

FRIENDS OF THE NORTHUMBERLAND STRAIT

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February 19, 2019

Canadian Environmental Assessment Agency
200-1801 Hollis Street
Halifax, Nova Scotia B3J 3N4

Email: CEAA.BoatHarbour.ACEE@canada.ca

Dear Sir or Madam:

RE: Northern Pulp Nova Scotia - Environmental Assessment Registration Document - Replacement Effluent Treatment Facility

Friends of the Northumberland Strait (“FONS”) request that the Minister of Environment and Climate Change designate the Northern Pulp Nova Scotia Replacement Effluent Treatment Facility proposal as a physical activity subject to an environmental assessment pursuant to the *Canadian Environmental Assessment Act, 2012* (“Act”).

Northern Pulp Nova Scotia (“NPNS”) recently registered an Environmental Assessment Registration Document - Replacement Effluent Treatment Facility (“RETF”) with the Province of Nova Scotia. We understand that the Canadian Environmental Assessment Agency (“CEAA”) is in receipt of NPNS’s proposal and that it is currently reviewing feedback it has received from Pictou Landing First Nation, local stakeholders, and the public as to whether it should recommend a federal environmental assessment be conducted regarding this project proposal.

We provided a letter to you dated September 19, 2018 establishing why FONS believes the Minister of Environment for the Province of Nova Scotia is unable to conduct an unbiased assessment of the RETF because of significant conflicts of interest. At your direction, we will not resubmit this letter to you, but we do ask that it be considered when making a designation decision.

Paragraph 14 (2) of the *Act* states,

“The minister may, by order, designate a physical activity that is not prescribed by regulations made under paragraph 84(a) if, in the Minister’s opinion, either the carrying out of the physical activity may cause adverse environmental effects or public concerns related to those effects may warrant the designation.”

FONS submits that NPNS's proposal to pump treated from its onsite treatment facility, through the Town of Pictou's watershed, and into the Northumberland Strait, certainly may, and we believe will, cause adverse environmental effects.

The Northumberland Strait is a unique ecosystem that is home to valuable fishing grounds which are fished commercially, for recreational and individual food use, and by the Pictou Landing First Nation community. The Strait is an important multi-species commercial fishery for rural communities and rural economies in Nova Scotia, PEI and New Brunswick. It is also an important food and commercial fishery for Pictou Landing First Nation.

The Northumberland Strait is part of the Gulf of St. Lawrence, which is itself a unique ecosystem with unusual flushing patterns. What happens in the Northumberland Strait should be looked at in the context of the broader Gulf, and visa-versa. To give just two examples:

1. Warming and de-oxygenation: An article in the Times & Transcript, September 28, 2018, notes, "A University of Washington study shows the Gulf of St. Lawrence is losing oxygen faster than almost anywhere else in the world's oceans, threatening a range of species vital to the Maritime economy."

2. Herring: Northern Pulp's proposed effluent outfall point is located in the middle of the last major active spawning area for Area 16F herring. Herring stocks have been declining and DFO has designated herring as a "low caution" stock, the step before critical. DFO is watching the fishery closely to determine if it will remain viable. Herring spawning grounds have compressed in the past few years as the stock has declined. Very little herring spawning occurs anywhere else in the Eastern Gulf.

The Strait is also a key part of the tourist economy of Pictou County, NS and of PEI.

The Strait is beloved by those who live in the area and visitors alike. Its beaches and warm, clean waters are enjoyed by those who swim, kayak, beach comb, and sail. An effluent pipe into the Strait has the potential of having a devastating effect on the community, its key economies, and its sense of well-being, as well as the eco-system itself.

At page 489 of RETF, it is disclosed that,

"At this time, effluent characteristics (including the specific substances present in treated effluent and their anticipated concentrations) will not be known with certainty until the project is operational."

The RETF provides no information about the composition of effluent that the company plans to release into the Northumberland Strait. Although the RETF makes assumptions throughout its registration document as to the composition of the effluent and the effect on the environment, page 508 of the RETF also admits that,

"Effluent constituents and their concentrations are a function of mill-specific differences in process technology and operations and differences in wood types processed."

As such, any conclusions set out in the RETF are based on assumptions about the effluent. The actual characteristics of the effluent will not be known until after the proposed pipe is installed. Any adjustments needed to address the presence of harmful substances in the effluent may take several years to address. In the interim, adverse environmental effects may occur.

Although it is not known what the effluent characteristics of the RETF will be, the characteristics of the raw effluent which currently flows from NPNS was provided to us by Ken Swain, project leader of the Boat Harbour Remediation Project, a project of the Nova Scotia government. A copy of this data is attached. It is submitted that the effluent treatment system proposed by NPNS will not effectively treat or remove all the harmful substances which are shown to be currently present in NPNS's raw effluent. The harmful substances will flow into the fishing grounds of the Northumberland Strait and may cause adverse environmental effects.

Additional information that highlight the harmful substances which are currently present in NPNS's raw effluent was obtained by Nova Scotia Environment when there was a leak in NPNS's effluent pipe in 2014. Following the leak, NPNS plead guilty to charges of unlawfully depositing or permitting the deposit of a deleterious substance, namely pulp and paper effluent, in water frequented by fish, or in any place under conditions where the deleterious substance may enter such water, contrary to subsection 36(3) of the *Fisheries Act*. As a result, NPNS committed an offense contrary to subsection 40 (2) of the *Fisheries Act* and was fined and placed on the Environmental Offenders Registry pursuant to the *Environmental Enforcement Act*. The effluent leak test results can be found on Nova Scotia Environment's website, through this link:

<https://novascotia.ca/nse/issues/docs/northern-pulp-effluent-leak-results.pdf>

The ability of NPNS to comply with the terms of its Industrial Approval which require the inspection of its pipe and the installation of real time flow monitors is questioned. NPNS's effluent pipe to its current treatment facility in Boat Harbour has leaked three times in the past decade, most recently in October, 2018. No information about the 2018 leak has been made available to the public by Nova Scotia Environment, relating to amount of effluent leaked, its composition, or why the leak was only detected by a neighbor out for a walk, and not by the company. Attached is a copy of "Northern Pulp Effluent Leak Backgrounder", prepared by FONS, which sets out our concerns. NPNS's past history with leaks in its effluent pipe does not give confidence in NPNS's ability to operate or monitor a new effluent pipe in a way that does not cause adverse effects to the environment.

FONS also has concerns regarding Nova Scotia Environment's monitoring procedures. In a report to the House of Assembly on November 1, 2017, Nova Scotia's Auditor General stated the following:

"...we reported on the effectiveness of the Department of Environment's environmental assessment process, including approvals and monitoring. Overall, we found that Nova Scotia's monitoring of the terms and conditions on approved projects was poor...On top of this, I am quite concerned that the Department of Environment has not determined if the terms and conditions it sets are working to reduce the risks to the environment. Not

checking to see that certain requirements are met, and not knowing if those requirements are effective, weakens the whole approval process.”

The Auditor General added, “Simply meeting legislative requirements does not guarantee an approval process is adequate, and as our work shows, more needs to be done.”

FONS has prepared the attached backgrounder, called “Meeting Regulation is not the same as Protecting Fisheries from Harm”, which further expands on the Auditor General’s conclusion, and sets out the various ways the fishery can be adversely effected despite regulations being met. We illustrate our point by quoting from a consultation document prepared by Environment and Climate Change Canada, which states,

“EEM (environmental effects monitoring) studies have shown that the effluents 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.”

We have since learned, through testimony given by Environment and Climate Change Canada to the Prince Edward Island Standing Committee on Agriculture and Fisheries, that NPNS is one of the 70% of pulp mills whose effluent is impacting fish and/or fish habitat. In the last two 3-year cycles of EEM monitoring, effluent from Northern Pulp’s present facility was found to be having impacts on fish or fish habitat. The company has not yet identified the cause.

FONS suggests that it is clear that the RETF may cause environmental effects. The RETF registration document filed by NPNS does not provide sufficient information or study to demonstrate that there will be no adverse environment effects. The lack of information and study is of concern to FONS. NPNS suggests that it will provide additional information and studies in the future, and if they are required to do so. FONS has significant concerns with this approach due to the nature of the environmental assessment process chosen by Nova Scotia Environment.

Nova Scotia Environment chose to proceed by way of a Class 1 environmental assessment. This class of assessment allows for only 30 days of public consultation following the registration of a proposal by a proponent. In this case, the public has until March 9, 2019 to read, analyse, and respond to NPNS’s RETF proposal which consists of 614 pages and an additional 41 appendices which together total approximately 1700 pages. In comments to CBC’s Jean Laroche on February 7, 2019, Environment Minister Miller acknowledged that the proposal could be a challenge for Nova Scotians to assess when she stated, “I don’t know that the public is really going to be able to fully digest everything that’s been submitted.”

In addition to the time constraints for the public to reply, a Class 1 environmental assessment does not include provisions for the public to reply to information or studies filed by a proponent after the 30 day public consultation period expires. Therefore, if and when NPSN files additional information on their proposal with Nova Scotia Environment, the public will have no right to review this additional information and provide comment. FONS suggests that Nova Scotia Environment should not have permitted NPNS to register its proposal until all information has

been filed and all studies have been completed. The result of this chosen process is that the public is denied an opportunity to provide valuable and important input to the entire proposal.

Due to the volume of material submitted, the short period of time for the public to respond to the proposal as per the terms of a Class 1 environmental assessment, and the inability of the public to review and respond to additional information submitted by NPNS, FONS submits that the requirement for public participation in the provincial environment assessment will not be fulfilled.

It must be noted that in addition to the public consultation period being limited to 30 days under the provincial Class 1 assessment process, Nova Scotia Environment has stated in correspondence to NPNS that public consultation is not required during the negotiation of new terms for NPNS's Industrial Approval which will be required to reflect the RETF. Once again, public participation in the process will not be fulfilled.

The public has significant concerns about the RETF and its environmental effects. Through emails, letters and other communication, we understand that CEAA has received over 5000 expressions of concern from the public. The level of public concern is also demonstrated by the significant media attention that this issue has attracted locally, nationally, and internationally.

FONS is also concerned about the lack of consultation on the project as filed on January 31, 2019. The project has many differences from the original project on which the public was consulted. The outfall location is different, the components of the proposed ETF itself differ in many ways from the original proposal, the proposed on-land pipe route which runs through the Town of Pictou watershed is new, and no specifics of the 4 km marine pipe route through an important marine habitat have been provided except for its entry point and the outfall location.

There was a high level of public engagement at the open houses arranged by NPNS on the original proposal. The open houses held by NPNS in December 2017 provided information to the public about the initial ETF system and the first pipe route chosen by NPNS which was located in Pictou Harbour. Once it was determined by NPNS that the Pictou Harbour route was not workable, a new pipe route was chosen which has the pipe running out through Caribou Harbour. Although NPNS made a commitment to hold public open houses to discuss the new Caribou Harbour route, NPNS reneged on this commitment and chose not to have any public consultation on the Caribou Harbour route. This also demonstrates a lack of opportunity for public participation in this process.

The addendum to the Receiving Waters Study providing information pertaining to the new outfall location was made available to the public in mid-January, 2019, only after FONS publicly criticized the lack of information available to the public. No other studies completed by Northern Pulp for the project were posted in advance of the filing on January 31, 2019, contrary to the company's commitment that studies would be shared with the public as they were completed.

We would also note that we have many concerns and questions as to the accuracy of information presented by Northern Pulp in the RETF. One area of concern relates to dispersion of effluent.

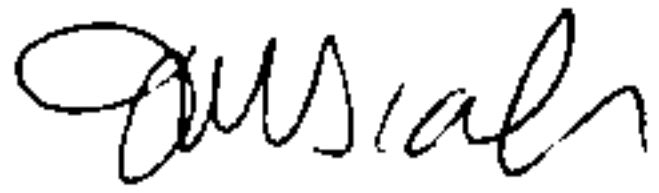
Due to the fact that we have only had access Northern Pulps RETF since February 7, we cannot provide a full analysis at this time.

FONS believes that NPNS and Nova Scotia Environment have misrepresented the current effluent treatment facility and its effects by repeatedly stating that treated effluent has been discharged into the Northumberland Strait for 50 years. They seem to imply that because pulp effluent has entered the Strait for 50 years no harm has been done and there is no worry if it continues. FONS has prepared the attached document, called "50 Years of Pulp Effluent" that disputes this claim.

We believe there must be sufficient time for independent analysis of the assertions made by Northern Pulp in its documents. As noted above, the 30-day time frame provided by the Nova Scotia Class 1 Environmental Assessment, combined with the lack of prior access to virtually all of the information in the RETF, does not provide time for meaningful public consultation. We believe the time frame provided by a federal environmental assessment would be more appropriate given the potential adverse environmental effects of this proposed project.

FONS submits that it is clear that the RETF proposal may cause adverse environmental effects, and that there is significant and widespread public concern related to those effects. FONS respectfully requests that the Minister designate the Northern Pulp Nova Scotia Replacement Effluent Treatment Facility proposal as a physical activity subject to an environmental assessment pursuant to the *Canadian Environmental Assessment Act, 2012* ("Act").

Yours truly,



Jill Graham-Scanlan
President

Northern Pulp Effluent Leak Issues Questions and Background

From 2008, when Northern Pulp Nova Scotia became owner of the mill at Abercrombie Point, to the present, there have been three reported effluent leaks. Two have taken place since Paper Excellence purchased the mill in 2011. All three leaks were discovered and reported by neighbors. The following is a brief summary of key information and issues relating to the leaks.

