

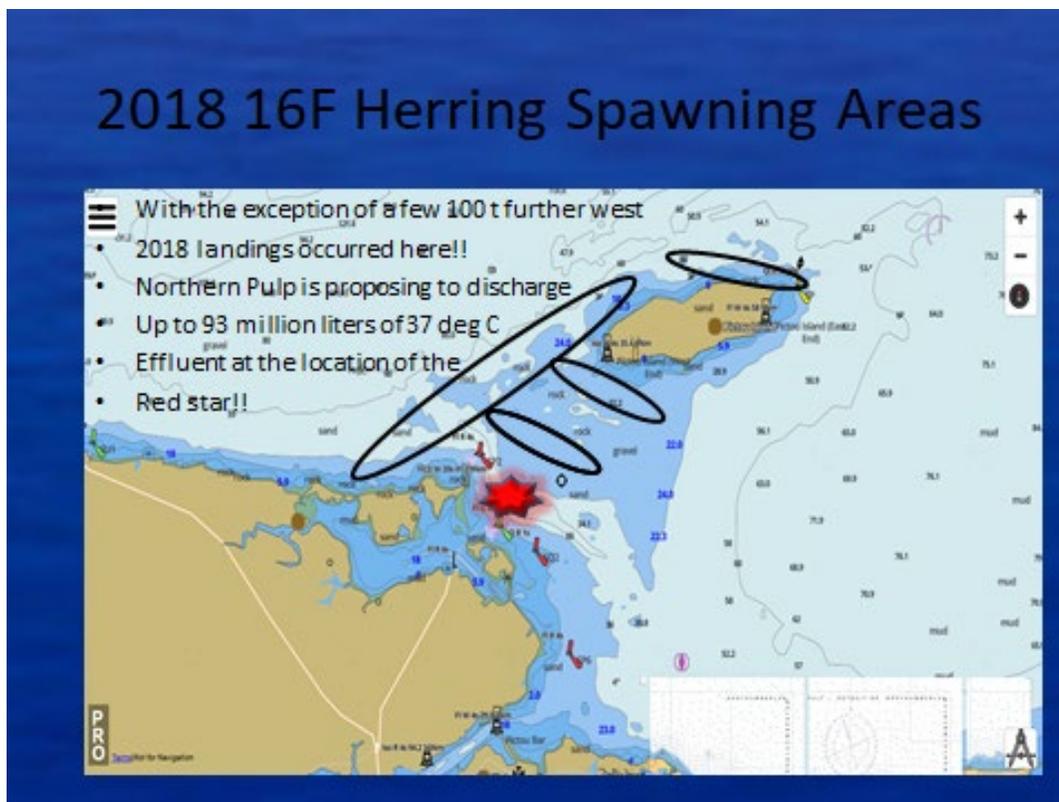
Feb 23, 2019

To: Nova Scotia Dept. of Environment

Dear Sirs/Madams,

Northern Pulp, a bleached Kraft pulp company (and the Province of Nova Scotia) are planning to construct an effluent pipe with a difuser at the location of the red star in the diagram below. The pipe is to replace the Boat Harbour Effluent treatment facility due for closure in January 2020. Boat Harbour is deemed to be one of the most toxic sites in Canada and has been a horrific injustice inflicted on Pictou Landing First Nations for over half a century.

This proposed pipe is designed to discharge up to (66)(93) million liters of 37 degree + 'treated' effluent daily into the Northumberland Strait, right in the middle of the last major active spawning area for 16F herring. The complex tides in this area, both in speed and direction, would ensure that the effluent would settle out across the entire remaining herring spawning grounds. This is the most dynamic area in the Eastern Northumberland Strait and a critical spawning ground for Lobster, Rock Crab, Herring, Ground fish and many other species.



The effluent will pour into Caribou Harbour on the rising tide and settle atop oyster beds and the salt water intake of the only fish processing plant in the area. On any given day during lobster season 100,000 pounds of live lobster could be floating in cars within Caribou Harbour directly in the path of the effluent stream.

