

CASE STUDY:

A Brief Analysis of the Environmental, Legal and Political History of A'se'k (Boat Harbour)

Produced by the St. Francis Xavier University SAEC 2019 Organizing Committee



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General Information:

- A'se'k (Boat Harbour) is a 142-hectare tidal estuary of the Northumberland Strait in Pictou County, Nova Scotia
- In its original state it was a relatively shallow, saltwater habitat typical of the Gulf of St. Lawrence coastline
- The estuary lies in the immediate vicinity of the Pictou Landing First Nation (hereafter "PLFN") and was an important site for fishing, hunting and recreation for many generations
- Usage of A'se'k for treatment of industrial waste began in 1967 and has occurred continuously since then, albeit with changes to the various industrial processes involved.
- Initially, industrial effluent was permitted to flow unobstructed into the harbour due to the harbour's narrow outlet to the Northumberland strait. This gives water in the harbour a long residence time over which pollutants could "settle out".
- A dam was constructed shortly thereafter, inhibiting the inflow of saltwater. The water level was raised, effectively converting the tidal estuary to a freshwater lake.
- Along with the dam, several ponds were constructed at the site of effluent discharge to allow for settlement, aeration and stabilisation of the various industrial waste products.
- Presently, treatment of effluent continues at the site, although Government of Nova Scotia mandate will result in the cessation of operations in 2020.
- A thorough environmental assessment is currently underway to establish a remediation strategy that will allow for the restoration of the site to a tidal estuary.
- Current owner Northern Pulp wishes to continue pulp production with a modernized effluent treatment facility and new strategy for effluent discharge.

Additional reading:

Recent history of Boat Harbour:

<https://novascotia.ca/boatharbour/history.asp>

https://www.ecelaw.ca/images/PDFs/ER_event/Asek-Estuary_final.pdf

https://en.wikipedia.org/wiki/Boat_Harbour,_Nova_Scotia

Legal Information:

- Prior to the 1960s, A'se'k (Boat Harbour) meaning “other room” or “over there” in the Mi'kmaq language, was an important site for hunting, fishing, recreation and ceremonial activity.
- The use of A'se'k for the treatment of industrial effluent began after a 1960's agreement between the Federal Government, the Provincial Government of Nova Scotia and representatives of the PLFN.
- The Provincial Government of Nova Scotia thereafter assumed legal responsibility for the land in question.
- Concerns were expressed by members of the PLFN at that time of construction over the loss of fisheries/hunting opportunities.
- Compensation in the amount of \$60,000 was awarded for the loss of the aforementioned opportunities as well as for loss of land usage ability.
- The issue would be revisited in 1986 when precedent had been established by *R v Guerin* (1984) providing legal basis for the PLFN to file a claim against the federal government for mismanagement of First Nations lands.
- The doctrines involved concern the “Fiduciary obligations” of the Federal Government towards indigenous peoples as well as the “Honour of the Crown”.
- These legal doctrines pertain to the special relationship between the Crown and indigenous peoples and the obligation of the Federal Government to act in the utmost good faith, loyalty and due diligence when dealing with or on the behalf of indigenous peoples - Such obligations had not been upheld.
- The 1986 proceedings would culminate in a 1993 settlement (out of court) worth around \$35,000,000 paid to PLFN by the Federal Government of Canada.
- Discussions would continue between the PLFN and the Provincial Government over the following decade (1995-2005), including several commitments by the Province to close the facility and remediate the site.
- The decommissioning of the current treatment facility, however, would not be confirmed until 2015 with the passage of the *Boat Harbour Act*.
- This legislation mandates the cessation of effluent treatment/discharge at Boat Harbour by January 31, 2020.

- 2018 Supreme Court of Nova Scotia decision granted Judicial Review of Aboriginal Affairs decision denying consultation between the Provincial Government and PLFN regarding potential provincial funding of a new effluent treat facility.
- PLFN claims that pulp production poses a continuing health risk to its members if construction of a new treatment facility is approved.

Additional reading:

Boat Harbour Act:

https://nslegislature.ca/legc/bills/62nd_2nd/3rd_read/b089.htm

2018 Decision regarding the provincial funding of a new “Effluent Treatment Facility” and the “Duty to Consult”:

<https://www.canlii.org/en/ns/nssc/doc/2018/2018nssc306/2018nssc306.pdf>

Court submission (2013), evidence section provides a more thorough summary of the legal proceedings pertaining to Boat Harbour and the Pictou Landing First Nation:

https://nslegislature.ca/sites/default/files/pdfs/committees/62_2_LACSubmissions/20150427/20150427-089-003.pdf

Fiduciary obligation of the Federal Government of Canada toward First Nations:

http://fngovernance.org/ncfng_research/obligation.pdf

Honour of the Crown: the unique relationship between the Crown and First Nations (pg. 8-9):

https://www.queensu.ca/iigr/sites/webpublish.queensu.ca.iigrwww/files/files/conf/Arch/2010/ConferenceOnTheCrown/CrownConferencePapers/The_Crown_and_the_First_Nations.pdf

Environmental Concerns:

- The production of pulp is extremely water intensive, using 60 million litres or more (per day) at the current facility.
- Requires chlorine inputs for the “bleaching” aspect of production.
- Microbial processes involved for breakdown of organic compounds, oxygen depletion, requires aeration.
- Contaminants from the industrial processes at A'se'k are known to include: chlorinated organic molecules such as dioxins, furans, polycyclic aromatic; total petroleum hydrocarbons and other volatile organic compounds.
- Some of these compounds are known to be environmentally toxic/carcinogenic as well as persistent (ability to accumulate within various organisms) - bioaccumulation

