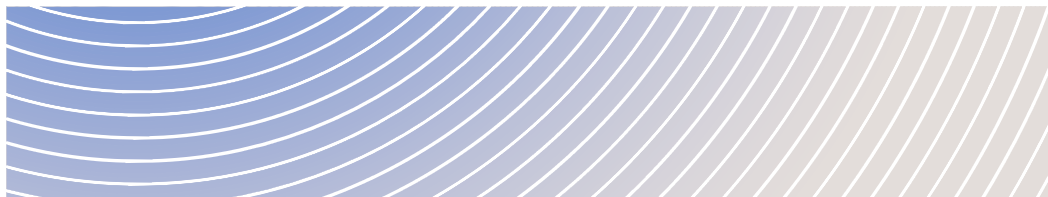


Analysis Report



WHETHER TO DESIGNATE THE **NORTHERN PULP
REPLACEMENT EFFLUENT TREATMENT FACILITY** IN NOVA
SCOTIA PURSUANT TO THE *IMPACT ASSESSMENT ACT*

December 2019



Impact Assessment
Agency of Canada

Agence d'évaluation
d'impact du Canada

Canada

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Context of Request

The Agency received the first request to designate the Project for a federal environmental assessment on February 7, 2018, from a member of the public. The request expressed concern regarding potential impacts to the local fishery and tourism. Since then, the Agency has received over 3200 letters and emails, including a request from Pictou Landing First Nation that the Minister designate the Project.

On February 23, 2018, the Agency sent a letter to the proponent notifying them of the designation request and requesting information. The proponent responded on April 20, 2018 with information about the Project, its potential adverse effects, proposed design and mitigation measures, and its view that the Project should not be designated. The proponent subsequently informed the Agency that additional work was needed to support a redesign of the pipeline route, which would be provided in the provincial Registration Document. Therefore, the Agency paused its analysis until this information was provided by the proponent on January 31, 2019. The provincial Registration Document was subsequently determined to contain insufficient information by the provincial Minister of the Environment who required a Focus Report to be completed. The Focus Report was formally submitted to Nova Scotia Environment on October 2, 2019. Federal authorities provided expert advice to the Province on both documents. Comments from federal authorities on the Focus Report were provided to Nova Scotia Environment on November 8, 2019, with departments identifying issues in the accuracy of the modeling undertaken to assess dispersion of the effluent as well as concerns with the approach to the human health risk assessment.

Advice on applicable legislative mechanisms and potential effects due to the Project was received from Environment and Climate Change Canada, Fisheries and Oceans Canada, Transport Canada, Public Services and Procurement Canada, Natural Resources Canada, and Health Canada. The Agency also received process input from Nova Scotia Environment and the provincial Office of Aboriginal Affairs.

The Agency received comments from Pictou Landing First Nation, Millbrook First Nation, Sipekne'katik First Nation, the Assembly of Nova Scotia Mi'kmaq Chiefs, and the Mi'kmaq Confederacy of Prince Edward Island.

The Agency also received submissions from stakeholders and the public, including the Friends of the Northumberland Strait; the Prince Edward Island Fishermen's Association; the Maritime Fishermen's Union; the Gulf Nova Scotia Fleet Planning Board; Coldwater Lobster Association; local businesses; the Mayor of Stellarton; the Prince Edward Island Minister of Communities, Land and Environment; the Premier of Prince Edward Island; and 19 Canadian Senators.

On August 28, 2019, IAA came into force and CEAA 2012 was repealed. On August 27, 2019, the former Minister requested the Agency consider the designation request under IAA in accordance with the Minister's powers to designate projects under subsection 9(1).



Project Context

Project overview

The proponent is proposing the construction, operation, and decommissioning of a new effluent treatment facility adjacent to its bleached kraft pulp mill, located at Abercrombie Point near Pictou, Nova Scotia. Treated effluent would be discharged through a new, approximately 15-kilometre pipeline running mainly along the Highway 106 right-of-way into the Northumberland Strait, between Nova Scotia and Prince Edward Island (Figure 1). The Project is required to replace the existing Boat Harbour Effluent Treatment Facility, which is legislated to close by January 31, 2020 under Nova Scotia's *Boat Harbour Act*.

Currently, effluent from the Northern Pulp Mill is piped under the East River to the Boat Harbour Effluent Treatment Facility for treatment, prior to being discharged into the Northumberland Strait. The Boat Harbour Effluent Treatment Facility was constructed in 1967 and is owned by the Province of Nova Scotia. It has been operated by the proponent, under lease, since 1996.

Project components and activities

The scope of the Project includes all physical works and activities associated with the construction, operation and decommissioning of the new effluent treatment facility, the treated effluent discharge pipeline, and three-port outfall diffuser. Construction activities include both land-based and marine-based components. The proponent has estimated that construction would take 21 months to complete.

The proposed pipeline begins at the effluent treatment facility on the proponent's property and runs under Pictou Harbour before entering the Highway 106 right of way (Figure 1). The land-based portion of the pipeline would generally run parallel to Highway 106, utilizing horizontal directional drilling or other boring methods to avoid traffic and roadway disturbance. The pipeline would stay within disturbed portions of the Highway 106 right-of-way until it reaches Caribou Harbour and enters the marine environment, immediately to the west of the Northumberland Ferries marine terminal building and parking areas.

The marine-based portion of the pipeline would be approximately 4 kilometres in length and would be trenched and buried adjacent to the navigation channel for the Caribou-Woods Islands ferry, which operates between Nova Scotia and Prince Edward Island.

Sludge waste material generated as part of the proposed treatment process would include clay, sand, silt, organic matter, nutrients, microorganisms, and metals. The proponent is proposing to mix the sludge with existing biomass feeding the mill's power boiler.

The components of the Project that are located on federal land include:

- the portion of the pipeline that runs along the ferry terminal property that is administered by Public Services and Procurement Canada;
- the portion of the pipeline that crosses federal land administered by Transport Canada within Caribou Harbour; and



- the portion of the pipeline and the outfall diffuser that are on federal land located beyond Caribou Harbour, in the Northumberland Strait, that is administered by Public Services and Procurement Canada.

The proponent states that it considered several effluent treatment technologies and selected its preferred option based on the following criteria: optimization, efficiency, economic viability, flexibility, and footprint size. The proponent is proposing a modern activated sludge system to treat the effluent. The proponent states that it also considered a closed-loop (zero effluent) treatment alternative; however, it was determined not to be technically or economically feasible. According to the proponent, pulp mills that use elemental chlorine free bleached kraft pulp processing, like Northern Pulp, cannot operate in a closed loop set up due to corroding and scaling of equipment. The proponent did investigate changing the Northern Pulp Mill to produce a different pulp type; however, a market study determined that the mill would not remain competitive due to higher costs for wood and electricity compared to established market competitors.

The proponent conducted multiple receiving water studies to determine the optimum location for the effluent outfall that would provide adequate mixing and dilution for the effluent to meet or exceed applicable regulatory discharge standards. Effluent discharge was modelled at various locations around Pictou and Caribou Harbour. The proponent updated the models in its Focus Report to include both summer and winter (ice-covered) conditions and also updated the background water quality and effluent quality used in the models. A location outside Caribou Harbour, in the Northumberland Strait, was determined to be the preferred location.

Based on the provincial Registration Document, the discharge of treated effluent into the Northumberland Strait could cause increases in temperature, nutrients, and suspended solids; changes in colour, chemical and biological oxygen demand, dissolved oxygen, and pH; and a possible reduction in salinity. However, based on their modelling results in the Focus Report, the proponent concluded that any potential effects on water quality would be highly localized and that effluent quality would comply with all federal and provincial permit conditions and regulatory requirements under the *Pulp and Paper Effluent Regulations*. Furthermore, the proponent's model also predicted that colour would meet aesthetic objective¹ within five metres of the diffuser. Temperature would meet guideline² limits (1 °C differential) within two metres of the diffuser and return to within 0.1 °C of background at the end of the 100-metre mixing zone.

¹ Health Canada Guidelines for Drinking Water Quality. <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#t2>

² CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life.



Figure 1: Project Location



Source: Northern Pulp Nova Scotia Corporation

History of Boat Harbour and Impacts on Pictou Landing First Nation

Boat Harbour is located adjacent to several reserve lands held by the Pictou Landing First Nation. The land and water on which the current facility is located is within territory traditionally used and occupied by the Mi'kmaq of Pictou Landing First Nation. The facility's existing pipeline is routed across lands over which the Mi'kmaq claim Aboriginal title. This is detailed by Chief Andrea Paul in the community's Victim Impact Statement related to a pipeline breach in 2014. Prior to the Boat Harbour Effluent Treatment Facility being operational, Pictou Landing First Nation were assured that their use of Boat Harbour for boating and fishing could continue while the facility was in operation. In 1970, reports from Health Canada and Fisheries and Oceans Canada revealed a progressive increase in concentration of pollutants in Boat Harbour to such an extent that no traditional or recreational use by the community is believed to have been undertaken since. Furthermore, the Victim Impact Statement states that the loss of the area for food and cultural gathering, including a burial ground, has resulted in suffering³ to Pictou Landing First Nation.

Boat Harbour Remediation Project

Boat Harbour itself contains approximately 1,000,000 m³ of unconsolidated sludge with elevated metals, polycyclic aromatic hydrocarbons, and dioxins/furans. The Province of Nova Scotia is the proponent for the Boat Harbour Remediation Project; a designated project described in the *Regulations Designating Physical Activities* under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The Boat Harbour Remediation Project is currently undergoing a federal environmental assessment that commenced in April 2019.

Perceived Conflict of Interest for the Province

Concern regarding a potential conflict of interest or bias by the Province has been widely reported in the local media and identified in most letters received by the Agency. For example, the Friends of the Northumberland Strait wrote to the Minister and the Agency in a letter dated September 19, 2018. They noted that the potential financial liability of the Province and urgent need to have a new effluent treatment facility operational before January 2020 creates powerful incentives for the Province to approve the proposed Project. This concern is due to an indemnity agreement between the Province and proponent that is believed to hold the Province liable for any lost profits the proponent incurs if it must cease operations due to losing the use of the Boat Harbour Effluent Treatment Facility prior to the expiration of its lease in 2030. The Friends of the Northumberland Strait community group expressed that the potential financial liability without a new effluent treatment facility operational before January 31, 2020 could incentivize the Province to approve the proponent's Project without taking the time to do a more in depth environmental assessment of the Project.

The conflict of interest was highlighted by Justice Timothy Gabriel of Nova Scotia Supreme Court when rendering his decision⁴ in favour of Pictou Landing First Nation in November 2018. At paragraph 74, Justice Gabriel writes:

³ PLFN Victim Impact Statement (<http://canadianaboriginallaw.com/wordpress1/wp-content/uploads/2016/02/PLFN-Victim-Impact-Statement-2016-02-221.pdf>)

⁴ *Pictou Landing First Nation v Nova Scotia (Aboriginal Affairs)*, 2018 NSSC 306.



“Second, does the potential involvement of the Crown in the funding of the new ETF make it more or less likely that the required Environmental Act approval will ultimately be granted? While (as the Respondent points out) it would be a different “department” of the Crown involved in the approval process, it would essentially boil down to the Crown (wearing one hat) being called upon to determine whether a project which the Crown (wearing another hat) has funded, passes muster. This will do nothing to assuage whatever cynicism has been engendered in the past by the already significant environmental impact which has been visited upon Treaty lands and environs by the mill and its facilities to date.”⁵

Justice Gabriel further wrote in paragraph 79:

“if the province is to become the lender, not only is it providing the means by which the (effluent treatment facility) will be built, but it will have an interest to insure that the mill will continue to remain in operation into the future so as to at least recover the taxpayers’ investment,”

That decision was upheld on September 17, 2019 by the Nova Scotia Court of Appeal. In its written decision, the Appeals Court revealed that the Province would reimburse the proponent up to \$250,000 for conducting its environmental assessment studies and an additional \$8 million for design and engineering work. Further, paragraph 164 of its decision states that:

“The Funding Agreements: (1) reduce the likelihood that Northern Pulp would allow the Mill to close after January 30, 2020, to avoid paying the full cost of a New ETF; and (2) heighten the likelihood of ministerial approvals that are necessary for the Mill to operate after January 30, 2020.

Indigenous Groups

The Mi’kmaq of Nova Scotia consider the Province and the offshore as their traditional territory and assert a title claim to the entire province. Typically, the Kwiilmu’kw Maw-klusuaqn Negotiation Office represents the interests of eleven First Nation communities in Nova Scotia. Millbrook First Nation and Sipekne’katik First Nation represent their own communities for consultation purposes. The Mi’kmaq of Nova Scotia have established Aboriginal and Treaty rights to hunt, fish and gather throughout the province as a result of historic Peace and Friendship treaties.

The land and water occupied by the Boat Harbour Effluent Treatment Facility was traditionally used and occupied by the Mi’kmaq who primarily reside in Pictou Landing First Nation. The reserve is located approximately 10 kilometres from the proposed outfall and diffuser location. As such, consultation was focused on the Pictou Landing First Nation community, who have decided to represent themselves in consultation forgoing the aggregate, the Kwiilmu’kw Maw-klusuaqn Negotiation Office.

Mi’kmaq of Prince Edward Island are also signatories to the historic Peace and Friendship treaties and utilize the Northumberland Strait for the exercise of a rights-based fishery. The Mi’kmaq Confederacy of Prince Edward Island expressed concern related to effects from the discharge of effluent into the Northumberland

⁵ <https://decisions.courts.ns.ca/nsc/nssc/en/item/351126/index.do>

Strait on waters they fish, and indicated that they expect to be meaningfully consulted on the potential effects of the proposed project.

Economic Environment

Both the Northern Pulp Mill and the fishing industry are important contributors to the provincial economy. According to the proponent's Focus Report, the pulp mill directly and indirectly employs over 2,350 workers across the provincial forestry sector. The proponent also states that it exports over \$200 million worth of goods annually and is the single largest exporter out of the Port of Halifax.

In addition, the proponent cited a 2008 report by Fisheries and Oceans Canada that estimated about 7,000 people are employed in the commercial lobster industry in the Gulf Region. According to a submission from the joint working group made up of the Nova Scotia Fleet Planning Board, the Prince Edward Island Fishermen's Association, the Maritime Fishermen's Union, and Pictou Landing First Nation, the fishing industry in Nova Scotia alone supports over 18,000 jobs. They also stated that seafood accounts for \$2 billion in exports from Nova Scotia, annually and that the fisheries' Marine Stewardship Fisheries Standard Certification, a benchmark for sustainable fishing and the gateway to international markets, could be jeopardized by the Project.

Industry Benchmarking

Data was provided by the Forest Products Association of Canada on industry benchmarking for biological oxygen demand and total suspended solid levels (parameters regulated under the *Pulp and Paper Effluent Regulations*) for 48 international bleached kraft pulp mills. For the Northern Pulp Mill, 2015 data indicated average performance for biological oxygen demand and better than average results for total suspended sediments with its existing treatment system, when compared to similar facilities. Furthermore, the Forest Products Association of Canada states that they expect the secondary treatment being proposed as part of the Project would bring the mill to the top quartile globally for biological oxygen demand and maintain them in top quartile for total suspended solids.

Implications of the *Boat Harbour Act* on the Project

Although the provincial *Boat Harbour Act* requires the existing effluent treatment facility at Boat Harbour to close by January 31, 2020, the proponent has publically requested an extension that would allow them to continue using the Boat Harbour Effluent Treatment Facility while it completes the environmental assessment, permitting and construction of the Project. The proponent states that without the extension, the mill may have to shut down permanently. Pictou Landing First Nation has stated that it will not support an extension and wants the Boat Harbour Effluent Treatment Facility to close within the legislated timeframe.

On September 26, 2019, the Premier of Nova Scotia wrote an Op-Ed in the Halifax Herald⁶ regarding the future of Northern Pulp and the clean up of Boat Harbour. In it, the Premier states that Nova Scotia

⁶ <https://www.thechronicleherald.ca/opinion/local-perspectives/stephen-mcneil-setting-the-record-straight-on-northern-pulp-357087/>



Environment's recommendation to the provincial Environment Minister will be science-based and that any decisions on Northern Pulp will weigh economic interests and environmental impacts. He did not mention the closure date of Boat Harbour, but did provide his view that the federal environmental assessment on Boat Harbour would prevent the start of the clean up until sometime in 2021.

Implications of the Minister's Consideration of the Designation Request on the Project Timing

If the Minister decides to designate the Project, the early planning phase of the IAA would begin, which can take up to 180 days to complete. Should the outcome of the early planning phase determine that an impact assessment is required, the legislated timeline for an Agency-led impact assessment is a maximum of 300 days. This does not include time required for the proponent to prepare the Impact Statement.

Analysis of Designation Request

Authority to designate the Project

The *Physical Activities Regulations* (the Regulations) set out the physical activities that are designated for the purposes of the definition "designated project" under section 2 of IAA. The Project, as described in the information provided by the proponent, is not designated under the Regulations.

Under subsection 9(1) of IAA the Minister may, by order, designate a physical activity that is not prescribed in the Regulations. The Minister may do this, if, in the Minister's opinion, the physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation.

The carrying out of the Project has not substantially begun and no federal authority has exercised a power or performed a duty or function that would permit the Project to be carried out, in whole or in part.⁷

Given this understanding of the Project, the Agency is of the view that the Minister has the power to designate this Project under subsection 9(1) of IAA.

As set out in subsection 9(2) of IAA, in making the decision, the Minister may consider adverse impacts that a physical activity may have on the rights of the Indigenous peoples of Canada — including Indigenous women — recognized and affirmed by section 35 of the *Constitution Act, 1982*, as well as any relevant assessment referred to in section 92, 93 or 95.

⁷ The Minister must not make the designation if the carrying out of the physical activity has substantially begun, or a federal authority has exercised a power or performed a duty or function in relation to the project. s. 9(7) of IAA

Potential adverse effects within federal jurisdiction and potential adverse direct or incidental effects

Based on the proponent's provincial Registration Document and the input provided by federal authorities, the Province, Indigenous communities, and the public, the Agency understands that the Project could result in the following potential adverse effects within areas of federal jurisdiction:

- effects on fish and fish habitat, marine species at risk, and migratory birds from construction and operation activities, including from the discharge of treated effluent into the Northumberland Strait;
- transboundary effects, including greenhouse gas emissions, and effects on federal lands (Northumberland Strait) due to the discharge of treated effluent into the Northumberland Strait; and
- impacts to health, socio-economic, and current use of lands and resources by Indigenous peoples from the discharge of effluent into the Northumberland Strait and the incineration of sludge waste.

Direct or incidental effects refer to effects that are directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of a project, or to a federal authority's provision of financial assistance to a person for the purpose of enabling that project to be carried out, in whole or in part.

Most of the potential effects directly linked or necessarily incidental to the federal licence and authorizations are already considered as an effect within federal jurisdiction; however, the following additional adverse direct or incidental effects were also identified:

- potential adverse direct or incidental effects on the health and socio-economic conditions of non-Aboriginal persons, including commercial fisheries and tourism;
- wetland alterations;
- effects to marine mammals; and
- effects to non-migratory sea birds (e.g. cormorants).

In consideration of information received from the proponent, federal authorities, the Province, Indigenous communities, the requesters, and information in the public domain, the Agency is of the view that the environmental assessment and regulatory review processes that currently apply to the Project are sufficient to address the potential adverse effects in areas of federal jurisdiction and any direct or incidental effects (Annex I and II). These processes include: the provincial environmental assessment (and related permitting, if approved) led by Nova Scotia Environment; federal regulatory processes that would require compliance and/or the issuance of permits or authorizations required for the Project to proceed (i.e., *Pulp and Paper Effluent Regulations*; *Fisheries Act*; *Canadian Environmental Protection Act, 1999*; *Species at Risk Act*; *Migratory Bird Convention Act, 1994*; and the *Canadian Navigable Waters Act*); and a determination of whether the Project is likely to cause significant adverse environmental effects by federal authorities exercising a power or performing a duty or function related to the components of the Project located on federal lands, as required under section 82 of IAA.

The primary concern expressed to the Agency is the Project's potential environmental effects from the release of treated effluent into the Northumberland Strait.



The Agency notes that the effluent is regulated under the *Pulp and Paper Effluent Regulations* and that Environment and Climate Change Canada believes that compliance with the *Pulp and Paper Effluent Regulations* can manage adverse effects for the associated regulated parameters. However, for parameters not regulated under the *Pulp and Paper Effluent Regulations* (for example, salinity, temperature nutrients and heavy metals), the Agency agrees with Health Canada, Pictou Landing First Nation, and stakeholders that there may be adverse effects in areas of federal jurisdiction, including on the health of Indigenous Peoples or fish and fish habitat.

Nova Scotia Environment is assessing the potential effects of the effluent through the provincial environmental assessment and identified the lack of wastewater characterization as a key deficiency in the Registration Document. This information was required as part of the Focus Report, which was reviewed by federal authorities. Environment and Climate Change Canada had substantive concerns related to the modelling used to predict the effluent dispersion and Health Canada was equally concerned with the accuracy of the human health risk assessment for the Project. Following the review period on the Focus Report the provincial Minister of Environment must decide one of the following: a) undertaking is approved; b) EA report required; or c) undertaking is rejected. The Minister's decision is required December 17, 2019.

A provincial Industrial Approval is also required for the Project, should it receive a provincial Environmental Assessment Approval. Nova Scotia Environment confirmed that it has the ability to require, through enforceable conditions of the Industrial Approval, stricter conditions on the discharged effluent than the current version of the *Pulp and Paper Effluent Regulations*. Nova Scotia Environment would seek input from Environment and Climate Change Canada during the review of the Industrial Approval Application and would continue to consult with Indigenous groups through this process.

Portions of the Project, including the location of the diffuser, are located on federal lands. Therefore, Public Services and Procurement Canada, as the custodian of the seabed, and potentially Transport Canada, Fisheries and Oceans Canada and Environment and Climate Change Canada are expected to have responsibilities under section 82 of IAA due to the potential for them to issue a licence or authorization that could permit the portions of the Project located on federal lands to proceed. Section 82 requires that a federal authority not exercise such a power unless the authority determines the Project is not likely to cause significant adverse environmental effects or the Governor in Council decides that the effects are justified. Feedback from federal authorities indicates that a section 82 determination for this Project would include the portions of the pipeline that cross federal lands, and in the case of Public Services and Procurement Canada, this would also include an assessment of the impacts of the effluent.

The section 82 determination would not include on-land portions (except for the ferry terminal) of the Project or an assessment of the power boiler emissions. However, the Agency believes that the provincial regulatory processes, including the environmental assessment (with input from federal authorities), the wetland/watercourse approvals process, and the Industrial Approval process will adequately address these issues. Compliance with federal acts, including the *Fisheries Act*, the *Migratory Bird Convention Act, 1994*, the *Species at Risk Act*, the *Canadian Navigable Waters Act* and the *Canadian Environmental Protection Act, 1999* is also required, as applicable and will also serve to mitigate impacts in areas of federal jurisdiction for both the on land and marine portions of the Project.



Furthermore, as a condition of the proponent's current provincial Industrial Approval, it must ensure that emissions from the facility do not exceed maximum permissible ground level concentrations specified in Schedule A of the provincial *Air Quality Regulations*. This requirement is expected to also apply to new Industrial Approval. This approval should also regulate any new emissions that occur as a result of incineration of sludge from the new treatment facility.

Public concerns

The Agency received over 3,200 letters (including form letters) expressing concern with the Project and requesting that the Project be designated to require a federal environmental assessment. Almost all of the comments received noted concern with the disposal of effluent into the Northumberland Strait and potential impacts to the regional fisheries. Additional concerns expressed include:

- impacts to health due to effects to water and air quality;
- impacts to Indigenous peoples due to effects to fish, fish habitat, and air quality;
- effects to aquatic species under the *Species at Risk Act*;
- effects to migratory birds;
- transboundary effects, including greenhouse gas emissions, and effects on federal lands due to the discharge of treated effluent into the Northumberland Strait;
- cumulative impacts to the Northumberland Strait's marine environment;
- effects to watershed/potable water supply caused by accidents or malfunctions;
- effects to navigational abilities;
- concerns with the unknown chemical composition of effluent;
- effects to tourism, and attraction/retention of citizens and businesses due to actual or perceived contamination of water and air;
- mistrust in proponent and/or province due to history of the mill; and
- perceived conflict of interest with province.

In a joint submission to the Minister, the Gulf Nova Scotia Fleet Planning Board, Pictou Land First Nation, Maritime Fishermen's Union, and the Prince Edward Island Fishermen's Association provided examples of why they consider the Northumberland Strait to be a highly unique and sensitive receiving environment, which include:

- Fisheries and Oceans Canada identified a section of the Northumberland Strait as an Ecologically and Biologically Significant Area due to the presence of two aquatic species that are likely endemic⁸ to the area, lady crab and winter skate⁹.
- While the Northumberland Strait generally flows from west to east, local conditions can result in east

⁸ An endemic species is defined as one that is unique to a defined geographic location

⁹ Rondeau, A., Hanson, J.M., Comeau, M., and Surette, T. 2016. Identification and Characterization of Important Areas based on Fish and Invertebrate Species in the Coastal Waters of the Southern Gulf of St. Lawrence. DFO Can. Sci. Advis. Sec. Res. Doc. 2016/044. vii + 70 p.



to west currents that can last for days or weeks, under certain conditions¹⁰. In addition, the Northumberland Strait contains a seasonal gyre at each end¹¹. Together, these characteristics can influence particle retention distribution (including lobster larvae and toxins) and are important to understand.

- Ice presence for about five months of the year, which could damage the diffusers and pipe, affect dispersion of contaminants, and reduce accessibility to repair pipeline damage.
- The Northumberland Strait is home to numerous important and declining aquatic species, including the white hake, winter skate, lady crab, and Atlantic herring and Atlantic mackerel.

On July 6, 2018 a rally was held in Pictou to protest against the Project, which was attended by dozens of boats and an estimated 1,000 people¹².

In October 2018, the proponent attempted to complete in-water work related to the project design. The survey boat was subsequently prevented from completing the work by local fishers. The blockade by fishers continued into November 2018. On December 18, 2018 Northern Pulp obtained a temporary injunction to stop fishermen from blocking survey boats hired to examine a route for the effluent pipeline.

Member of Parliament Elizabeth May also submitted a petition to the House of Commons containing over 6,000 signatures requesting that a federal environmental assessment be conducted on the Project.

There is also an online petition¹³ started by the Northumberland Strait Sportfishing Association that has over 25,000 signatures from Canada and around the world, requesting federal involvement in a full environmental assessment.

The Agency acknowledges that there is significant public concern about the potential for adverse effects from the Project that relate to certain adverse effects within federal jurisdiction or adverse direct or incidental effects. Portions of the Project, including the outfall diffuser, fall on federal lands and would require a determination on the significance of adverse environmental under section 82 of IAA by applicable federal authorities. This processes requires a minimum 30-day public comment period and consideration of public comments in making the determination. A notice, indicating a determination is required, as well as a notice of the determination (including any mitigation measures taken into account) must be posted on the Canadian Impact Assessment Registry.

Furthermore, following a 30-day comment period, Nova Scotia Environment determined that the proponent was required to address information gaps in its provincial Registration Document through a Focus Report, including those that are of public concern (e.g., chemical composition of the treated effluent). The Focus Report underwent a technical review by federal and provincial experts and was subject to a public comment

¹⁰ Hanson, J.M., and Comeau, M. 2017. Progress on the Ecosystem Research Initiative for the Northumberland Strait since October 2012. Can. Manuscr. Rep. Fish. Aquat. Sci. 3145: ix + 29 p.

¹¹ Fisheries and Oceans Canada (DFO). 2005. The Gulf of St. Lawrence – A Unique Ecosystem. Gulf of St. Lawrence Integrated Management. Cat. No. FS 104-2.

¹² <https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-effluent-pipe-protest-1.4736367>

¹³ <https://www.change.org/p/save-the-northumberrland-strait-protect-our-sport-fishery-commercial-fishery-our-tourism-and-our-health>

period from October 2 to November 8, 2019. As noted earlier, following the review period on the Focus Report the provincial Minister of Environment must decide by December 17, 2019, one of the following: a) undertaking is approved; b) EA report required; or c) undertaking is rejected. Should an EA Report be required there will be further opportunities for public consultation on the Project as part of this process.

The Agency is of the view that the legislative and regulatory mechanisms described above provide opportunities for public participation and to address public concerns.

Potential adverse impacts on section 35 rights of Indigenous peoples

When considering whether or not to designate a physical activity, section 9(2) of IAA states that the Minister may consider the adverse effects that a physical activity on Indigenous rights that are recognised and affirmed under section 35 of the *Constitution Act* 1982.

The Agency notified all potentially impacted Indigenous groups of the request for designation and invited them to express their comments and concerns, including Pictou Landing First Nation, the Kwi'mu'kw Maw-klusuaqn Negotiation Office, Millbrook First Nation, Sipekne'katik First Nation and the Mi'kmaq of Prince Edward Island.

Agency staff met with the Chief and Council of Pictou Landing First Nation on May 16, 2018, and representatives from the Prince Edward Island Fishermen's Association, the Gulf Nova Scotia Fleet Planning Board and Pictou Landing First Nation on June 19, 2018. During both meetings, significant concern was expressed for the local fishery and the health of the Northumberland Strait. All parties indicated concern with the adequacy of the provincial Class 1 environmental assessment and requested that a federal environmental assessment be conducted. Chief Andrea Paul and Council also shared the history associated with Boat Harbour's use as an effluent treatment facility and its impact on Pictou Landing First Nation's culture, language, well-being, and economy. The community is concerned that the proposed Project will further impact their rights and current use of the land.

On October 16, 2018, Agency staff met with Pictou Landing First Nation, the PEI Fishermen's Association, the Maritime Fishermen's Union, the Gulf Nova Scotia Fleet Planning Board, the Confederacy of Mainland Mi'kmaq, and the Friends of the Northumberland Strait. The groups provided information and shared concerns regarding the province's perceived conflict of interest in making an unbiased decision on the forthcoming provincial environmental assessment, the uniqueness of the Northumberland Strait, the economic impact of the local fishing industry, and the potential for sub-lethal and cumulative effects of multiple contaminants in the Northumberland Strait.

In their submission to the Agency¹⁴, Pictou Landing First Nation describe their heavy use of the Northumberland Strait for food, social, ceremonial and moderate livelihood fishing pursuant to their established treaty rights. In particular, they point to the location of a recently upgraded and expanded wharf used as a base for 70 fishing boats located in the Northumberland Strait, scallop zones, and lobster licences. Further, the community feels the Project could negatively impact the waters of the Northumberland Strait,

¹⁴ Comments submitted February 28, 2019.

waters to which they have a long standing title claim. They also stated that the Project could negatively affect their health through water and air pollution.

The leadership of the community believes that they have an inherent right to govern the lands and resources of their traditional territory and over which they assert title. The Chief and Council have relayed to the Agency that the federal Crown should recognize this governance authority to determine which assessment is best suited to this Project given the negative health and psychological consequences they have suffered¹⁵ from past effects of the effluent pollution. In their view, the federal environmental assessment process is the most rigorous and robust process currently available for evaluating impacts to Indigenous peoples' current use of lands and resources and effects to health and socio economic conditions.

Millbrook First Nation and Sipekne'katik First Nation both requested a federal environmental assessment be completed for the Project in their submissions to the Agency. Millbrook First Nation expressed that the Project could impact Aboriginal and Treaty rights by way of harvesting fish and water fowl, and human health. Sipekne'katik First Nation expressed concerns that the Project could impact fish and fish habitat, aquatic species at risk, migratory birds, impact federal lands and transboundary impacts to Prince Edward Island, and impact their health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes and structures of historical, archaeological, paleontological or architectural significance.

The Mi'kmaq of Prince Edward Island also expressed concern that the Project, through potential impacts of the effluent on fish populations in the Northumberland Strait, could impact their Aboriginal and Treaty rights.

The Agency acknowledges the concerns of the Indigenous communities and determined that there is potential for the proposed Project to adversely effect the established Aboriginal and Treaty rights of the Mi'kmaq in Nova Scotia and Prince Edward Island, both on land (i.e., due to the close proximity of Pictou Landing First Nation to and within the airshed of the proposed treatment facility location) and in the marine environment. In addition, the Agency recognizes Pictou Landing First Nation's concern about the ability of the Class 1 provincial environmental assessment to meet the deep consultation requirements that they feel are owed by the Crown on this Project, including the concern that the provincial public comment periods are too short and their belief that the Province has a conflict of interest.

The Province indicated that they initiated consultation with the Mi'kmaq of Nova Scotia on this Project in 2017, which, at that time, was led by the Nova Scotia Department of Transportation, Infrastructure and Renewal. Once the Project's environmental assessment was registered, Nova Scotia Environment took the lead in consultation and began integrating Indigenous Consultation into the environmental assessment process, guided by the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process and the Government of Nova Scotia Policy and Guidelines: Consultation with the Mi'kmaq of Nova Scotia*.¹⁶ The Province indicated that they will also consider any comments received from the Mi'kmaq Confederacy of Prince Edward Island during the public comment periods (30 days for the original Registration Document and

¹⁵ PLFN Victim Impact Statement (<http://canadianaboriginallaw.com/wordpress1/wp-content/uploads/2016/02/PLFN-Victim-Impact-Statement-2016-02-221.pdf>)

¹⁶ <https://novascotia.ca/abor/office/what-we-do/consultation/>



37 days for the Focus Report). The Province also indicated that consultation will continue throughout the permitting phase, should the Project receive Environmental Assessment Approval. Any approvals issued by the Province will contain enforceable conditions, some of which may be included to address or mitigate concerns from Indigenous communities.

The Agency acknowledges that the Nova Scotia Office of Aboriginal Affairs reminded the proponent of its delegated role in some procedural aspects of the provincial Crown's consultation process, in a letter dated August 2, 2019. The letter stated the need for the proponent to share reports, studies, and other documents that could better inform the Nova Scotia Mi'kmaq about the project and included a list of information requests from Pictou Landing First Nation.

As noted earlier Public Services and Procurement Canada will likely undertake a determination under section 82 of IAA, and will as part of this determination will undertake consultation with affected Indigenous communities for portions of the Project that fall on federal lands, including potential impacts of the effluent. Fisheries and Oceans Canada, Environment and Climate Change Canada, Transport Canada, and Health Canada are also expected to have responsibilities under section 82 and/or expertise to provide to the section 82 determination. As stated in section 84 of IAA, a federal authority must base their section 82 determination of whether the Project is likely to cause significant adverse environmental effects in consideration of a number of factors, including any adverse impact that the Project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act, 1982* and Indigenous knowledge provided with respect to the Project.

Federal authorities also have the ability to set conditions, related to their mandates, in their respective authorizations and/or licence approvals that may address or mitigate some concerns from Indigenous communities. Public Services and Procurement Canada must seek an Order-In-Council to obtain the authority to authorize the use of the federal seabed for the construction and operation of the pipeline component of the Project, including the diffuser. The requirement to seek an Order in Council, as well as the flexibility that Public Services and Procurement Canada has to attach a broad range of conditions to its licences, provides a mechanism to address outstanding adverse impacts on Aboriginal or Treaty rights. Federal authorities can also withhold an authorization or lease if they feel that the proponent has not or cannot adequately address these concerns. Federal departments are actively discussing how to best collaborate and coordinate their consultation duties and determination of effects on behalf of the federal Crown. On November 8, 2019 a joint letter from Fisheries and Oceans Canada, Health Canada, Transport Canada, and Public Services and Procurement Canada to Pictou Landing First Nation, outlined their commitment to meaningful consultation prior to any department making a decision that could have an adverse impact on Aboriginal or Treaty rights. They indicated that they had proactively requested to participate in the provincial-led consultation, which is being coordinated through the Nova Scotia Office of Aboriginal Affairs, in advance of the commencement of a federal regulatory or authorization process. Should federal authorizations be required, federal departments stated that they are committed to continue consulting jointly with Pictou Landing First Nation.

Based on these considerations, the Agency is of the view that while there is the potential for the Project to cause adverse impacts on the rights that are recognized and affirmed by section 35 of the *Constitution Act, 1982* (section 35 rights), existing legislative mechanisms, including the provincial environmental assessment



and approvals process and the federal section 82 determination, would include Indigenous consultation and opportunities to address or mitigate impacts to the rights of Indigenous peoples caused by the Project.

Regional and strategic assessments

There are no regional or strategic assessments pursuant to sections 92, 93 or 95 of IAA that are relevant to the Project.

Conclusion

The Agency, is of the view that the Project has the potential to cause adverse effects within federal jurisdiction as described in section 2 of IAA, including impacts to fish and fish habitat and on the Indigenous fisheries in the Northumberland Strait, and adverse direct or incidental effects. There is also a high level of public concern related to these effects. However, the Agency considers that the provincial environmental assessment, the federal section 82 determination under IAA, and additional regulatory compliance and approval processes that apply to the Project are sufficient to address potential adverse effects within federal jurisdiction and adverse direct or incidental effects – including the impacts on Aboriginal and treaty rights – and public concerns related to those effects.

To inform its analysis, the Agency considered input from the proponent, federal authorities, the Province, Indigenous communities, the requesters, and information in the public domain.



ANNEX I

Annex I: Potential Federal and/or Provincial Legislation and Authorizations Relevant to the Project

Authorization/Legislation	Description
Federal Legislation	
<i>Pulp and Paper Effluent Regulations</i>	<ul style="list-style-type: none"> • Pulp and paper effluent discharge is subject to the <i>Pulp and Paper Effluent Regulations</i>, under the <i>Fisheries Act</i> and administered by Environment and Climate Change Canada. • The purpose of the <i>Pulp and Paper Effluent Regulations</i> is to manage threats to fish, fish habitat, and human health from fish consumption by limiting the deposit of deleterious substances into fish bearing waters from pulp and paper mills. • The <i>Pulp and Paper Effluent Regulations</i> also require the operator to conduct environmental effects monitoring studies to identify and investigate potential effects of mill effluent on fish, fish habitat, and the use of fisheries resources on a site-specific basis • While significant improvements in the quality of the effluent from pulp and paper mills have been achieved since the <i>Pulp and Paper Effluent Regulations</i> were first published in 1971, environmental effects monitoring studies have shown that the effluent from 70% of pulp and paper mills are impacting fish and/or fish habitat and the impacts at 55% of these mills are indicative of a higher risk to the environment ¹⁷. • These results, plus the diversification in the pulp and paper industry around the products being made from wood, have shown a need to modernize the <i>Pulp and Paper Effluent Regulations</i> to improve environmental protection. As a result, Environment and Climate Change Canada is leading a review of the <i>Pulp and Paper Effluent Regulations</i>, which has a current target date of 2021 for publication of the final version. • Environment and Climate Change Canada has indicated that once implemented, it is expected that the Project will be required to immediately comply with the provisions of the new <i>Pulp and Paper Effluent Regulations</i>.
Section 82 the IAA Determination	<ul style="list-style-type: none"> • Portions of the Project, including the marine portions of the pipeline and the diffuser, will cross federal lands in Caribou Harbour and in the Northumberland Strait that are administered by Public Services and Procurement Canada and possibly Transport Canada. • In accordance with section 82 of IAA, federal authorities may not exercise a

¹⁷ <http://publications.gc.ca/site/eng/9.696144/publication.html>

Authorization/Legislation	Description
	<p>power or perform a duty or function that could permit the portions of the Project on federal land to proceed unless they determine that the Project is not likely to cause significant adverse environmental effects or those effects are found justified by the Governor in Council.</p> <ul style="list-style-type: none"> Public Services and Procurement Canada, and likely Transport Canada, Fisheries and Oceans Canada and Environment and Climate Change Canada are expected to have responsibilities under section 82 due to the potential for them to be required to issue an authorization that could permit the portions of the Project located on federal lands to proceed. The determination must involve consideration of adverse impacts that the Project may have on the rights of Indigenous peoples that are recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i>; Indigenous knowledge; community knowledge; comments received from the public; and mitigation measures Under IAA, federal authorities conducting a section 82 determination are required to publish both a notice of a proposed project and a decision on the significance of effects on the Agency website. A section 82 determination also requires a 30 day public comment period. Public Services and Procurement Canada in particular has indicated that it has the ability to attach a broad range of conditions to its licences, potentially including mitigation, monitoring and follow-up that result from the determination made under section 82 of the IAA, as well as responding to issues identified through consultation with Indigenous groups.
	<p>Federal Authorizations</p>
Seafloor licence	<ul style="list-style-type: none"> Under the <i>Federal Real Property Regulations</i> made pursuant to the <i>Federal Real Property and Federal Immovables Act</i>, Public Services and Procurement Canada must seek an Order-In-Council to obtain the authority to authorize the use of the federal seabed for the construction and operation of the pipeline component of the Project, including the diffuser. Public Services and Procurement Canada has the ability to attach terms or conditions to a seafloor licence. All requirements for the duty to consult with Indigenous communities must be adequately fulfilled to issue the licence. Before authorizing the seabed licence, Public Services and Procurement Canada will determine the viability of the proposal, based on the following criteria: <ul style="list-style-type: none"> the requirements and necessary protocols under applicable federal legislation, including the <i>Fisheries Act</i> and the <i>Canadian Navigable</i>

Authorization/Legislation	Description
	<p><i>Waters Act</i>, are met, and that the proponent has obtained the required permits under these and other applicable legislation for the Project to proceed;</p> <ul style="list-style-type: none"> ○ all applicable obligations under IAA pertaining to the Project have been fulfilled; and ○ the requirements of any other applicable federal, provincial and territorial regulatory reviews are met. <ul style="list-style-type: none"> • Public Services and Procurement Canada is required to make a determination under section 82 of IAA prior to granting a seafloor licence, which would include consideration of adverse impacts that the Project may have on the rights of Indigenous peoples that are recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i> and Indigenous knowledge. • The licence application has not yet been submitted for review. • Public Services and Procurement Canada has indicated that it has the ability to attached a broad range of conditions to its licences
<i>Fisheries Act</i>	<ul style="list-style-type: none"> • Any activity that results in the death of fish or the harmful alteration, disruption or destruction of fish habitat will need authorization under the <i>Fisheries Act</i>. The authorization process includes mandatory consideration of Indigenous knowledge and Indigenous consultation. • Fisheries and Oceans Canada reviews physical impacts from proposed construction projects to determine whether it is likely to result in: <ul style="list-style-type: none"> ○ the death of fish by means other than fish and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the <i>Fisheries Act</i>, ○ the introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the <i>Aquatic Invasive Species Regulations</i>. • Both on-land (watercourse or wetland alterations) and in-water portions will be subject to regulatory review under the <i>Fisheries Act</i>. • Fisheries and Oceans Canada will participate in the determination, under section 82 of IAA prior to granting a <i>Fisheries Act</i> authorization for the portions of the Project located on federal lands, which would include consideration of adverse impacts that the Project may have on the rights of Indigenous peoples that are recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i> and Indigenous knowledge.

Authorization/Legislation	Description
	<ul style="list-style-type: none"> • Fisheries and Oceans Canada has stated that any potential <i>Fisheries Act</i> authorization for the Project would be limited to physical footprint of the construction activities for the pipe and pipe outfall. • Fisheries and Oceans Canada has indicated to the proponent that additional information about the marine and freshwater fish habitat and construction methodology for the proposed pipeline route is required to determine if an authorization is required under the <i>Fisheries Act</i>.
<i>Species at Risk Act</i>	<ul style="list-style-type: none"> • Fisheries and Oceans Canada's role includes a review of the Project to determine whether it is likely to affect listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the <i>Species at Risk Act</i>, unless permitted. • The <i>Species at Risk Act</i> review include both impacts from the physical footprint of the construction activities and impacts from the effluent on species listed as threatened or endangered on Schedule 1 of the <i>Species at Risk Act</i> if required, in collaboration with Environment and Climate Change Canada's review under the <i>Pulp and Paper Effluent Regulations</i>. • If required, the <i>Species at Risk Act</i> permit application process would also include Indigenous consultation. • Fisheries and Oceans coordinate the review under the <i>Fisheries Act</i> and <i>Species at Risk Act</i> and this process would also feed into the section 82 determination under IAA for the portions of the Project occurring on federal land.
<i>Migratory Birds Convention Act, 1994</i>	<ul style="list-style-type: none"> • Prohibits the deposit of harmful substances into waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area. • Also prohibits the disturbance or destruction of migratory bird nests and eggs in Canada. • Activities affecting migratory birds and/or their nests and eggs, regardless of their scale, the level of potential detrimental effects on bird populations, or the nature of mitigation measures taken, can result in violations of the <i>Migratory Bird Regulations</i>. • Environment and Climate Change Canada has stated that they cannot provide authorizations or permits for the incidental take of migratory bird nests and eggs.
<i>Canadian Environmental Protection Act, 1999</i>	<ul style="list-style-type: none"> • Environment and Climate Change Canada may issue a permit under the <i>Canadian Environmental Protection Act, 1999</i> for the disposal of dredged

Authorization/Legislation	Description
	<p>materials at sea.</p> <ul style="list-style-type: none"> • The permitting process may include public meetings where proponents are expected to address any concerns raised by reviewers, Indigenous communities, and stakeholders. • If issuing a permit for disposal at sea, Environment and Climate Change Canada will need to make a determination under section 82 of IAA before issuing the permit for the in-water portions of the Project occurring on federal land. • An application has not yet been submitted for review.
<i>Canadian Navigable Waters Act</i>	<ul style="list-style-type: none"> • Transport Canada may issue an authorization issued under the <i>Canadian Navigable Waters Act</i> for the in-water construction portion of the pipe. • The authorization process would include Indigenous consultation. • The authorization process is expected to include a section 82 determination under IAA on the in-water portions of the Project occurring on federal land. • An application has not yet been submitted for review.
Provincial Legislation and Authorizations	
<i>Nova Scotia Environment Act</i>	<ul style="list-style-type: none"> • Nova Scotia Environment determined that a Class 1 provincial environmental assessment is required, as the Project is considered a 'modification to an existing undertaking' under Nova Scotia's Environmental Assessment Regulations. • Several federal departments are participating in the provincial environmental assessment and providing expert advice, including Fisheries and Oceans Canada, Transport Canada, Environment and Climate Change Canada, Health Canada, and Public Services and Procurement Canada. • The Project was registered with Nova Scotia Environment on February 7, 2019. • On March 29, 2019, the provincial Minister of the Environment determined that the information presented in the Registration Document was insufficient to make a decision and a Focus Report is required. The decision identified a number of deficiencies that informed the development of the Terms of Reference for the Focus Report, including those related to baseline data requirements and the chemical characterization of the effluent. • Federal departments provided expert advice on the Registration Document and supported the development of the Terms of Reference. They are also reviewed the Focus Report submitted on October 2, 2019 and provided expert advice to the Province on November 8, 2019. • Following the review period on the Focus Report the provincial Minister of Environment must decide one of the following: a) undertaking is approved; b) EA

