

The Hon. Gordon Wilson, Nova Scotia Minister of Environment,

Dear Mr. Minister,

I am a resident of Louisdale, Cape Breton, Nova Scotia, Canada.

I live near the Gulf of St. Lawrence and the Northumberland Strait.

I am writing in response to the Northern Pulp Focus Report.

I am aware that the Gulf of St. Lawrence is the world's largest estuary yet one of the most deoxygenating bodies of water on earth. It has several dead anoxic zones where nothing lives anymore. Many endangered marine animal, plant and fish species are suffering and many are on the decline. The health of this body of water and ecosystem are threatened. We have a responsibility to protect and sustain it.

I wish to focus my attention on point #7 of Northern Pulp's focus report in the table of contents, "Fish and Fish Habitat".

In 2007, after years of data collection, the 252 page Northumberland Strait Ecosystem Overview report was delivered by science consulting firm AMED Earth and Environment. The report and ongoing study have highlighted 3 main causes of the deterioration of the Gulf of St. Lawrence/ Northumberland Strait ecosystem. They are nutrient loading, sedimentation and contamination. Northern Pulp is a contributor of contaminants and nutrients, but primarily nutrients which over feed algae and other plants in estuaries causing a bloom that then decays and is consumed by micro-organisms that suck up all the oxygen in the water causing it to become anoxic. These oxygen deprived estuaries are the nurseries for many fish. The area near the proposed 20m. deep diffused outfall of Northern Pulp effluent is a sensitive ecosystem, adjacent to eel grass beds that serve as a nursery for juvenile fish species. It is near lobster spawning ground. The 37 C. effluent will warm already warm waters, warmed by climate change. The color of the water will not let in sunlight and will interfere with spawning and development of juveniles. Nearby, there are main herring spawning grounds. Tides will take this spawn in the effluent. The pipe taking the effluent passes through Cariboo Harbour, the busiest fishing harbour in the Northumberland Strait. More than 70 local boats fish lobster, herring, rock crab and this industry depends on the integrity of the waters and fish habitats. People all over the world depend upon these healthy fish species as a food source, as Nova Scotia fisheries export much of their product. Northern Pulp will now release, as a conservative estimate, 70 million liters of bleached Kraft pulp mill effluent into this area DAILY. Included in this would be 945 kg. of solids every day reaching the saltwater. How can Eco-Metrix, the consulting firm that wrote the focus report for Northern Pulp on Sept.30 2019, conclude that there are no significant residual effects associated with this project on ANY of this fragile ecosystem? Northern Pulp claims that a diffused outfall outside of Cariboo Harbour in the Strait is to have much less potential effluent impact on the receiving environment (than the existing one) and represents an improvement. How does Northern Pulp know that this is true? The whole of the Gulf of St. Lawrence, Northumberland Strait, Cariboo Harbour is interconnected. Northern Pulp does not have a good history of data collection and transparency in their EEMs which look at fish populations, life forms at the bottom of any water body affected by the effluent and the toxicity of the effluent. A recent report by Dalhousie University researchers, published in late June 2019, has found Northern Pulp's EEM reports and studies (more than 200 govt. reports and 8 peer reviewed articles) provide INADEQUATE DATA. They claim "Selection of species, contaminants of concern and sampling locations were ad hoc and often inconsistent with EEM requirements under Canadian federal PPER."

The new \$70 million Oxygen Delignification System is said to improve the quality of the effluent (toxic carcinogenic dioxins and furans, heavy metals, mercury, zinc, chromium) however, because of Northern Pulp's present day bleaching process introduced in the mid 1990s, which uses a process known as ECF, it DOES NOT eliminate these organochlorines, it just

reduces them. Despite the new bleaching process, dioxins and furans bioaccumulate in biota (animal and plant life), are highly toxic and persist in the environment.

The solution to this would be to not pump out Northern Pulps mix of toxic effluent waste into any body of water and instead switch to a "Closed Loop" system BCTMP mill with a zero effluent treatment facility using hydrogen peroxide instead of chlorine dioxide in their bleaching process. Northern Pulp claims the proposed AST (Activated Sludge Treatment) is the best of the 2 possible Kraft mill effluent treatment options. The other one being the system in use now, the Aerate Stabilisation Basin. Why didn't they even mention the above "closed loop" process effluent treatment system? This would be the system that would cause the least adverse, negative effects or least significant environmental effects on the ecosystems involved and the only logical way that the effects of Northern Pulp mill effluent can be mitigated, eliminated, reduced or controlled. It is only this system that will provide healthy fish and fish habitats that will be protected and sustainable.

And also, because Northern Pulp failed to supply proper data and failed to meet PPER- EEM program monitoring requirements regularly since 1992 (for example, the 1st measurement for furan and dioxin in fish wasn't done until 1996 and in that EEM the authors pointed out that 2 forms of the dioxin and furan were never even analysed), I believe that the federal government should have been monitoring it's program (PPER-EEMs) closely for coherence and compliance with it's own laws. And for that reason, I believe there should be a full federal assessment under the auspices of the Canadian Environmental Assessment Act.

I strongly challenge and oppose the proposed Northern Pulp Effluent Treatment Facility as it is presented in the Focus Report.

It is with respect that I submit my comments.

Camille Barbeau

Louisdale, N.S.

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