- Canso Chemicals, which operated from the 1970's-1990's utilizing the same effluent treatment facility at Boat Harbour is thought to have recorded heavy metal losses from their plant amounting to several tons per year during the 1970's.
- Recent analysis of harbour sediment indicates the presence of mercury, cadmium, and zinc.
- Concerns regarding the release of greenhouse gases (of the SO_x variety), air quality, public health.
- Sediment core samples confirm the presence of the aforementioned contaminants in A'se'k as well as some surrounding wetlands.
- An estimated 1,000,000 m³ of sediment will need to be removed during the remediation process.
- No non-microbial aquatic life remains in A'se'k at this time.
- 2014 effluent spill resulted in several million litres of effluent escaping a ruptured pipeline, charges laid, Northern Pulp fined \$225,000.

Additional reading:

Boat Harbour contamination:

<https://novascotia.ca/boatharbour/about.asp>

https://novascotia.ca/boatharbour/documents/Infographic_No_2_Final.pdf

https://www.researchgate.net/publication/312415819_Review_of_Metalloid_Sediment_Contamination_in_A'se'k_Boat_Harbour

Dioxins/Furans as contaminants:

<https://www.canada.ca/en/health-canada/services/healthy-living/your-health/environment/dioxins-furans.html>

Pulp production info; pulp effluent regulations:

<http://northernpulp.ca/assets/Uploads/KraftProcess-NorthernPulp.pdf>

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-92-269/page-1.html>

Fisheries Concerns:

- A new strategy for effluent discharge proposed by Northern Pulp involves piping treated industrial waste (Activated Sludge) directly into the Northumberland Strait.
- Persons involved in fisheries from the provinces of the strait have expressed concern that direct discharge will threaten the ecosystem/viability of future catches.
- Solid contaminants contained in the effluent will enter the Strait through direct discharge whereas in the past they were confined to A'se'k due to the dam structure.
- Eutrophication and oxygen depletion are listed as potential threats to the health of the ecosystem due to the large influx of nutrients from the 60-90million litres of effluent currently discharged by the mill (per day), as well as unknown long-term toxicological effects of pulp effluent.
- Various unions and fisheries groups have publicly voiced their discontent of the proposed method of effluent discharge and are actively working with the province and Northern Pulp to find a solution that will satisfy each party.
- Northern Pulp contractors conducting marine surveys near the mill and Pictou Harbour have been subject to blockades organized by fishermen.
- January 2019 - Nova Scotia Supreme Court signs permanent injunction to bar fishermen from interfering with Northern Pulp and contractors in surrounding waters.

Additional reading:

2019 injunction:

<https://www.cbc.ca/news/canada/nova-scotia/permanent-injunction-between-northern-pulp-and-fishermen-signed-1.4997031>

Northumberland Strait fisheries, environmental articles re Northern Pulp:

<https://www.thechronicleherald.ca/news/local/northern-pulp-part-four-the-northern-strait-is-unhealthy-and-theres-blame-to-go-around-276988/>

<https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-effluent-pipe-fishermen-escort-1.4874852>

<https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-mill-shut-down-due-to-effluent-leak-1.2670721>

<https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-effluent-leak-reported-1.4872208>

<https://www.cbc.ca/news/canada/nova-scotia/northern-pulp-mill-effluent-leak-fine-1.3504203>

Plans for Remediation:

- As mandated by the *Boat Harbour Act* (2015), the current effluent treatment facility will cease operations by January of 2020.
- The site is currently undergoing a 275-day environmental assessment to determine the extent of contamination and to configure an appropriate remediation strategy.
- A variety of scientific undertakings are involved in this process including hydrological, geochemical, geotechnical and ecological.
- The remediation will also draw upon Mi'kmaq ecological knowledge.
- Earliest date for the commencement of remediation is 2020.
- The Provincial Government has committed \$217 million to the project.
- It will be important to determine the best disposal method for the contaminated sediments which must be dredged from the harbour.
- The Boat Harbour Environmental Advisory Committee has been formed to oversee the project: industry experts, government advisors, Nova Scotia scientists, members of the PLFN and others.

Additional reading:

Remediation plans:

<https://novascotia.ca/boatharbour/about.asp>

December 2018 remediation project update:

<https://novascotia.ca/boatharbour/documents/boatharbour-project-planning-and-progress-12-2018.pdf>

Federal Approach to contaminated sites:

<https://www.canada.ca/content/dam/eccc/migration/fcs-scf/8DF3AC07-5A7D-483F-B263-6DE03104319A/fa-af-eng.pdf>

Moving forward - Northern Pulp:

- The current dam structure will be demolished pending successful remediation of the current effluent treatment facility.
- All parties involved are hopeful that the project will result in the restoration of the former tidal estuary.
- Class I Environmental Assessment currently underway, pertains to new effluent treatment facility (which would permit for continued mill operation).
- The current pipe which transports effluent from the pulp mill at Abercrombie point to Pictou Landing will need to be rerouted, must determine new outfall.
- Effluent discharge in Pictou Harbour would increase the risk of oxygen depletion through eutrophication (from nutrient accumulation), harmful to aquatic life.
- Modelling from Northern Pulp consultant suggests nutrient accumulation will not be problematic if effluent outfall is to the Northumberland Strait due to deeper water, currents, and mixing.
- Multiple engineering, socio-economic, political and environmental difficulties involved with selecting a pipeline route.
- