES) (800 m north) and Ballast Island SES (1 km southwest)
- Fall bird migration survey (2017)
  - Line transect surveys: 74 species identified; 21 priority species – 1 SAR (Eastern Wood-pewee)
  - Diurnal vantage point watch count surveys: 52 species identified – no SAR; 5 SOCC (Semipalmated Plover, Least Sandpiper, Semipalmated Sandpiper, Willet, Greater Yellowlegs)
- Late winter and early spring bird survey (targeting raptor surveys) (2018)
  - 3 owl species (no priority species) detected during nocturnal owl surveys: Great Horned Owl, Barred Owl, and Northern Saw-whet Owl
- Spring migration monitoring (April 27 and May 14, 2018)
  - Line transect surveys: 66 species identified; 10 priority species – 1 SAR (Evening Grosbeak)
  - Diurnal vantage point watch count surveys: 42 species identified; 12 priority species – 1 SAR (Barn Swallow)
- Breeding bird point count survey and marsh monitoring (2018) – 2 rounds: June 6-7 (early breeders), July 26-28 (late breeders)
  - 81 species; 20 priority species – 4 SAR (Eastern Wood-pewee, Bank Swallow, Evening Grosbeak and Canada Warbler)
  - Marsh Monitoring Protocol: Sora was the only primary species observed
- Common Nighthawk survey (June 26, 2018)
  - 8 Common Nighthawks were observed


David Turgeon


Tony Varela

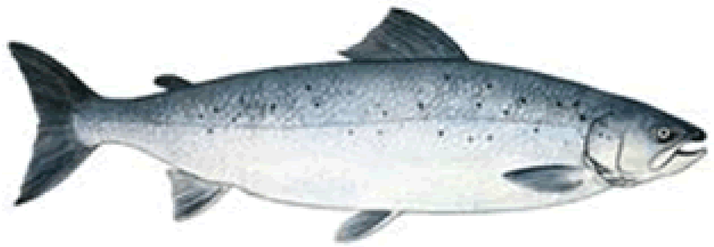

Brian Sullivan

Baseline Studies

Species at Risk

- Priority SAR floral species *(observed)*:
  - COSEWIC Threatened – Black Ash
- Priority SAR bird species *(observed)*:
  - SARA Endangered – Barn Swallow, Canada Warbler and Piping Plover
  - SARA Threatened – Common Nighthawk and Olive-sided Flycatcher
  - SARA Vulnerable – Bobolink and Eastern Wood-Peewee
  - COSEWIC Threatened – Bank Swallow and Wood Thrush
  - COSEWIC Special Concern – Evening Grosbeak
- Priority SAR Fish species (Pictou Road area of the Northumberland Strait, 2004) *(historical)*:
  - COSEWIC Endangered – (Rainbow) Smelt, Winter Skate, Atlantic Salmon, Striped Bass
  - COSEWIC Threatened – White Hake, American Eel
  - COSEWIC Special Concern – Smooth Skate, Thorny Skate


Garth McElroy




Ian Hearn

Baseline Studies

Economic and Social

- Surrounding land used for community living, water supply, sustainable forestry, and recreational activities
- Majority of community development is on IR24 of the PLFN, which comprises numerous residential and community facilities, including a health centre, a school, playground, church, gas station, Band Office, and a cemetery
- PLFN also has a secondary wastewater treatment plant with an outfall that extends approximately 286 m into the Northumberland Strait
- Land parcel to the east owned by PLFN is designated as a water supply area
- Some of the PLFN land south of Boat Harbour (IR37) is used for sustainable forestry activities. The forest is part of the Maritime Lowland Eco-region and has red spruce, hemlock, and pine. The woodland designated under the sustainable forestry activities is considered an important social resource given the historical and cultural importance of woodlands to the PLFN.
- Land around Boat Harbour is used for recreational activities, including hiking and walking, and off-road vehicle use
- Mi'kmaq Ecological Knowledge Study (MEKS) identified historical hunting, gathering, and aquatic recreation in the area
- Current use is limited mainly to fur-bearing creatures as species of harvest

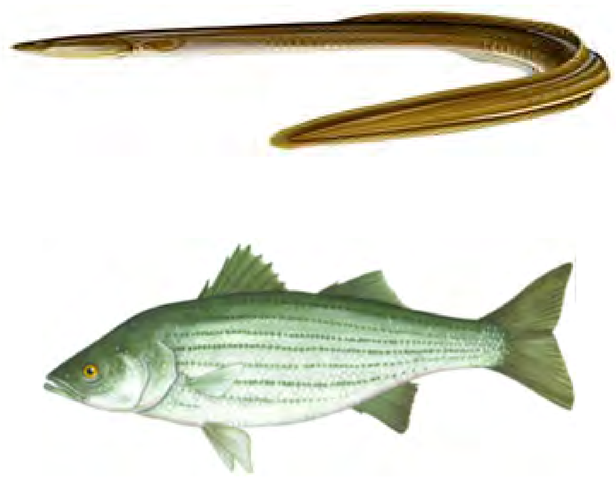
Baseline Studies

Archeological/Cultural Heritage Resources

- Most of the Study Area for Boat Harbour Remediation is ascribed elevated (moderate or high) archaeological potential
- Shovel testing was conducted in areas of high and moderate archaeological potential
- 4 archaeological sites were identified and will be avoided:
  - James & Christina Sproull Site
  - Donald McArthur Site
  - Peter McArthur Site
  - A'se'k 1 Site: A small Pre-contact archaeological site identified during shovel testing - eastern edge of proposed footprint of Conceptual Pilot Treatment Pad Option

Mi'kmaq of Nova Scotia

- Considers Mi'kmaq traditional land and resource uses, significant species, and existing ecological knowledge from land and water areas within the project Site
- Atlantic Salmon, American Eel, and Striped Bass are considered endangered, threatened, or species of special concern; the Mi'kmaq still rely on these species for sustenance and cultural ceremonies
- Deer, trout, salmon, bass, rabbit, mackerel, and smelts are considered to be the favoured hunting/fishing activities for Mi'kmaq and blueberry gathering is also common in the area



Art Patton

Appendix C – Comment Sheets

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: _____ **Telephone:** [redacted]
E-mail Address [redacted]

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

when the work starts at Boat Harbour and there is no one Actually Able to give those that have heavy machinery operators cert. Make it ~~need~~ so the people that Are the hired contract give these people the training and ~~exper~~ exprience needed.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]

Address: _____ **Telephone:** [redacted]

E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

My main Conserns are on the Containment Cells and the impact it would have on our Community, I belive it is not a solution to our major problem just a big band aide and this is a serious issue that needs to be addressed right away.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]

Address: 0 PLFN **Telephone:** _____

E-mail Address: _____

How did you hear about this event?

☐ Letter/E-mail ☐ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

I really don't want a containment cell in rather see it put somewhere else.

No matter how many jobs it might create.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: [redacted] **Telephone:** [redacted]
E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☒ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

I donot think the Poison should be stored behind ~~the~~ Asek. I want to live to see Asek cleaned. I used to swim at Asek.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

PLFN

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: _____

Address: _____ **Telephone:** _____

E-mail Address: _____

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other Social Media

Please add me to the Project contact list ☐

Comments:

- A'se'k being turned into a treatment facility is environmental racism. Having a containment cell is not returning it to its original state... This isn't reconciliation.
- Take the contaminants somewhere's else. To Quebec, anywhere. We don't want it. We also don't want to hear about how the containment cell is 'an economic opportunity' for jobs over the next 25 years we don't care or want it.
- I want remediation but tired of PLFN constantly trying to explain ourselves, how we feel about this. Leaving the waste here isn't right, even if we can't see it. This affects us mentally, emotionally, physically.

"We cannot heal in an environment that made us sick"

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: [redacted] **Telephone:** [redacted]
E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☑

Comments:

I do not agree with filling the containment cell with sludge. The community feels highly against but I also don't want this to hold up the project and. if it needs to be done, it should.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: PLFN **Telephone:**
E-mail Address:

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other

Please add me to the Project contact list ☐

Comments:

I just feel lost in the meetings because I Donot have perfect English, I wish it could be explained in Laymen words,

Other than that, I think the project is coming along great and receive excellent Feed Back on one to one Basis,

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
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NSLands
nova scotia lands

COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: _____ **Telephone:** _____
E-mail Address: _____

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

If the effluent is going to be dump into the North Humberland Strait, why can not the waste be ships to Quebec.

Please submit comments by September 13, 2019:

Submit a comment on the website
boatharbour@novascotia.ca

Mail Us
Nova Scotia Lands
PO Box 186, Halifax, NS B3J 2N2

Email Us
boatharbour@novascotia.ca

OR

Submit a comment to the Community Liaison Coordinator

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PLFN Open House – August 27, 2019

Name: [redacted]
Address: _____ **Telephone:** [redacted]
E-mail Address: _____

How did you hear about this event?

☑ Letter/E-mail ☐ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

Just heard about this. And what ever is dug up I was worried about the removal of the sludge.

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PLFN Open House – August 27, 2019

Name: [redacted]
Address: [redacted] **Telephone:** [redacted]
E-mail Address:

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other

Please add me to the Project contact list ☑

Comments:

what do we really know about the ~~seafloor~~ containment cell? how long is they last? what will happen if & they leak, and how will they fix it? who will be responsible for damage control

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PLFN Open House – August 27, 2019

Name: [redacted]
Address: [redacted] **Telephone:** [redacted]
E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

(1) CEAA approval/approval w Conditions or Rejection → is there an appeals process if the project is rejected. What will happen if the project is rejected?

(2) Containment cell → I do not want the containment cell solution to be used. Is this solution based on finances alone? If so, what are the financial implications of removing the containment cell versus the 25 year maintenance/monitoring plan?

(3) My primary concern is removing this containment cell from this community. There is remediation and then there is recovery. Having a constant reminder in the community will not aid in recovery of the community! This trauma has impacted generations and it needs to be removed in order to recover.

(4) I want to make sure that all cultural considerations have been explored with regards to the pipe removal, testing and closure at Indian Cross Point.

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Name [redacted]
Address: [redacted] **Telephone** [redacted]
E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☐ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

At the present time the containment cell is necesary However at the end of the clean up The ideal outcome is for it to be removed.

Ultimately the clean up and returning boat harbour to its original purpose is the greatest desire.

Hopefully the reminder of what the containment cell represents can and will be removed

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COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted]
Address: [redacted] **Telephone:** [redacted]
E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☐ Community Liaison Coordinator ☑ Other Facebook

Please add me to the Project contact list ☑

Comments:

I have a very deep and overwhelming concern over the proposed containment cell. The gypsum will forever serve a painful reminder of all the loved ones that we have lost due to cancer and other diseases.

I have talked to alot of people from Pictou Landing that won't even go to any of these meeting because they don't want to loose control of their emotions in public. We are very proud people that deserve to be treated as such.

I want there to be another option to contain these gypsum some where else, or even better. Dispose the waste in a proper facility designed to do so. In the most professional way possible.

Your truly Donna M. Paul.

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PLFN Open House – August 27, 2019

Name: [redacted]
Address: **Telephone:** [redacted]
E-mail Address:

How did you hear about this event?

☐ Letter/E-mail ☐ Community Liaison Coordinator ☐ Other Newsletter

Please add me to the Project contact list ☐

Comments:

Hope that Container will be moved
Water line –
Are you trustworthy.
how long will it take to clean
Will the plants like Sweetgrass
grow back!
Our medicines
We are looking forward to seeing this
Cleaned up in our lifetime.

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COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: PLFN

Address: _____ **Telephone:** _____

E-mail Address: _____

How did you hear about this event?

☐ Letter/E-mail ☐ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

PLFN Wants to be Able to be HAPPY + Celebrate the work that has been happening in Remediation

At this Point, We are NOT HAPPY with the Waste Management Plan of a Containment Cell.

We feel We have Not been heard on this / or presented with any other Real Options

Since you are Containing sludge inside Containment Cells for they should Be safe to Remove.

Remove by truck, Boat train whatever Get it out of Here.

Sick of Being Re-Victimized!

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COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: [redacted] Esther Denny Princess Warrior of Boat Harbour

Address: [redacted] **Telephone:** [redacted]

E-mail Address: [redacted]

How did you hear about this event?

☑ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☑

Comments:

- Strong believe that the containment cell should not be kept on location. I'm sure there are other options available.
- Who is to say this cell will not break down over time? It has been around long enough to determine the actual longevity of this membrane?

- What about the contaminated ~~wet~~ wet lands? ~~What is going to~~ How are the contaminated wet lands going to be disposed of?

- The trees? are they contaminated? They probably are and how are these going to be disposed of?

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Name: _____

Address: _____ **Telephone:** _____

E-mail Address: _____

How did you hear about this event?

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Please add me to the Project contact list ☐

Comments:

As a member of this Community I find it frustrating voicing my ~~Concerns~~ concerns meeting after meeting. This whole process is starting to get repetitive and once again our ~~Con~~ concerns are not being heard. The only voice that seems to be heard or valued is the project manager.

We want to hear our concerns and they are ignored. Ever wonder why the crowds are getting smaller???

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COMMENT FORM
Boat Harbour Remediation Project
PLFN Open House – August 27, 2019

Name: _____

Address: _____ **Telephone:** _____

E-mail Address: [redacted]

How did you hear about this event?

☐ Letter/E-mail ☑ Community Liaison Coordinator ☐ Other _____

Please add me to the Project contact list ☐

Comments:

Why bother cleaning up boat harbour if we are just gonna get stuck with the ~~[illegible]~~ Containment cell?

Cleaning boat harbour means it's gone completely not sitting there for months, or years.

Please submit comments by September 13, 2019:

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Submit a comment to the Community Liaison Coordinator

Appendix D – Presentation Slides

The Boat Harbour Remediation Project

PLFN Open House – August 27, 2019

Maw-Lukutinej Waqama'tuk A'se'k

"Let us work together and clean up Boat Harbour"

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Overview of Presentation

- Looking Back to 2014
- What needs to be done?
- PLFN Engagement
- Project Timeline and Overview
- EIA Process
- Where is the contamination beyond the active BHETF?
- What sampling needs to be done?
- Baseline Studies
- Possible Solutions
- Next Steps

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Looking Back to 2014

- June 2014 - Pipeline break at Indian Cross Point in June 2014
- August 2014 - Boat Harbour Steering Committee formed to discuss closure
- May 2015 - Boat Harbour Act set January 31, 2020 as closure date
- July 2015 - Boat Harbour Cleanup Committee formed to discuss cleanup
- July 2015 - Community focus groups set vision for A'se'k as return to tidal
- January 2016 – Boat Harbour Environmental Advisory Committee formed
- April 2016 - Community Liaison Coordinator hired
- May 2017 - GHD hired as general consultant for cleanup planning and design
- 2017 to 2019 - Performed site assessments, remedial options, baseline studies. Possible solutions put forth for Environmental Impact Assessment
- January 2019 - PLFN asked CEAA for federal Environmental Impact Assessment
- April 2019 - CEAA announced decision on federal Environmental Impact Assessment
- July/August 2019 Public/PLFN Open Houses to provide consultation opportunities

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What needs to be done?

Decommissioning and/or repurposing the existing infrastructure

Removing and managing contamination

Removing the causeway and building a new bridge

Removing the existing dam to restore Boat Harbour

It is expected that cleanup will take 4-7 years

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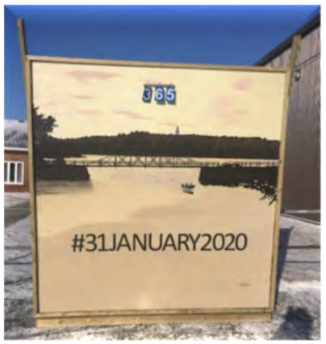
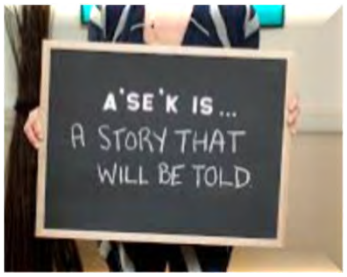
Pictou Landing First Nation and Mi'kmaq

- **Boat Harbour Clean-up Committee (BHCC)**
- **Boat Harbour Environmental Advisory Committee (BHEAC)**
- **Community Information Sessions**
- **Informal Focus Groups**
- **Employment and Business Opportunities**

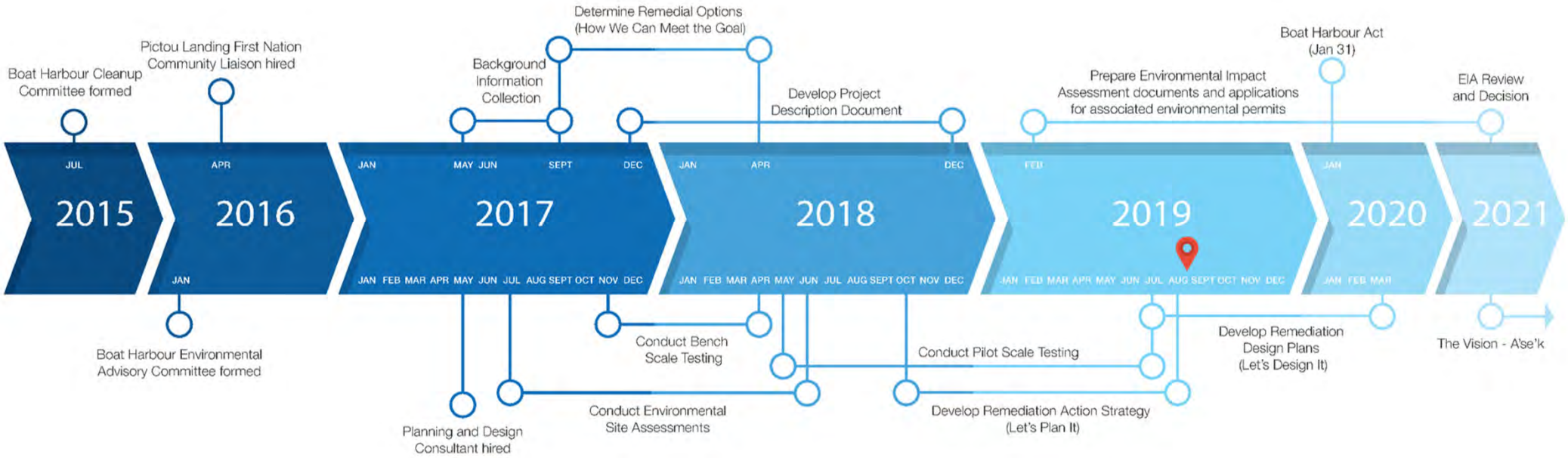




Maw-Lukutinej Waqama'tuk A'se'k

How else would you like to be involved?

Project Timeline & Overview



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The Environmental Impact Assessment Process

