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March 9, 2019

Environmental Assessment Branch  
Nova Scotia Environment  
P.O. Box 442  
Halifax, NS, B3J 2P8

**Re: Northern Pulp Nova Scotia Corporation's Replacement Effluent Treatment Facility Project**

This letter is submitted on behalf of the Ecology Action Centre (EAC), an environmental charity working since 1971 at the local, provincial, national and international level to build a healthier and more sustainable world. Our vision is 'a society in Nova Scotia that respects and protects nature and provides environmentally and economically sustainable solutions for its citizens'. The EAC works to catalyze change through policy advocacy, community development and awareness building. And, when required, we serve as a watchdog for our environment.

In that capacity, we respectfully request that the Minister reject Northern Pulp Nova Scotia Corporation (NPNS)'s proposal as outlined in their registration document under Section 34(1)(f) of the Environment Act "because of the likelihood that it will cause adverse effects or environmental effects that cannot be mitigated". We also cite that there are a number of areas in the registration document where crucial information is lacking or unknown, triggering Section 34(1)(a-c) requiring additional information and focus reports. We also cite Section 2(b)(ii) "the precautionary principle will be used in decision-making so that where there are threats of serious or irreversible damage, the lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation."

Despite its impressive volume, NPNS's registration document is very poor and fails to provide necessary information about key elements of their plan, including and importantly - the content of the substances they wish to pump in large volumes into the Northumberland Strait and the potential impacts that it undoubtedly will have on marine life and air quality. The registration document seems designed to obfuscate essential details, downplay them or intentionally omit them altogether. It essentially says there will be no impact of any kind. This is simply not credible. In Table E.1.1-1: Summary of the Significance of Project-Related Residual Environmental Effects Predicted. Every row and column of the table contains 'NS' which represents 'No Significant Residual Environmental Effects Predicted', including water quality, fish and fish habitat, surface and groundwater and the entire 'Accidents, Malfunctions and Unplanned Events' column. It is inconceivable that after NPNS's lengthy history of leaks, ruptures, over-limit emissions and other unplanned events that these predictions could be put forward credibly in a registration document for environmental assessment of this proposed effluent treatment facility.

NPNS has not done its due diligence to fully determine the potential impacts of their proposed project. It is the duty of Nova Scotia Environment to apply a rigorous standard of environmental protection when assessing risk and we do not feel that NPNS has provided sufficient information within their registration document to enable the province to complete the assessment. In light of this, the only acceptable decision is to reject the proponent's proposal for this effluent treatment facility. The potential for damage to our land, water and air from this proposed effluent treatment system is far too great for the province to grant approval.

The EAC's concerns about this proposed effluent treatment facility are numerous. Despite the very limited time available under this 'Class 1 undertaking' environmental assessment process (30 days) to review the proponent's registration document (1,586 pages spread over 17 documents), this letter outlines our primary concerns, which are:

- Use of an insufficient standard for effluent;
- The potential impact on the marine environment from the massive volume of effluent with its undetermined chemical and physical composition;
- Cumulative impacts and the fragility of the ecosystem of the Northumberland Strait;
- The risks associated with the effluent pipe and its pathway;
- Air pollution from burning waste sludge;
- Socio-economic impacts on fisheries and other sectors; and
- Indigenous opposition
- Lack of serious consideration of alternatives

## Insufficient Standard for Effluent

NPNS had a responsibility to develop a solution that enables their operations to continue in Nova Scotia while preventing harm to the environment and the wider community. Rather than identifying an innovative solution which does these things, it is clear that NPNS's objective is simply to meet the minimum Pulp and Paper Effluent Regulations (PPER). The federal regulations are very old and are currently undergoing a major overhaul. NPNS will be required to comply with the updated PPER once the new standards are complete and accordingly, it is irresponsible for their effluent goals to just meet the existing standard. And this statement assumes that their effluent would meet the current standard, something that NPNS cannot guarantee since they cannot say what will be in their effluent until the new system is operational.

A key reasoning behind the proposed modifications to current PPER has been the ongoing degradation of fish habitat by most mills, even when in regulatory compliance. The PPER are primarily designed to prevent effluents that cause acute lethality to fish from entering nearby waterways (pg. 357) and do not deal with long-term cumulative effects or ecosystem impacts. Furthermore, according to Caroline Blais, the Director of the Forest Product and *Fisheries Act* Division at Environment and Climate Change Canada (ECCC), 70% of pulp and paper mills abiding by today's PPER have still shown deleterious impact on fish or fish habitat. A 2016 EcoMetrix study also found enlarged gonads and livers in fish tested near the current Boat Harbour effluent treatment facility's outfall location, despite the fact that Northern Pulp has routinely passed the acute lethality testing. Director Blais, [in presentation for the Prince Edward Island Standing Committee on Agriculture and Fisheries](#) in February 2019, described widening the scope of deleterious substances that may call for regulation and "reviewing the regulatory limits for existing and new substances," as central to the government's PPER modification effort. This process will also seek to develop new regulations to treat nutrient inputs, which to date have not been addressed in PPER legislation. NPNS's proposal has not adequately addressed how the company intends to meet new and more stringent effluent regulations that the federal government is working towards.

Simply meeting the PPER is a tremendously low bar to set in environmental protection and is no guarantee that harm to the environment and ecosystem will not occur, only that outdated regulatory maximums of permissible harm might be reached. This is unacceptable, particularly since NPNS cannot even identify what will be in the effluent - a major red flag that this undertaking carries unacceptable levels of risk of impact to the environment and the legitimate interests of other stakeholders. Nova Scotia Environment clearly stated to NPNS that their EA must go beyond the parameters in the Federal PPER. Their proposal as outlined in the

registration document does not do that. Aiming to achieve the lowest possible standard after decades of causing significant environmental damage to the natural world and communities surrounding the mill is simply not enough.

## **Effluent Content and Potential Impacts on the Marine Environment**

The volume and toxicity of the liquid waste produced at the NPNS mill is significant. Boat Harbour provides incontrovertible evidence of the impact of the effluent to the current “receiving waters” - the area is devoid of life. Redirecting the effluent into the Northumberland Strait and the lower Gulf of St. Lawrence will certainly be detrimental to the health and productivity of the new “receiving waters”. But unlike Boat Harbour, where most of the damage to date has been contained (and will cost taxpayers hundreds of millions to clean up), the potential damage to the Northumberland Strait will not be easily contained and will be impossible to clean up.

The Northumberland Strait is a relatively shallow area with slow moving currents far from the open sea. This makes it a very low “flushing” system. It takes approximately a year for the water to fully exchange. Northern Pulp’s own reports say that on top of 60 to 80 million liters of liquid effluent they also anticipate releasing up to four tons of suspended solids in their waste water each day. In addition to that it is important to note that every drain, toilet and sink inside the mill is attached to the effluent disposal system meaning that in addition to human waste every oil or chemical spill inside the plant ends up in their effluent system. Test results in the current receiving waters (Boat Harbour) show the presence of dioxins, furans, chlorinated compounds, halogenated organic compounds and traces of heavy metals. These substances are known to have serious negative impacts to aquatic and other life. In addition to the chemicals and solids produced in the pulping process the new effluent treatment system “will require several chemical inputs, including urea, phosphorus, sodium hydroxide, sulfuric acid and an anti-foam agent to support its process.” (pg. 46). So these too would be sent out into the Northumberland Strait. With so many deleterious inputs it’s no wonder NPNS doesn’t know what will be in their own effluent stream.

### ***Dioxins and Furans***

Research from other pulp and paper mills can provide insight on the potential risks to the marine environment associated with some of the products referenced in NPNS’s project proposal. In British Columbia’s Howe Sound, the Port Mellon and Woodfibre bleach kraft pulp mills contaminated the local waters so badly that several fisheries had to be shut down in the 1980s. This was due in large part to the dioxins and furans released as a byproduct of the chlorine bleaching process, the same process used by NPNS. Dioxins and furans are toxic, carcinogenic and bioaccumulative pollutants, posing a significant threat to marine species and human health via ingested seafood or otherwise. These compounds have been linked to cancer and diabetes, among other serious conditions.

In 1992, national Pulp and Paper Effluent Regulations (PPER) were put in place to mitigate harmful impacts to fish habitat, and the marine life at Howe Sound slowly began to recover. But while the dioxin and furan content in the Sound’s commercial fish and crab species have been reduced by 95% or more since that time, in three of eight Dungeness crab samples collected near the Port Mellon mill in 2012, the dioxin and furan content [still exceeded](#) Health Canada’s safe-consumption criteria. Federal advisories to limit crab consumption remain in effect in the area [to this day](#). The same results also held for testing done on Dungeness crab near the Woodfibre mill, despite the fact that Woodfibre was in a relatively good “flushing” position at the mouth of the Squamish River, up until the facility’s closure in 2006.

NPNS’s registration document, in [Section 1-7](#), states that “Dioxins and furans in [Northern Pulp’s] effluent have virtually been eliminated since the conversion to chlorine dioxide bleaching in 1998. NPNS has never exceeded the limits as per the Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations.” But we know that during NPNS’s [2014 spill](#), on sacred burial grounds at the Pictou First Nation (PFN), proved that

at least five distinct dioxin or furan compounds [were indeed still present in the mill's effluent](#), sixteen years after that conversion to chlorine dioxide bleaching. One of the dioxins was detected more than a kilometre down the beach from the spill site. ECCO regulations stipulate that dioxin and furan content must be non-detectable in pulp mill effluent. In addition, NPNS was found exceeding the daily release allowance for suspended solids by almost double the legal limit. Ultimately, the mill was fined \$225,000 for the incident. Today, NPNS refuses to release the full suite of information on the components of the effluent they would see released into Northumberland Strait under their new proposal, and claims that the risk of contamination to marine habitat is "Not Significant". This is simply not credible.

In an attempt to explain this lack of transparency, the NPNS registration document states, "At this time, effluent chemistry characteristics (including the specific substances present in treated effluent and their anticipated concentrations) will not be known with certainty **until the project is operational**" (pg. 489). An expectation that NS Environment would grant approval to this project without provision of full details of the content of this effluent to be discharged into the Northumberland Strait should be extremely suspect, particularly given the company's track record of non-compliance. This includes not only the regulatory disregard displayed during the 2014 PFN spill, but also [another spill by the Mackenzie Pulp Mill Corporation](#), owned by Paper Excellence (NPNS's parent company). In this case, Mackenzie Pulp was fined \$900,000 and added to the Canadian Environmental Offenders Registry for violating the *Fisheries Act* by neglecting to properly treat the effluent spilled into British Columbia's Williston Lake on two occasions in 2014 and 2016. Paper Excellence has proven in spill scenarios in both Nova Scotia and British Columbia that their standard of care is simply not high enough for Maritime citizens to entrust this company to operate within the bounds of legality, let alone safety, in the Northumberland Strait.

Additionally, it is important to consider the cumulative effects of adding the toxins from NPNS's effluent into the proposed discharge area. In 2002, [a study](#) conducted on Nova Scotia's North Shore tested mussels for leukemia. At a site just 500 metres from the current Boat Harbour Treatment Facility outfall location, 30% of the tested mussels were infected. At a distance of one kilometre, 23% of the tested mussels showed signs of leukemia. In contrast, 56% of tested mussels in Pictou Harbour showed leukemia - a higher rate because of the dumping of untreated sewage at the time. Conversely, mussels tested in Merigomish Harbour did not show any effects of leukemia. In the end, the scientific team pinned the [results](#) on both municipal and industrial waste products. With the proposed level of effluent expected to be released into the Strait under NPNS's new plan, we may risk a future in which continued inputs render the local area entirely unusable for shellfish aquaculture or shellfish harvest altogether.

### ***Total Suspended Solids (TSS) and Cellulose Fibers***

NPNS public relations messaging from NPNS says that the new effluent treatment facility will be better than the existing one at Boat Harbour. However, this is not credible because Boat Harbour currently allows all the solids and the worst toxic elements to settle out and for the fluid to cool, often called "polishing off", as it is held for approximately a month before its release into the Northumberland Strait. The new effluent system will attempt to "treat" and cool the effluent in a matter of hours before it is released directly into the marine environment. In private documents and in recent media interviews, NPNS executives have admitted that the effluent is likely to be no better - and could potentially be worse - than what now flows into the Boat Harbour basin (Point C).

Total Suspended Solids (TSS) largely consists of cellulose fibers. Although the document states that 85 to 95% of the lignin, cellulose, sodium sulphide and sodium hydroxide will be removed from the sludge via biological activity in treatment, there is no information provided about the 5-15% which survives treatment - the cellulose. Cellulose fibers are refractory, meaning that they don't degrade quickly or decompose well in water, especially seawater. The registration document provides, in section 5.2.2.9 on Effluent Quality, that the effluent annual average flow will have an anticipated TSS concentration of 48 mg/l of effluent which equates to

a total 3053 kg of TSS per day, i.e., a full dump truck load each day in equivalent tonnage. These fibers have the potential to settle into a deep hole or depression, smothering the bottom and causing anoxia in the underlying sediment. The document hints at this on page 347: “The discharge of effluent containing elevated levels of TSS could also cause a change in sediment quality near the diffuser due to the settlement of suspended sediment, which could cause a change in sediment characteristics such as sand and silt size fractions and/or a change in chemical composition of sediments”. The TSS could very likely spread beyond the area near the diffuser due to the buoyant nature of effluent and the likelihood that the effluent plume will reach the surface of the marine water column. This is the very same TSS, known to be harmful to marine life, that NPNS was found to be pumping at a rate of double the daily legal limit into Boat Harbour during the company’s 2014 spill on First Nations land.

The insoluble nature of these fibers, the proposed volume of TSS discharge, the potentially wide area of impact and the inability to observe and monitor the effluent stream make this incredibly risky and appear to guarantee a significant impact on the marine environment.

### ***Cumulative Effects: Long Term risk in a Fragile Ecosystem***

The Gulf of St. Lawrence is already one of the most highly-stressed marine ecosystems on earth. In a [recent study](#) published in the journal Nature Climate Change indicates that the Gulf of St. Lawrence is showing a dramatic decline in oxygen.

A [separate study](#) done by DFO and University du Quebec entitled “Man-Made Environmental Changes in the Southern Gulf of St. Lawrence, and their Possible Impact on Inshore Fisheries” states: “Major sources of stress on the Gulf of St. Lawrence ecosystem include climatic changes on one hand and human-induced interferences such as physical modification, pollution and harvesting on the other hand. There are indications that these changes have significant impact on the oceanography, ecology and fisheries of the Gulf. The potential danger to the fishery includes physical, biological and chemical contamination.”

This is research that should be covered in effective cumulative effects assessment processes examining marine environments. Northern Pulp’s Cumulative Effects research presents a marine “Regional Assessment Area” between Pictou Harbour and Charlottetown to the north, spanning approximately 60 kilometres in an east-west direction. The proponents claim that the majority of the disruption to ocean habitat is likely to take place during the project’s construction phase, when the seafloor is to be dredged and laid with a rocky substrate to lay the pipeline and keep it place over the long-term. As for the operations phase, during which the pipe will dump its tens of million litres of treated effluent into the Strait, the report suggest that all concerns related to the quality of the water will dissipate within five metres of the discharge location.

The report claims that “given the likely lack of spatial overlap at this location, significant cumulative residual environmental effects to water quality or sediment quality as a result of treated effluent discharge are not likely.” But several studies, as well as ECCC expert testimony before the Prince Edward Island Standing Committee on Agriculture and Fisheries referenced above, tell us that pulp and paper effluent *is* known to be harmful to fish and fish habitat in the majority of tested circumstances. In essence, the substance that Northern Pulp would inject into the Northumberland Strait *would*, undoubtedly, pose a threat to aquatic life - and the assessment document says as much - *but suggests that*, because of dilutive power of the ocean, no great harm should occur in this instance. This simply is not true and this type of outdated Industrial Age thinking, suggesting that, because the ocean is big, it should be able to absorb our waste forever, is the same thinking that now sees the [entire planet awash with plastic waste](#).

In a Northumberland Strait context, the cumulative impacts of over 25 billion liters of toxic effluent flowing into the water every year in perpetuity are potentially catastrophic. The NPNS registration document clearly shows that there will be very little, if any, positive change in wastewater quality with the proposed effluent treatment system and information revealed through the FOIPOP requested showed NPNS suggesting that the effluent could in fact be worse. [With a myriad of chemical and nutrient inputs](#) from municipal wastewater systems, industrial operations and agricultural runoff, among others, this is no time to augment present threats to marine life by adding a continuous, high volume stream of toxic pollution into a shallow, low flowing section of the ecosystem. We need our governments and our commercial industries to work together to reduce the inputs already entering into the Strait, and we need to put plans in place to start restoring this natural Maritime treasure, [as has been called for](#) by federal studies. If we don't, we are at significant risk of creating contaminated marine habitats and unfishable dead zones in the future.

## Pipeline Pathway

The effluent pipeline will go over Pictou Harbour, attached to the causeway across Highway 106 and then in a trench through the Town of Pictou's water supply area, putting both at risk in the event of a pipeline breach or spill. Similarly, the potential for pipeline failure at Caribou Harbour is considerable. These are unacceptable risks.

## Air Pollution

In the plan outlined in NPNS's registration document, toxic sludge will be collected early in the effluent treatment process and will then be burned in the NPNS power boiler. Chemicals from this process, including Polycyclic Aromatic Hydrocarbons, Volatile Organic Compounds, sulphur and chlorinated compounds, benzene, cadmium, as well as fine particulate matter will be released. The NPNS registration document speaks virtuously about displacing unspecified amounts of fossil fuels by collecting and burning chemically-laden sludge from the pulping process. It states the sludge will have a 40% moisture content. This will provide no fuel (heat) value and will likely require as much or more fossil fuel to burn. Much worse is the fact that it will actually make the mill's already terrible air emissions problems even worse by burning this toxic sludge in the mill's power boiler which has no precipitator and reportedly malfunctioning/non-functioning scrubbers to "clean" the Sulphur, VOCs and other chemical compounds, and carcinogenic fine particulate matter (PM10 and PM 2.5). The NPNS registration document indicates incineration of up to 20 tonnes of chemically laden sludge per day in the power boiler. The power boiler is very old and has [repeatedly failed](#) stack emissions tests. This is a significant public health risk and yet another compelling reason to reject this proposal. Although the provincial Class 1 Environmental Assessment does not specifically require the proponent to conduct a human health risk assessment (HHRA) study, such a study should be ordered by the minister under Environment Act Section 34(1)c or b.

The NPNS registration document acknowledges that there will be additional pollutants released by burning the sludge in the power boiler and that these airborne pollutants will land on nearby "receptors" (e.g. people, animals, land, water, etc.):

"Emissions of combustion gases, particulate matter, and possibly odour from the replacement ETF during operation and maintenance could result in air contaminants that could disperse in the atmosphere to off-site receptors. Additionally, since the project will include the combustion of sludge generated in the replacement ETF for energy recovery and odour control, emissions from the combustion of such sludge in the power boiler during operation and maintenance could disperse from mill stacks to off-site receptors." (Pg. 142)

Air quality testing has been incredibly lax in and around the NPNS mill. A new, robust independent air quality monitoring program should be required of NPNS by the Minister. This should include continuous stack emissions monitoring and multiple remote sensors. This data should be made available to the public in a continuous, real-time feed over the internet.

A sample of some of NPNS's recent air pollution violations:

- In 2014 the mill reported the release of 1,290 tonnes of fine particulate matter — the equivalent of 13 Irving St. John pulp mills in one location.
- Air emissions exceeded limits 4 times in a two year span - March and September 2015, June and December 2016.
- NSE investigation in 2017 as mill exceeded air contaminant emissions limits by nearly 50 per cent in June.
- The mill exceeded emissions 3 years in a row (2015, 2016 and 2017) despite the purchase and instillation of a new electrostatic precipitator on the recovery boiler stack.

## Socio-Economic Impacts

### *Risk to Fisheries and Aquaculture*

Despite NPNS's claim that the project proposal's impact on marine life will not be significant, the company's Receiving Waters Study, prepared by Stantec in August of 2017, states, "Among the four potential outfall locations ... the [chosen] 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) Here we see suggestion that NPNS is [well aware](#) that the fishery will be adversely impacted in the long term, despite public claims to the contrary. The potential impacts to fish, bivalves, crustaceans, fish habitat and critical spawning areas are outlined above. While the deleterious short term impacts of NPNS's proposed effluent treatment facility on fisheries may be limited to a relatively small area, the long-term effects could still be significant. The Lobster Fishing Area 26A, stretching east-west from Pugwash to Port Hastings and north of Souris, PEI, supports more than [700 licenses at 300 traps per license](#). This is a marine area worth upwards of \$40 million on fisheries alone. The Northumberland Fishermen's Association notes in a [position letter](#) that the Strait is one of the "most lucrative habitat and spawning grounds for lobster, crab, scallop, herring, mackerel and groundfish" in the Gulf. Each haul is significant to the fishermen that live and work there and, as such, the long term effects on the larger fishery should be more carefully considered.

Northern Pulp has demonstrated a clear unwillingness to do the work necessary to address these concerns in their environmental assessment registration document; particularly those concerns of the lobster fishermen in the region. NPNS's consultants at Dillon Consulting even went so far as to prompt Northern Pulp via letter in February of 2018, noting the importance of further research on lobster at all of the animal's life developmental stages: "... Conducting research on lobster larvae, and potential alternative to pipe discharge into the Strait needs to be completed to demonstrate to regulators that these were properly considered and stakeholder concerns are being addressed as much as reasonably possible."