Authorization/Legislation	Description
	<p>report required; or c) undertaking is rejected. The Minister's decision is required December 17, 2019.</p> <ul style="list-style-type: none"> • If approved, the Environmental Assessment Approval would contain enforceable terms and conditions.
<i>Nova Scotia Industrial Approval</i>	<ul style="list-style-type: none"> • If the proponent's Focus Report is approved by the Province, the Project will require a new Industrial Approval in accordance with the <i>Activities Designation Regulations (Nova Scotia Environment Act)</i>. • If granted, the Industrial Approval would include enforceable terms and conditions. • Nova Scotia Environment has the ability to require, through enforceable conditions of the Industrial Approval, stricter conditions on the effluent than the current version of the <i>Pulp and Paper Effluent Regulations</i>. • Nova Scotia Environment would seek input from Environment and Climate Change Canada during the review of the Industrial Approval Application. • As a condition of the proponent's current Industrial Approval, it must ensure that emissions from the facility do not exceed maximum permissible ground level concentrations specified in Schedule A of the provincial <i>Air Quality Regulations</i>. This requirement is expected to also apply to new Industrial Approval. • The Industrial Approval is also expected to address any new emissions that occur as a result of incineration of sludge from the new treatment facility.
<i>Nova Scotia Wetlands Alteration Approval</i>	<ul style="list-style-type: none"> • Nova Scotia's <i>Activities Designation Regulations (Nova Scotia Environment Act)</i> requires an approval for certain activities or "alterations" that impact wetlands. • Any approval to alter a wetland would require wetlands to be restored elsewhere to offset any loss during the alteration process.

ANNEX II

Annex II: Analysis Summary Table

Impact Assessment Act, Subsection 9(1)	Effects and Concerns	Mitigation Proposed by the Proponent, Relevant Legislative Mechanisms, and Advice from Federal Authorities
<p>A change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i></p>	<p>In letters from organizations representing the fishing industry surrounding the Northumberland Strait, concern was expressed regarding the potential for dioxins, furans, heavy metals and oxygen-depleting nutrients to be present in the effluent, and the associated potential impact to fish, shellfish, crustaceans, marine animals in various juvenile and adult life stages. Concern was also expressed regarding the temperature of the effluent and the effect of the freshwater input. Submissions noted that the effluent may cause effects beyond Nova Scotia, specifically to Prince Edward Island and New Brunswick.</p> <p>The letters also identified potential issues relating to ice, including damage to diffusers and the pipe itself, as well as difficulty in timely identification of leaks and inaccessibility to repair damage to the pipe during periods when ice is present. Additional issues include how ice presence would affect dispersion of contaminants in the effluent released into the area.</p> <p>The February 25, 2019 submission from the fishing industry pointed to a lack of baseline data and field work completed by the proponent to support the findings in the provincial Registration Document, and noted that a breakdown of the contents of the effluent was not disclosed.</p> <p>In a joint submission to the Minister, the Gulf Nova Scotia Fleet Planning Board, Pictou Land First Nation, Maritime Fishermen's Union, and the Prince Edward Island Fishermen's Association</p>	<ul style="list-style-type: none"> • Potential <i>Fisheries Act</i> authorization for the physical construction footprint of the pipe and pipe outfall. • Fisheries and Oceans Canada indicated that they anticipate that the impacts to fish and fish habitat from the physical construction activities will not be significant in nature after the implementation of mitigation measures, including offsetting and that they can be managed through Fisheries and Oceans Canada's existing regulatory processes. • The effluent is regulated under the <i>Pulp and Paper Effluent Regulations</i>. • Environment and Climate Change Canada believes that compliance with the <i>Pulp and Paper Effluent Regulations</i> can manage adverse effects for the associated regulated parameters. • Nova Scotia Environment has the ability, through enforceable conditions of the required Industrial Approval, to impose stricter conditions on the effluent than what is required by the <i>Pulp and Paper Effluent Regulations</i>. Environment and Climate Change Canada will provide advice to Nova Scotia Environment during this process. • Any dredged materials that require disposal at sea would be regulated by and may require

expressed concern for the cumulative effects of contaminant loading in the Northumberland Strait, referencing a 2007 study by AMEC Earth & Environmental that identified dead zone areas in the Northumberland Strait that lack oxygen due to excessive nutrient inputs. The group requested a more in depth assessment on cumulative effects in the Northumberland Strait that would come with a federal environmental assessment.

One submission included a brief summary of work that has been done over the years related to the negative effects of some of these contaminants. It was noted that the majority of the research focused on each contaminant independently and its effect on a specific species and that very little work has been undertaken with respect to cumulative effects. In addition, they state that contaminants are often studied for their acute impact on marine life, but their long-term and chronic effects can be very important, especially on growth and reproductive health.

Fisheries and Oceans Canada advised that there is potential for the Project to cause adverse effects on fish and fish habitat during the construction of the pipeline and outfall.

Environment and Climate Change Canada identified the potential for adverse effects to water quality from the release of treated effluent into the Northumberland Strait, which could impact fish and fish habitat.

For parameters not regulated under the *Pulp and Paper Effluent Regulations* (for example, salinity, temperature nutrients and heavy metals), Health Canada, Pictou Landing First Nation, and stakeholders identified potential adverse effects in areas of federal jurisdiction,

permitting under the *Canadian Environmental Protection Act, 1999*.

- Environment and Climate Change Canada stated that if a disposal at sea permit is issued, a post-deposit monitoring assessment of the disposal site(s) is required.
- Section 82 of IAA requires the determination of the significance of environmental effects by federal authorities in relation to the issuance of permits or authorizations required for portions of the Project located on federal lands, including the outfall and diffuser. The authorization application processes for federal departments include consultation with Indigenous groups.
- Provincial Class 1 environmental assessment with input from Environment and Climate Change Canada, Fisheries and Oceans Canada, Public Services and Procurement Canada, Transport Canada, and Health Canada.
- Nova Scotia Environment required that characterization of the effluent be addressed as part of the provincial Focus Report, which is currently under review.

	<p>including on the health of Indigenous peoples or fish and fish habitat.</p> <p>Environment and Climate Change Canada also identified the potential for adverse effects to water quality from the disposal at sea of sediments dredged from the pipeline routing, which could impact fish and fish habitat.</p>	
<p>A change to aquatic species, as defined in subsection 2(1) of the <i>Species at Risk Act</i></p>	<p>Fisheries and Oceans Canada advised that as proposed, there is potential for the Project to cause adverse effects on aquatic species at risk during the construction of the pipeline and outfall.</p> <p>The proponent stated there are no known marine fish occurring in the local assessment area listed under the <i>Species at Risk Act</i> or the Nova Scotia <i>Endangered Species Act</i>; however, the proponent identified ten species of conservation concern assessed by the <i>Committee on the Status of Endangered Wildlife in Canada</i> with potential to occur in the area.</p>	<ul style="list-style-type: none"> • Fisheries and Oceans Canada will review the Project to determine whether it is likely to affect listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under the <i>Species at Risk Act</i>, unless authorized. • Fisheries and Oceans Canada have indicated that impacts on Schedule 1 listed species potentially to be found in the vicinity of the Project will not likely be significant in nature after the implementation of mitigation measures and that they can be managed through Fisheries and Oceans Canada's existing regulatory processes.
<p>A change to migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i></p>	<p>Environment and Climate Change Canada stated that effects to water quality could impact migratory birds.</p>	<ul style="list-style-type: none"> • The proponent is required to comply with the <i>Migratory Birds Convention Act, 1994</i> when carrying out the Project. Environment and Climate Change Canada indicated that given the nature of the Project, any potential harm to migratory birds that may occur should be addressed through standard management practices and the appropriate timing of construction activities.
<p>A change to the environment that would occur on federal lands</p>	<p>Portions of the Project will cross federal lands along the ferry terminal property, in Caribou Harbour, and in the Northumberland Strait that are</p>	<ul style="list-style-type: none"> • Section 82 of IAA requires a determination of whether the carrying out of the Project is likely to cause significant adverse

	administered by Public Services and Procurement Canada or Transport Canada.	environmental effects by federal authorities in relation to the issuance of permits or authorizations required for portions of the Project located on federal lands. The authorization application processes include consultation with Indigenous groups.
A change to the environment that would occur in a province other than the one in which the project is being carried out or outside Canada	<p>Environment and Climate Change Canada identified the potential for adverse effects to water quality from the release of treated effluent into the Northumberland Strait and disposal at sea of sediments dredged from the pipeline routing, which could cause transboundary effects to fish and fish habitat outside of Nova Scotia.</p> <p>The local fishing industry has noted in some of their submissions that the effluent may cause effects beyond Nova Scotia, specifically to Prince Edward Island and New Brunswick.</p> <p>With respect to greenhouse gas emissions, the proponent determined that emissions from the Northern Pulp Mill were 69,870 tonnes of CO_{2eq} emitted in 2016¹⁸, which is 0.45% of the total greenhouse gas emissions for Nova Scotia and 0.01% of the total greenhouse gas emissions for Canada.</p> <p>The proponent stated that total greenhouse gas emissions during the construction of the Project will be negligible and has predicted that greenhouse gas emissions from the new effluent treatment facility to be similar to the existing facility emissions during operations. Furthermore, the proponent believes that the diversion of sludge from the treatment facility for combustion in the power boiler has the potential to</p>	<ul style="list-style-type: none"> • Mitigation, legislative mechanisms and advice from federal authorities related to a change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i> also apply to a change to the environment that would occur in a province other than the one in which the project is being carried out or outside Canada. • The Project is subject to federal greenhouse gas emissions reporting, pursuant to the <i>Canadian Environmental Protection Act, 1999</i>.

¹⁸ Environment and Climate Change Canada (ECCC). 2018b. Canada's Greenhouse Gas Reporting Program.

	<p>displace the use of fossil fuels and further reduce the overall greenhouse gas emissions from the Northern Pulp Mill.</p> <p>As a result, the proponent concluded that the overall greenhouse gas emission contribution to climate change would be insignificant compared to both Nova Scotia's and Canada's emissions.</p>	
With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any change to the environment - on physical and cultural heritage	<p>The proponent determined that the potential for Indigenous peoples heritage resources to be present within the project area is low, based on a review of the Canadian Registry of Historic Places 2019.</p>	<ul style="list-style-type: none"> Heritage resources in Nova Scotia are protected under the Nova Scotia <i>Special Places Protection Act</i>, which protects important archaeological, historical, and paleontological resources both on land and underwater and is enforced by the Nova Scotia Department of Communities, Culture and Heritage.
With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any change to the environment - on current use of lands and resources for traditional purposes	<p>Environment and Climate Change Canada identified the potential for adverse effects to lands and resources used for traditional purposes due to impacts to Indigenous fisheries.</p> <p>Pictou Landing First Nation, supported by the Nova Scotia Assembly of Mi'kmaq Chiefs, Millbrook First Nation, and Sipekne'katik First Nation, expressed strong concern that the Project will impact the Mi'kmaq communal commercial fishery.</p> <p>Furthermore, the proponent identified potential effects from the Project during construction and operation on fish and fish habitat, migratory birds, and resources important to Pictou Landing First Nation's fishing, harvesting, cultural or recreational activities.</p>	<ul style="list-style-type: none"> Mitigation, legislative mechanisms and advice from federal authorities related to a change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i> and a change to migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i> also apply to an impact - occurring in Canada and resulting from any change to the environment - on current use of lands and resources for traditional purposes.
With respect to the Indigenous peoples of Canada, an impact - occurring in Canada and resulting from any	<p>The proponent has determined that the potential for terrestrial heritage resources to be present within the project area is considered low. The proponent's archeological studies</p>	<ul style="list-style-type: none"> Heritage resources in Nova Scotia are protected under the Nova Scotia <i>Special Places Protection Act</i>, which protects important archaeological,

change to the environment - on any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance	<p>indicated that most areas of the project footprint have low archaeological potential, except for two areas that will be avoided: Abercrombie Point registered archaeological site and a 150 meter long historic stone wall west of the proposed pipeline footprint, near Caribou Harbour.</p> <p>The proponent has committed to a 200 m archaeological “buffer” around the Abercrombie Point and will avoid construction activity near the stone wall. Other areas with archaeological potential will be subjected to shovel testing prior to construction.</p>	historical, and paleontological resources both on land and underwater and is enforced by the Nova Scotia Department of Communities, Culture and Heritage.
Any change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada	<p>Pictou Landing First Nation, supported by the Nova Scotia Assembly of Mi’kmaq Chiefs, Millbrook First Nation, and Sipekne’katik First Nation, has expressed strong concern that the Project will impact the Mi’kmaq communal commercial fishery and result in economic hardship to their community members.</p> <p>Concern was expressed that even if the proposed effluent meets regulated discharge limits, the change to the environment may affect current use, health and socio-economic conditions. They state that this would occur as a result of direct effects to water quality, fish and fish habitat and food quality, but also perceived effects of contamination.</p> <p>Pictou Landing First Nation has expressed concern that the cumulative effect of the loss of fishing in Boat Harbour and the potential adverse effect on fishing in the Northumberland Strait could deprive them of their ability to exercise their fishing rights.</p> <p>They also stated that the Project could negatively affect their health through water and air pollution.</p>	<ul style="list-style-type: none"> • Mitigation, legislative mechanisms and advice from federal authorities related to a change to fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i> also apply to any change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada. • The proponent's current provincial Industrial Approval prohibits its facility from exceeding maximum permissible ground level concentrations specified in Schedule A of the provincial <i>Air Quality Regulations</i>. This requirement is expected to also apply to new Industrial Approval and also regulate any new emissions that occur.

	<p>The Mi'kmaq Confederacy of Prince Edward Island expressed concern for the potential impacts from the Project on Indigenous food, social, and ceremonial fisheries taking place in the Northumberland Strait and a corresponding severe adverse impact on Aboriginal and treaty rights.</p> <p>Pictou Landing First Nation also expressed concern around the burning of contaminated sludge and the potential for increased risk to human health from airborne emissions was also identified.</p>	
Adverse direct or incidental effects	<p>Most of the potential effects linked or necessarily incidental to the federal licence and authorizations are already considered as an effect within federal jurisdiction; however, the following additional adverse direct or incidental effects were also identified:</p> <ul style="list-style-type: none"> • potential adverse direct or incidental effects on the health and socio-economic conditions of non-Aboriginal persons, including commercial fisheries and tourism; • wetland alterations; • effects on marine mammals; and • effects on non-migratory sea birds (e.g. cormorants). 	<ul style="list-style-type: none"> • Section 82 of IAA requires the determination of the significance of environmental effects by federal authorities in relation to the issuance of permits or authorizations required for the portions of the Project on federal lands to proceed. • Fisheries and Oceans Canada may issue an authorization under the <i>Fisheries Act</i> for the in-water construction of the pipe. • Environment and Climate Change Canada may issue a permit under the <i>Canadian Environmental Protection Act, 1999</i> for disposal of dredged materials at sea. • Transport Canada may issue an authorization issued under the <i>Canadian Navigable Waters Act</i> for the in-water construction portion of the pipe. • Provincial Class 1 environmental assessment with input from Environment and Climate Change Canada, Fisheries and Oceans Canada, Public Services and Procurement

Canada, Transport Canada, and Health Canada.

- Nova Scotia Environment may issue a wetland alteration approval, which, if granted, would require offsetting.