2018 Effluent Leak

1. **October 21, 2018 pipe break and effluent leak:** Leak was discovered by a neighbor out for a walk, who reported it to company. NP was not aware of the break until it was reported to them. The leak was untreated effluent, going through the pipe from the mill to the Boat Harbour treatment facility.
2. **Original pipe:** Mill General Manager Bruce Chapman told fishermen in a meeting on October 22, 2018, the day after the leak, that the leak was in a section of the original pipe.
3. **How much spilled?** No one appears to know how long the leak had been going on before it was reported Sunday am. A video taken on October 21 and posted on Facebook showed a significant flow. No information about the amount of the leak has been released by Northern Pulp or the provincial government. The only statements have been that it was less than the last leak. The last leak in 2014 was originally reported to be 4-5 million litres, but later information determined the leak was 47 million litres.
4. **Why didn't Northern Pulp know the pipe was leaking?**
Conditions of the 2015 Industrial Approval for Northern Pulp state in Section 7 (p 14) "The Approval Holder shall operate and maintain real time flow monitoring equipment at the end of the effluent transmission pipeline which is designed to immediately notify the Approval Holder in the event of a total loss of flow or a reduction of flow below normal operating conditions." If this system was in operation, how could a leak have remained unnoticed? Do records show any indications of a problem in the days before the leak?
5. **Pipe inspections required by Industrial Approval**
Conditions of Northern Pulp's 2015 Industrial Approval state in Clause 6 (m) (P 15):
k) The Approval Holder shall undertake a visual internal inspection in accordance with TAPPI Standard TIP -0402-28 , Best Practice for Inspecting Used Fibre Reinforced Plastic (FRP) Equipment as amended from time to time, to determine the current conditions and integrity of the FRP pipeline

components. The results of this inspections shall be submitted to the Department no later than September 15, 2015.

l) The Approval Holder shall undertake the inspection outlined in Condition 6(k) a minimum of once every 5 years unless the results of the inspection conducted under Condition 6(k) indicate a more frequent schedule is required.

m) The Approval Holder shall conduct an external inspection of the entire effluent pipeline, on an annual basis, for erosion, scouring, seepage, siltation, effluent plumes. The procedures utilized and the results of these inspections shall be submitted with the annual report for the Facility.

Knowing the age of the pipe, did Nova Scotia Environment require internal inspection more frequently than once every 5 years after 2015? When had the last internal inspection of the pipe taken place? When had the last external inspection of the pipe take place? What methods were used to carry out these inspections.

6. **After the October 2018 leak, did the provincial government require additional inspection to determine whether there were additional risks of leakage before allowing the pipeline to be put back into operation?**
 - a. Photo shows patched section of pipe before being replaced in the ground. Is this industry best practice?
 - b. From the appearance of the ground in the area several days after the event, it appeared that only the section of pipe that leaked was replaced. It does not appear that adjacent sections of pipe were dug up and inspected for potential leaks.
 - c. A newspaper report from 2008 shows that the government required that the system be shut down and backwashed to check for any additional leaks. At that time, it was found that there were additional, previously unidentified, breaks in the line which also required repair.
 - d. In 2018, the pipe was repaired and back in operation in less than two days. What measures were taken in 2018 to determine whether additional weak areas or breaks existed?
7. **Did effluent reach federal waters? Are federal agencies involved in the investigation?**

Photos show sandbags very close to the East River, below the high tide mark. Who determined whether or not to involve federal agencies?
8. **What does the effluent analysis of the 2018 leak show?**
 - a. In 2014, effluent analysis showed exceedences of six dioxins and furans.
 - b. There has been no information released about effluent analysis from the 2018 leak to determine whether there were any exceedences.
 - c. The effluent leak took place while the plant was in shutdown and undergoing maintenance. Industrial approval conditions specify that “h) The

Approval Holder shall ensure any waste dangerous goods generated during maintenance activities ... shall be disposed of at a facility approved to treat the particular waste. Disposal or discharge of these wastes to the Effluent Treatment System is strictly prohibited.”

2014 Effluent Leak

1. **2014 Pipe break and effluent leak:** The effluent pipe break of June 10, 2014 was also reported to Northern Pulp by a nearby resident. The company did not know about the 2014 break until it was reported to them.
2. **There had been no internal inspection of land-based portion of pipe since 2008 (6 years), despite the existence of an effluent pipeline inspection plan.**

The court decision found:

“Northern Pulp had an effluent-pipeline-inspection plan in place at the time of the effluent escape; however, there had not been an internal inspection of the land-based portion of the pipeline (which included the section where the pipeline-surface rupture occurred) since Northern Pulp had assumed responsibility for the operation and maintenance of the effluent pipeline and treatment facility in 2008 – this despite there having been several leaks that had required repair or replacement of sections of the pipeline in previous years. Regular external inspections of the pipeline had been done prior to the 10 June rupture.” http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf

3. **Deteriorated pipe:**

“[7] The effluent pipeline was described in the agreed statement as being thirty-six inches in diameter and made of fibreglass-reinforced plastic. It was constructed in multiple layers, including a corrosion liner and structural-filament-wound fibreglass. Inspection revealed that the effluent pipeline was in an advanced stage of deterioration at the rupture site. A five-foot section of the pipeline at that location had become completely delaminated, and layers of the pipeline had separated, reducing the pipeline’s pressure-bearing strength. There were visible cracks, leaks, and extensive erosion of the pipeline at the rupture site. A fourteen-inch oval hole was discovered at the bottom of the pipeline where the discharge occurred”. Pp 5-6 http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf

4. **“An accident waiting to happen”:** Judge Atwood stated in his decision, “... the delaminated condition of the section of the pipeline that ruptured indicates to me quite strongly that this was an accident waiting to

happen..." http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf

Federal lawyer Paul Adams told Judge Atwood the company had allowed the pipeline to "reach an advanced state of deterioration" leading to the leak of "toxic effluent." pp 16-17 "It had not been properly maintained and that led directly to the effects. There is a significant degree of blameworthiness attached to the offence," Adams told the court. <https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-mill-effluent-leak-fine-1.3504203>

5. **How much leaked??** The June 10, 2014 leak was described as 4-5 million litres by the company and by Nova Scotia Environment. There was no additional information provided about the amount of effluent leaked the case went to court in 2016. At that time, it was revealed that 47 million litres had leaked.
"Untreated pulp and paper effluent flowed from the pipeline break into a wetland area where it pooled before discharging into the adjacent East River/Pictou Harbor. An effluent plume extended into the East River. ... The investigation carried out by those regulatory agencies determined that a rupture in the effluent-discharge pipeline had resulted in the uncontrolled release of an estimated 47,000, 000 litres of untreated effluent into the surrounding environment. ..." http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf
6. **Partial clean-up:** Only a small fraction of the effluent which leaked was cleaned up. *"The pumping operation ran from 11 to 21 June 2014; during that time, a volume of approximately 2.2 million litres of effluent and water was evacuated and removed."* P 10. http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf
7. **2014 Charges under Federal Fisheries Act:** Northern Pulp was charged in 2014 under the Federal Fisheries Act for release of deleterious substance into fish habitat. The company pled guilty and was fined \$225,000. The leak was considered a first offence by the court.
8. **"Preventive measures":** Prior to the 2016 hearing into the 2014 leak, Northern Pulp spokeswoman Kathy Cloutier told CBC in October, 2015, "The entire line has now been inspected as a preventative measure to minimize the possibility of such a leak occurring again," she said. "During the June 2015 maintenance shutdown, Northern Pulp undertook proactive line repairs as part of ongoing preventative measures." <https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-leak-charge-1.3270154>

The section of the pipeline where the rupture occurred was replaced fully and reinforced. In addition, an internal inspection of the effluent pipeline was conducted and repairs were completed to other areas of

concern identified during the inspection in order to prevent a recurrence of effluent escape. Defence counsel advised the court during the sentencing hearing that Northern Pulp spent in the vicinity of \$400,000 to repair the pipeline. p 10 [19] http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf

9. **Impact on Pictou Landing First Nation (PLFN):** *“The truth of the damaging impact that the pulp mill at Abercrombie Point and its toxic effluent-treatment site at Boat Harbour has had on the well-being of the Pictou Landing First Nation—and continues to have—is so conspicuous and notorious as to be beyond dispute.”* Judge Del Atwood

10. **PLFN Community Impact Statement Excerpts:** Judge Atwood’s decision includes sections from Pictou Landing First Nation’s Community Impact Statement:

“We recently gathered on February 16, 2016 at a community meeting to talk about the impact of the effluent spill so that we could better prepare this statement. As Mi’kmaq we look at the world as four parts of a complete circle. The four parts represent the physical, the mental, the spiritual and the emotional. The impact of the 2014 pipeline leak has affected all four areas and was captured on a circle diagram made during the community meeting...

“The community members reported having been afraid of contamination in the river. They felt like victims all over again. They felt like they had let the environment down. They felt helpless. The Province has propped up the mill for so many years and still owns the pipeline. No charges were ever laid by the Province against Northern Pulp under the Environment Act or otherwise. They questioned why Northern Pulp was not held responsible. They asked why Northern Pulp was not required to replace the entire pipeline in the area of Indian Cross Point. They worry that another leak could occur again...

“The leak also sparked outrage in the community because it was so closely connected to the Boat Harbour treatment facility. Band Council organized a blockade of the right of way leading to the spill site. The blockade had the full support of the community and members took turns at the blockade. The community received support from the broader community but also received threatening messages as well. Some Pictou Landing First Nation members feared that closure of the mill might be blamed on them.”

http://www.courts.ns.ca/Decisions_Of_Courts/documents/2016nspc29.pdf , P 14

11. **“It was action by the Pictou Landing First Nation that brought about meaningful movement toward lasting environmental protection,”** Judge Del Atwood stated in his decision. *“As effective as the remedial steps taken*

by Northern Pulp might have been, it was action by the Pictou Landing First Nation that brought about meaningful movement toward lasting environmental protection.”