In spite of this recommendation, NPNS did not conduct any studies or provide any information on potential impacts over the various life stages of the most important commercial marine species in the Canadian Atlantic, simply dismissing the issue by saying, "It was the conclusion that it is highly unlikely that there will be serious

impact on lobster or lobster larvae given the limited area of potential impact.” The assessment goes on to admit that marine studies “have been hampered by both seasonal constraints and by physical opposition and obstruction... The existing environmental conditions and associated potential environmental effects of the project therefore have been defined based on existing available information.” Again, we see a standard of care set far too low, in the face of significant risks and potential consequences.

Maritimers and Maritime fishermen have told NS Environment and NPNS loud and clear that this is a risk they are not willing to have foisted upon them; that the social and economic value of the region’s fisheries are simply too great. Fishing unions and associations alike [have since called](#), for a federal environmental assessment. At a broader scale, the economic value of Atlantic Canadian seafood production is immense. Fisheries and aquaculture products account for [upwards of \\$3 billion](#) to the Atlantic economy, with more than 15,000 licensed fishing boats and more than 500 aquaculture outfits. The Northumberland Strait is major component of that system, and the Southern Gulf of St. Lawrence has been one of the [most productive lobster regions](#) in the country. Today, there are some 700 fishing licenses. The legitimate concerns of the Northumberland Strait fishermen, and Canadian fishermen more broadly, need to be accepted and respected.

### ***Reputational Risk to Nova Scotia Seafood Brand***

Nova Scotia has an international reputation for producing high-quality seafood from “cold, clean and pristine northern waters”. This is particularly true for our shellfish - lobster, scallops and oysters. The reputational risk to the industry if any harvested species becomes contaminated with pollutants is significant - particularly in emerging markets in China and southeast Asia where demand from an expanding middle class is dependent on the “clean and pristine” brand. In this regard it is instructive to recall that the discovery of a single reported case of BSE or mad cow disease in 2003 led to an immediate worldwide ban on all Canadian beef imports which lasted for years and cost the industry billions of dollars in lost sales. Imagine what one contaminated lobster could do to the Canadian lobster industry’s access to foreign markets. Even the idea of seafood produced in polluted waters could be enough to shut down or seriously curtail demand in sensitive markets like China. This is a serious financial risk that Nova Scotia cannot afford to take.

EAC supports the fishermen.

### ***Tourism Industry***

The tourism industry in Nova Scotia is worth \$2.7 Billion and growing, creating 40,000 jobs and producing \$300 million in taxes. At a regional level, tourism revenue in the Northumberland Shore Region of Nova Scotia is 7.8% of the total tourism revenues translating to \$210.6 Million and over 3,200 jobs, generating about \$24M in tax revenues. This sector of the economy could be much greater but is hampered by the presence of the NPNS mill.

Tourism operators have reported the length of stay in the Town of Pictou has declined from 2010, an average of 3.3 days to 2017 at 2.5 days. Tourism Operators explain the decline in visitor stays is a direct result of the air and water pollution emanating from the NPNS mill. Allowing the mill to release its effluent into the Northumberland Strait and to increase its harmful air emissions by burning large quantities of toxic sludge will only make things worse for this industry. Tourism operators in western Cape Breton (Inverness County), along the south coast of PEI and the New Brunswick coastline of the Northumberland Strait are all at risk of impacts from the proposed discharge of large volumes of effluent into the marine environment.

EAC supports the tourism operators.

## Indigenous opposition

It is important to note that all of the Mi'kmaq Chiefs in the three Maritime Provinces are opposed to piping the NPNS mill's effluent into the Northumberland Strait. Chief Terry Paul identified the mill's proposal for a new effluent treatment plant as the top issue raised by Mi'kmaq leaders in their annual meeting with Provincial Cabinet in December 2017. "The first consideration is the environment" he said. "We want to ensure that whatever is done to mitigate the effluent there isn't detrimental to the fishery". He stated clearly that the chiefs cannot support the NPNS effluent pipe plan. Chief Andrea Paul of Pictou Landing First Nation has been unequivocal in stating her communities firm opposition to the proposed new effluent treatment system. "The effluent discharge is in the Northumberland Strait and for that we are opposing it" she said in July 2018. "We do not want this pipe in our waters. We need to protect our resources. All of us have an inherent duty to do that".

EAC supports the Mi'kmaq.