The local Herring Spawning Stock is depleted and in the Cautious Zone and the reason for the decline is not understood. This is a Gulf of Saint Lawrence wide phenomenon. The local spawning area

has compressed in the past few years, as the stock declined to the areas outlined above. Other areas in the Eastern Gulf are in even worse condition. The Fisherman's Bank population has all but collapsed and the Northeast (North Lake) component was absent this year!

The Gulf of St Lawrence is an inland sea with counter clockwise currents that only exchanges its waters with the Atlantic once a year. It is one of the most precious marine ecosystems on earth with thousands of marine species who, spawn, nurse and migrate annually and has sensitive life stages of marine organisms present year around. It provides sustainable multi species fisheries for coastal communities in NS, NB, PEI, QC and NL. Given the rapid deoxygenation now happening in this fragile body of water (see link below), the Gulf of St Lawrence needs immediate protection, not further degradation. Most seriously, it does not need 'treated' Kraft bleached pulp effluent going into sensitive herring spawning waters, now or ever.

<http://www.digitaljournal.com/tech-and-science/science/new-study-gulf-of-st-lawrence-shows-a-dramatic-oxygen-decline/article/532340>

Given that DFO scientists recently reported a disturbing picture for the southern gulf of St Lawrence cod, warning of extinction by mid century, ( see link below), where is the Precautionary Approach? Habitat Management? Marine Protected Regions?

<https://www.cbc.ca/news/canada/nova-scotia/southern-gulf-of-st-lawrence-cod-could-be-extinct-by-mid-century-report-1.4966889>

The Proponents paint a picture of this effluent as almost pure holy water. They claim it surpasses all Provincial or Federal guidelines for effluent discharges yet it created one of the most toxic sites in Canada at Boat Harbour. Any online search of pulp mill effluent turns up articles with quotes like,

- *Environmental effects on the marine environment are particularly poorly researched, even though some of the limited amount of data available suggests that lignin breakdown products of high molecular weight are not only persistent, but also highly toxic to sea urchin eggs, sperm and mussel larvae. (Gary Cherr, Bodega Bay; paper is available from ECOPOL)*
- *The role of non-bleaching factors is big and pulp wash water for example, can be more toxic than bleach plant effluent.*
- *chlorate will compete with nitrate for uptake by algae, yet chlorate acts as a herbicide rather than a nutrient.*
- *Chlorate is efficiently removed through anaerobic secondary treatment systems (eg. Lagoons), but removal in activated sludge systems is not as successful.*
- ***These long-term fish exposures are laborious, time-consuming, and expensive. However, they provide some of the most convincing evidence linking PME (pulp mill effluent) exposure to reproductive effects in fish.***

The list goes on and on with reproductive effects being flagged in most instances. Poorly understood "reproductive effects" are not too comforting when the herring stock is in need of rebuilding and this project proposes to saturate the spawning grounds with toxic effluent.

The proponents claim this effluent will be non-detectable at 100 meters. That's magic. I would question the sensitivity of the detectors or what exactly they are attempting to detect. We challenge you to go down to Boat Harbour and stand there for 10 minutes. The treated effluent is certainly detectable there at 100 meters.

This Effluent Pipe and proposal has been presented twice in the past, first in 1994 and a variation in 2004. The first of these, "The Initial Environmental Assessment for the Boat Harbour pipeline and diffuser" proposal was presented in September of 1994 and "Returning Boat Harbour to a Tidal Estuary" in 2004. Neither passed muster at the time and either failed environmental assessment or were abandoned for other reasons. Details in writing on the abandonment of the proposals are sketchy but no PIPE ever went out into the Strait.

Your Nova Scotia Department of Environment has diminished this toxic pipe proposal to "an addition to an existing facility" and as such, subject to only a Class 1 Environmental Assessment rather than a more rigorous Class 2 assessment. This is inaccurate and irresponsible. The increase in suspended solids with this proposed new AST system and its inevitable settling on spawning and nursery grounds should trigger the most vigorous assessment and likely scuttle the project entirely. We implore you to examine this project closely and recommend it for a more vigorous and comprehensive Class 2 assessment.

Respectfully,  
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