Judge Atwood further quoted from the PLFN Community Impact Statement:

“On a positive note, the community members acknowledged that the spill led to a blockade which shut down the mill for two weeks. While the mill was closed the community felt relief. The air pollution from the mill had stopped and the odours from Boat Harbour were not as strong as they had been. Members felt empowered by the blockade and more optimistic about the environment when the mill was closed.

The blockade also led to an agreement in principle with the Province to end the use of the Boat Harbour treatment facility and to remediate Boat Harbour. In March 2015 the Boat Harbour Act was passed which legislates the end of the use of Boat Harbour as an effluent treatment facility as of January 30, 2020.”

2008. Effluent Pipe Leak revealed multiple unidentified pipeline breaks

Northern Pulp took ownership of the mill in May 2008. In December 2008, an effluent leak led to a shutdown for repairs. No charges were laid.

*“A pulp mill in Pictou County has been shut down indefinitely because of leaks in a pipe that carries effluent to a treatment plant. Environment Minister Mark Parent said Thursday the situation is complicated. **“They backwashed the system after that and found there were other breaks in the line, so the diver is going down to find out about those breaks,”** he said. Parent said the plant will remain closed until they can determine how to stop the effluent from flowing into the waterway.”* (emphasis ours) <https://www.cbc.ca/amp/1.706509>

Prepared by Friends of the Northumberland Strait, January, 2019

Meeting regulations is not the same as protecting fisheries from harm

2 things about pulp effluent and fish are true. Both are important.

- 💧 Effluent quality from pulp and paper mills has improved over 47 years of regulation.
- 💧 Those improvements are not sufficient to protect fish, fish habitat and the environment.

70%

of pulp & paper mills are having harmful effects on aquatic life and habitat despite meeting current regulations.

Pulp and Paper Effluent Regulations (PPER) in Canada cover two matters; total suspended solids (TSS) and biochemical oxygen demand (BOD.) Even though total discharges of TSS and BOD in pulp and paper effluent decreased by approximately 90% and 97% respectively from 1970-2008, pulp mill effluents continue to have harmful impacts on fish, fish habitat and the environment.

Information gathered through environmental effects monitoring (EEM) at all Canadian mills points to the disturbing conclusion that although mills are meeting regulations and passing the PPER toxicity test, 70% are having harmful effects on aquatic life and habitat, and 55% are having harmful effects on the larger environment. ¹

This information led the federal department of Environment and Climate Change to undertake a modernization review of pulp and paper effluent regulations in 2017. "Results from EEM studies and the changing realities of the pulp and paper industry indicate a need to modernize the PPER to improve environmental protection," the department states. ²

Long term impacts

on reproduction and growth are not regulated under PPER.

If meeting regulations is not enough to prevent harm, neither is passing toxicity tests. Only one toxicity test is required under Canadian pulp and paper regulations. The required LC-50 test is for acute lethality. For this test, an effluent is considered acutely lethal if the treated effluent at 100% concentration kills more than 50% of the Rainbow Trout exposed to it during a 96-hour period.

Long-term effects, including impacts on reproduction or growth, cumulative impacts on fish habitat and the larger environment or accumulation of substances harmful for human consumption are not regulated under the PPER. Testing for environmental effects is required for information purposes. Only two mills in Canada test for and report impacts of effluent on the usability of fish resources by humans.

For 25 yrs

the regulations that apply to pulp effluent have remained unchanged.

Effluent from pulp and paper mills is regulated at the federal level principally by the Pulp and Paper Effluent Regulations (PPER), which form part of the Fisheries Act. The standards that apply to pulp effluent today were adopted in 1992 and have remained unchanged for 25 years. Highly toxic dioxins and furans are regulated under a separate Act.

Federal regulations cover only a few of the recognized harmful substances in pulp mill effluent. For example, there are no federal regulations for AOX compounds, a component of pulp effluent in mills that bleach with chlorine or a chlorine compound. AOX compounds are recognized as extremely toxic. They are not easily broken down by bacteria and thus bioaccumulate in the environment. Yet they are not included in PPER regulations. Neither are phenols, toluene, chloroform or chemical oxygen demand (COD).

Northern Pulp knows

that piping effluent into the Strait will impact the fisheries.

Among the changes being considered in the review of pulp effluent regulations are reduced limits for BOD and TSS, setting a limit for chemical oxygen demand which would capture less biodegradable organic materials which are not currently measured in regulations³, and setting limits for additional substances of concern.

Provinces may go beyond Federal standards and adopt stricter regulations for effluent from pulp mills. British Columbia, Alberta, Ontario and Quebec have adopted stricter regulations. Nova Scotia does not have regulations, but sets limits through individual industrial approvals. The EU has more protective regulations than Canada does.