## Unwillingness to Explore Alternatives

The pulp mill in Pictou County has a long history of putting Nova Scotia's environment and citizens at risk. Despite five years to find a suitable alternative to the Boat Harbour treatment facility and taking the opportunity to improve their environmental performance, NPNS simply offers one single option: to pollute a different area, this time spreading the potential impact much further. The registration document has been carefully tailored to reach the NPNS's preferred outcome of pumping the effluent into the sea. In preparing the document the consultants, appear to have relied almost exclusively on information provided by NPNS. There is no evidence of serious independent analysis of the options, assumptions or conclusions in the report. The Ecology Action Centre strongly disagrees and believes that NPNS could do much to 1) reduce the toxicity of their effluent by improving internal process inside the mill and 2) negate the need to dispose of their effluent into the environment at all by modifying their production process (i.e. eliminate chemical bleaching) and installing a closed-loop system.

It is clear from NPNS's registration document that the scope of exploration of alternative options was deliberately narrow and entirely restricted to finding an alternative dumping site for the effluent. All other options to reduce or eliminate the mills liquid pollution output are summarily dismissed early in the registration document, abandoning any further consideration or research for better options. On its project website, NPNS confirms this: "At the onset of the design phase a closed loop (zero effluent) treatment alternative was immediately ruled out as it is not an option for Northern Pulp. A closed loop system does not exist anywhere in the world for an elemental chlorine free (ECF) bleached kraft pulp mill. The concept is not technically or economically achievable." This is consistent with NPNS's long-held public position that only a pipeline into the Northumberland Strait will work. NPNS says the technology does not exist to close their loop. They are lying by omission.

NPNS could install and run a closed-loop system if it simply changed its production process and stopped bleaching their semi-finished kraft pulp product prior to shipping it to their Asian parent company. The result would be a light brown fiber product rather than a bright-white one. If the parent company wished to bleach some or all of the kraft pulp during its subsequent product production processes (making tissue, napkins, diapers, etc.) they could easily do so at their end. Another workable alternative would be to retool the NPNS mill to use peroxide and ozone instead of chlorine dioxide to whiten their kraft pulp and thus become a Totally Chlorine Free (TCF) mill.

The truth is NPNS could change its process and install a closed loop system but they have chosen not to. They admit as much in their registration document (Project Alternative 3: Change the NPNS Mill Type and Make a

Closed Loop System, Pgs. 25-26), stating the reason for not doing so is that it is “market prohibitive”, not that it is technically impossible. Their justification for not doing so is cost: “NPNS would not remain competitive due to high wood and electricity costs” and that “NPNS must continue to operate by producing NBSK to be economically viable”. They admitted that “Production of a different type of pulp can allow operation using closed loop systems.” But that “NPNS would not be economically viable with a different product”. Although NPNS says changing their product process is “not economically viable”, they provide no proof for these claim.

Notwithstanding their refusal to seriously consider altering their process and implementing a closed loop system, before the NPNS mill starts pumping their effluent anywhere they should first be required to improve the inside performance of their very old mill in order to significantly improve the quality of the effluent before it is sent for secondary treatment. In industry parlance this is called “tightening up the loops” inside the mill prior to the effluent treatment process. The mill employs very old (1960s era) technology. There are three specific areas that need to be modernized before sending effluent into a secondary treatment system, regardless of where the effluent is subsequently dumped. They are: #1 Optimize brown stock washing, #2 Install an oxygen delignification system in the bleaching plant and #3 Implement fail-safe systems to ensure against process upsets into the effluent treatment system. Process upsets can come from overflows of brown stock, bleach and/or black liquor.

It’s important to point out that with regard to #2, NPNS has previously said they would be installing an oxygen delignification system which would result in a 30 to 40% reduction in chlorine dioxide bleaching chemicals and thus much “cleaner” effluent. That oxygen delignification system is now missing from NPNS’s registration document.