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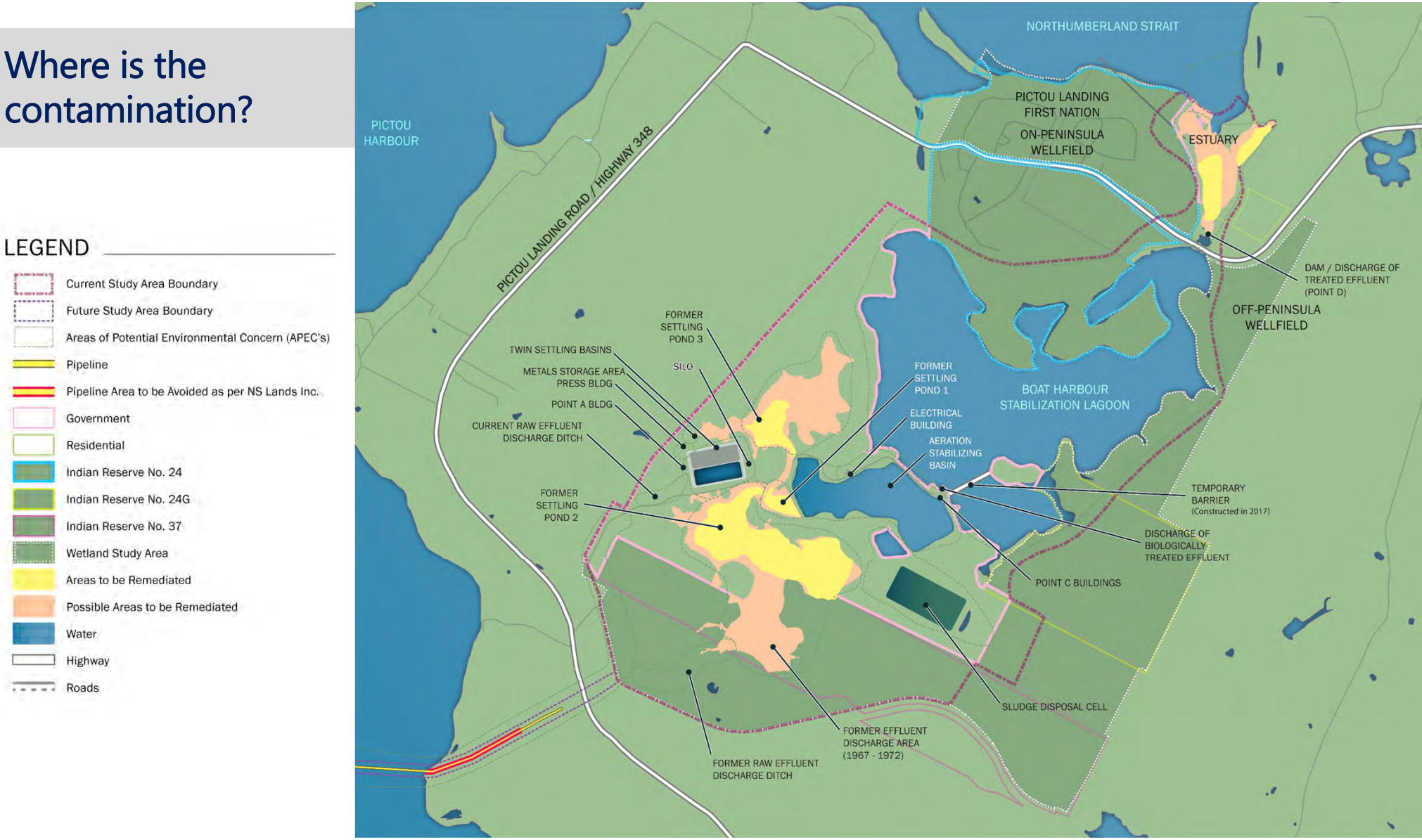
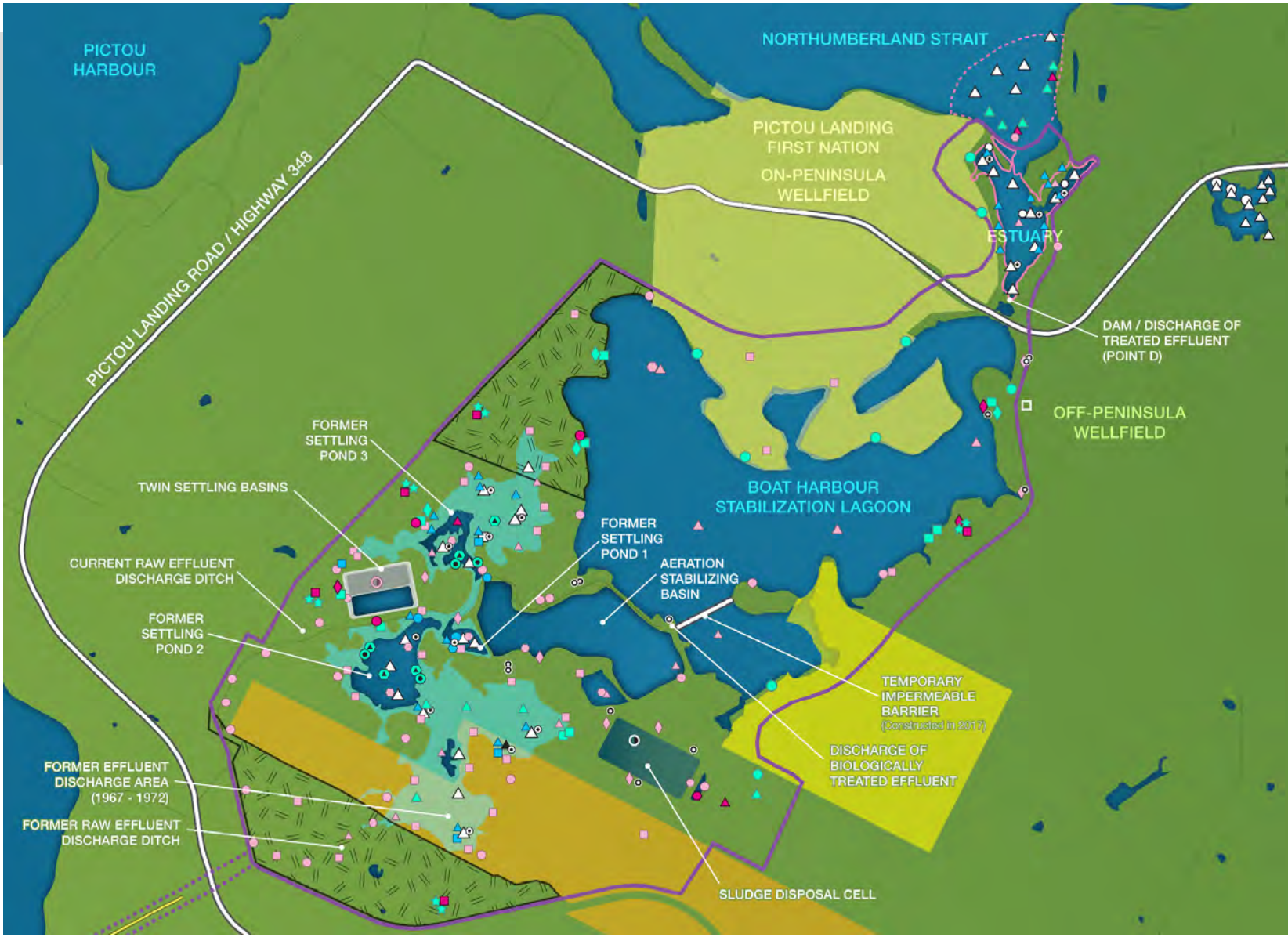
Where is the contamination?