Northern Pulp is aware that piping effluent into the Northumberland Strait will impact the fisheries. The conclusion of the *Stantec Receiving Waters Study* prepared for Northern Pulp (August, 2017) states:

Among the four potential outfall locations ... the Alt-D outfall location provides **the smallest potential long-term cumulative effects on the fishery and socio-economic environments, and therefore is considered the better outfall location** for the discharge of the treated wastewater from the mill. (Conclusion 2.4)

No evaluation

of impact on fisheries, fish, fish habitat or the larger eco-system has been conducted.

How much actual impact on fisheries will this “better outfall location” have? There has been no evaluation of actual impact on fisheries, fish, fish habitat or the larger eco-system. Fish studies have not been done. Further, the Stantec report did not even correctly identify where fishing takes place in the Northumberland Strait close to the proposed outfall site.

Northern Pulp's chosen effluent outfall point is based only on a comparison between four generally similar options, all points in the nearer or deeper Strait area. The proposed outfall was determined based on comparing how effectively the effluent can be dispersed at each point.

Similar proposals to discharge pulp effluent into the Northumberland Strait have been dropped or rejected in the past due to environmental concerns. The fishermen know this. Northern Pulp knows it.

It's 2018

We cannot sweep identified risks under the rocks based on soothing assurances of “meets regulations.”

It's 2018. Fisheries are a crucial part of the economy in Nova Scotia and neighboring provinces. Oceans are under increasing stress. Dead zones are growing. Protection of fish, fish habitat and fisheries in present conditions means we cannot sweep identified risks under the rocks based on soothing assurances of “meets regulations” and “passes toxicity tests.”

“EEM (environmental effects monitoring) studies have shown that the effluents 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.”⁴

- Environment and Climate Change Canada, 2017

Proposed Modernization of the Pulp and Paper Effluent Regulations – Consultation Document

³ *Proposed Modernization of the Pulp and Paper Effluent Regulations – Consultation Document*, Environment and Climate Change Canada, https://www.wixstatic.com/ugd/b51814_d1299f5bb0914f959eaa194ca65db20.pdf

¹ *Ibid*

² *Ibid*

⁴ *Ibid*



50 Years of Pulp Effluent

"I've been smoking for 20 years and I don't have cancer."

"Well then, I guess there's no harm if you keep on smoking."

Just change the words, and it could be Northern Pulp and Nova Scotia's Minister of the Environment talking about pumping pulp effluent into the Northumberland Strait.

"Treated effluent has been discharged into the Northumberland Strait for 50 years," both Northern Pulp and the Minister reply when people raise concerns about the proposal to pump 70 + million litres of pulp effluent daily into Northumberland Strait fishing grounds.

Northern Pulp and the Minister of Environment seem to imply that because pulp effluent has entered the Strait for 50 years no harm has been done and there is no reason to worry if it continues. They also seem to imply that the proposed new system will have no more impact on the fisheries than what has been happening all along.

True or not true?

1. Is harm being done? Most people recognize the environmental devastation of Boat Harbour as a clear illustration of the harm that has been done by pulp effluent. Not everyone realizes that although effluent quality has improved over the past 50 years, present regulations are still not sufficient to prevent harm. According to a recent analysis by the federal government, existing regulations are not enough to protect marine life. The study shows that while almost all Canadian pulp mills now meet federal PPER regulations, 70% are having harmful effects on aquatic life and habitat and 55% are having harmful effects on the larger environment.¹

In terms of toxicity, only one test is required to meet federal regulations. This test measures acute toxicity -- whether 50% of rainbow trout die when exposed to effluent for 96 hours. It does not measure

impacts on fish growth or reproduction or on fish habitat. No toxicity test on salt water fish is required to meet federal regulations. There are no federal regulations for a number of known harmful substances in pulp effluent, including AOX and phenols.

2. Northern Pulp's proposed new effluent treatment facility differs from the present facility in a number of ways. In the present system, untreated effluent is piped from the mill to the north settling ponds at Boat Harbour, where it remains for 12 hours for primary treatment. It then moves to an aerated stabilization basin where effluent is placed in contact with micro-organisms. The effluent remains there for 8 days for secondary treatment.² After 8 days, the effluent is discharged from the aeration basin at what is known as Point C, and treatment is considered finished. At point C, samples are taken for testing to determine whether the treated effluent meets regulations.