It’s also important to highlight why NPNS should be required to build in effective fail-safe systems to minimize and contain process upsets whereby the system becomes overloaded with pulping chemicals and shuts down the biological activated sludge (BAS) treatment process. In brief: NPNS has a history of frequent process upsets with its current effluent treatment system in Boat Harbour. When this happens the biological agents (bacteria, fungi and protozoa) that are used to consume organic pollution from the effluent prior to release are killed and the process stops working. In the Boat Harbour lagoon, the untreated effluent can be contained at an early stage while the system is re-inoculated with replacement biological agents so treatment can be resumed. This can take several days. In the event of black liquor or other chemical spills into the proposed new effluent treatment system, the biological agents will be killed and the system will stop functioning as it’s supposed to. In the registration document, NPNS says it plans to build a 35 million liter raw effluent spill basin that, assuming optimum conditions, will be sufficient to contain 10 to 13 hours of effluent diversion in the event of process upsets (pg. 42). That means only half a day’s worth of effluent can be contained while they try to fix the problem. But process upsets often take much longer to fix than half a day. Therefore the risk of potentially large volumes of untreated effluent by-passing the new effluent treatment system and flowing directly out into the marine environment is very high as their proposed spill basin will be too small to contain effluent volumes greater than half a day’s output while NPNS works to restore the biological agents to sufficient levels to function again.

NPNS has repeatedly minimized serious concerns about their effluent treatment plan. Vague assurances through the registration document with phrases such as ‘no significant residual environmental effect predicted’ are simply not credible, particularly in light of the vast evidence of ecosystem destruction committed at Boat Harbour. With an effluent leak only months ago in October 2018, which was discovered by a citizen walking in the vicinity of the mill, and another in June 2014 that released 47 million litres before detection, public trust is at an all-time low. Attribution of pollution in the Northumberland Strait will be challenging, ensuring that the province of Nova Scotia will have a very difficult time seeking remediation for damages. Fastidious monitoring will be required to intervene as quickly as possible and ideally this monitoring would be administered by an independent body to ensure compliance.

## Conclusion

The Ecology Action Centre strongly recommends that the Minister of Environment reject NPNS's effluent treatment facility proposal as outlined in their registration document. The document fails to provide the Province with the required information to assure itself and all Nova Scotians that their proposed effluent treatment facility would be safe for the community or the environment. All evidence points to the fact that this effluent treatment facility will cause at least as much pollution as the levels at Boat Harbour, if not more, and this time the pollution will be spread over a far greater area with even less ability to contain and repair that damage in the future. It is also clear that the burning of large amounts of toxic sludge in the power boiler will make the mill's already terrible air emissions even worse. The claims by NPNS that there will be no impact of any kind is not credible and they have failed to provide evidence that this even possible. It is unconscionable of NPNS to ask, nay, demand that Nova Scotian's accept all the risks and harms so an ancient, highly-polluting pulp mill can continue operating for a few more years.

NPNS has shown a consistent sense of entitlement, often operating outside of the rules and boundaries which exist to protect our environment. NPNS even made a request to begin building elements of its proposed new effluent treatment system in mid-2018, well before submitting its proposal for environmental assessment. The sheer audacity of this request demonstrates a corporation that fully expects Nova Scotia to continue to bend to their wishes, regardless of the impacts. Now that we are within a year of the January 31, 2020 shut down date for the Boat Harbour effluent treatment system, the corporation has requested an extension to continue polluting Boat Harbour, citing a lack of time to get an alternative in place. Complying with this request would require repealing that legislation and would be an unforgivable violation of the faith of the Pictou Landing First Nations community and to every other Nova Scotian who is counting down the days until January 31, 2020.

It is time for this province to stop operating with a methodology of privatizing our shared natural resources for private profit while socializing the enormous risks and costs. Nova Scotian taxpayers will long be paying for the damage that has already been done by the pulp mill at Abercrombie Point in Pictou County. The investment to create the new pipe, a piece of infrastructure which will cost an enormous amount and likely to be charged again to the taxpayer, is making a commitment to allow this mill to continue discharging toxic effluent into our environment for many years to come. That is unacceptable. The Minister should reject this project outright. Failing that the Minister must, at the very least, order focus reports in a number of areas where information is lacking, including the composition of the effluent, baseline studies on lobsters and other marine species, baseline benthic surveys of the bottom of Caribou Bay, plans for air pollution controls and monitoring, etc. The minister should also order the mill to upgrade its internal processes and equipment to reduce its already substantial air and water pollution levels regardless of if or where they might send their effluent. But at the end of the day the Minister must not make a bad situation worse by allowing another place to be fouled and one that can never be cleaned up.

In closing we cite Premier Stephen McNeil's wise words at the annual meeting of Nova Scotia Cabinet and Mi'kmaq Chiefs on December 14th, 2017 in Millbrook: *"It has never been our government's intention and never will be our government's intention to clean up one environmental problem and move it somewhere else."*

And that is the right answer. No pipe.

Respectfully submitted,

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