What sampling has been done?



Baseline Studies

- ✓ Air Quality & Odour
- ✓ Greenhouse Gas
- ✓ Noise
- ✓ Light
- ✓ Meteorological
- ✓ Groundwater
- ✓ Surface Water
- ✓ Surficial & Bedrock Geology
- ✓ Geomorphology, Topography & Geotechnical
- ✓ Geologic Hazards
- ✓ Terrestrial Habitat & Vegetation
- ✓ Wetlands
- ✓ Mammals & Wildlife
- ✓ Marine Environment
- ✓ Fish & Fish Habitat
- ✓ Migratory Birds & their Habitat
- ✓ Species at Risk
- ✓ Economic & Social
- ✓ Archaeological/Cultural Heritage Resources
- ✓ Mi'kmaq Ecological Knowledge Study
- ✓ Contaminants of Concern and Characterization of Leaching Potential (Disposal Cell)





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Possible Solutions

Bridge at Highway 348

Proposed Solution – Concrete Girder Bridge
Alternative – Steel Girder Bridge

Waste Management

Proposed Solution – Use Existing Disposal Cell
Alternative – Off-Site Disposal

Wetland Management

Proposed Solution – Ex-situ Remediation
Alternative – Natural Attenuation

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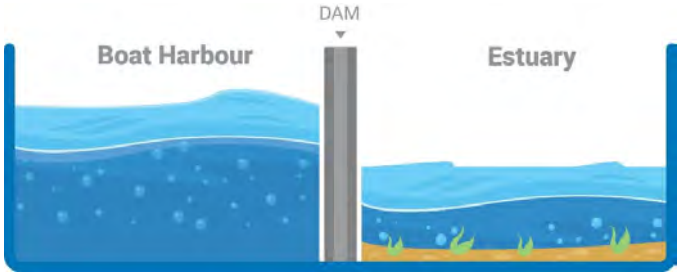
Possible Solutions



Infrastructure Decommissioning

Pipeline On Land
Alternative 1 – Clean, Inspect, Plug, and Abandon in Place
Alternative 2 – Clean, Fill, and Abandon in place
Alternative 3 – Complete Removal

Pipeline Underwater
Proposed Solution – Clean, Inspect, and Abandon in Place
Alternative – Clean, Fill, and Abandon in place

Treatment Buildings
Proposed Solution – Decommission and Demolition or Repurpose Where of Value

Dam
Proposed Solution – Decommission and Demolition

Possible Solutions

Remediation Approaches
Sediment Treatment **Proposed Solution – Removal in the Wet with Geotube Dewatering** Alternative 1 – Removal in the Wet with Clay Stabilization Alternative 2 – Removal in the Dry with Geotube Dewatering Alternative 3 – Removal in the Dry with Clay Stabilization **Bulk Water Management** **Proposed Solution – On-Site Management Using Appropriate Technology Treatment System** **Dewatering Effluent Management** **Proposed Solution – On-Site Management Using Appropriate Technology Treatment System** **Leachate Management** **Proposed Solution – Off-Site Disposal** Alternative – On-Site Management Using Advanced Treatment

Next Steps

- Receive and respond to community concerns and questions on possible solutions
- A second Open House will be held in Fall 2019
- We expect to submit our Project's Environmental Impact Statement in early 2020
- Information requests and possible supplemental studies through 2020
- We expect CEAA approval or rejection of Project in early 2021
- If approved, procurement for cleanup proceeds later 2021

In the meantime:

- Continued engagement and participation in planning activities
- Limited onsite activity and employment opportunities until later 2021

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