After point C, the effluent enters the 300-acre Boat Harbour lagoon, also known as Boat Harbour Basin. Boat Harbour Basin was initially used as a stand-alone effluent treatment facility. In 1972, settling ponds and an aerated stabilization basin were constructed to meet stricter regulations for pulp effluent treatment. Additional aeration and other upgrades were added from 1992-1996, as the federal government again adopted stricter regulations.³

The lagoon at Boat Harbour has not been officially part of the effluent treatment system since 1972. Official or not, treated effluent remains in the lagoon for an additional 20-30 days.⁴ Further aeration, settling, cooling, volatilization and breakdown of materials takes place during that time. This is referred to as "polishing" or tertiary treatment. Natural springs and surface run off further dilute the effluent. According to Northern Pulp's figures, during the time in Boat Harbour Basin, total suspended solids (TSS) and biochemical oxygen

¹ See also https://www2.gov.bc.ca/gov2/gov/industry/industry/2014_da2995b80-04895e00a194000020.pdf

² Section 11.14 Cycle 6 Environmental Effects Assessment Report: Final Report for the Northern Pulp Mill in New Brunswick

At: Report 11.14, Imperial Chlor, New Glasgow

³ Reclamation of Effluent Treatment Facility, Northern Pulp, Nova Scotia, Environmental Assessment, December 2017, Panel

⁴ Started 2004

demand (BOD) decrease up to 30%, before the effluent flows out at the shore edge of the Strait at Point D.⁵

In the proposed new Activated Sludge Treatment (AST) system on the mill site, effluent will move through a primary clarifier to an aeration basin using micro-organisms to break down pollutants, and then to a secondary clarifier. The process will take less than 24 hours.

Northern Pulp states that effluent from the new system, including an added oxygen delignification system, will be similar to treated effluent leaving the present system at point C, with some (unspecified) reduction in biochemical oxygen demand (BOD.)

However, the effluent being released from the proposed new system directly into the deep waters of the Strait will not benefit from the considerable reduction in BOD, Total Suspended Solids (TSS) and other contaminants including heavy metals which takes place during the 20-30 days that effluent presently remains in the Boat Harbour Basin stabilization lagoon. Northern Pulp has not provided a detailed comparison between the effluent which presently reaches the edge of the Strait (Point D) and the effluent they propose to release into the fishing grounds with the new system.

3. Where the effluent is discharged matters. The present effluent outfall location at the shore edge does not disperse effluent in the Strait in the same way that the proposed new outfall site would. With the proposed new system, 70+million litres of treated effluent would be pumped directly and continuously into the prime fishing areas of the Strait every day.

Presently, effluent flows from Boat Harbour Basin lagoon, through an estuary, to an outfall point at the shore edge of the Strait (known as Point D.) From the present outfall point, tides and currents keep much of the effluent re-circulating along the near shorelines and into Pictou Harbour.

A 1969 Fisheries Research Board report, *Tidal Flushing of Pictou Harbour* makes clear that effluent released from Boat Harbour at the shore edge of the Strait is not widely dispersed. "It is found that the flushing capacity of the area is inadequate to dilute the effluent

below the proposed water quality standard of 1%." ⁶ *The Stantec Preliminary Receiving Waters Study*, August 2017, illustrates the same lack of dispersion. Treated effluent has never flowed directly into the deeper waters of the Strait. From its discharge at the shoreline, after 20-30 days in Boat Harbour Basin, tides and currents further break down, dilute and settle contaminants before they reach the deeper waters of the Strait.

It is misleading to imply that effluent from the proposed new system pumped directly into the fishing grounds of the Strait will have the same impact as the effluent which presently enters the Strait at the shore edge, hugs the shore and recirculates in and out of Pictou Harbour. Northern Pulp and their consultants are well aware that all discharge points do not have the same impact.

4. Ocean environments are increasingly stressed.

The Northumberland Strait Ecosystem Overview Report, prepared for DFO in 2007, documents increasing stresses on the Strait. "Increased nutrient loading from land-based activities was identified as the most important MEQ [Marine Environment Quality] issue in the near shore areas such as the estuaries, harbours, and bays. The principal sources of nutrients to the coastal areas of the Northumberland Strait are sewage, agricultural runoff, fish plant effluents, and pulp mill effluent." ⁷

The Ecosystem Overview Report also states, "In addition to individual impacts of the various elements identified as having an impact on the environment in the Northumberland Strait, there can be cumulative impacts that exceed the individual effects."⁸

Ocean stresses are increasing generally. Anoxic areas, where there is insufficient oxygen for marine life, are growing, and are expected to continue to do so due to global warming and other factors. The discharge of pulp effluent, with significant amounts of total suspended solids, biochemical oxygen demand, chemical oxygen demand and contaminants including heavy metals and AOX, has to be evaluated in the context of cumulative impacts on an increasingly stressed ecosystem. The consequences will be greater now and in coming decades than they would have been 50 or 25 years ago in healthier oceans.

⁵ Replacement of Effluent Treatment Facility, Northern Pulp Nova Scotia, Environmental Assessment, December 2012, Panels 15, 1

⁶ Technical report No. 146, *Tidal Flushing of Pictou Harbour*, The Fisheries Research Board of Canada, 1969

⁷ *Northumberland Strait Ecosystem Overview Report*, AMEC Earth and Environmental, 2007, Executive Summary p 14

⁸ *Northumberland Strait Ecosystem Overview Report*, AMEC Earth and Environmental, 2007, Executive Summary p 15

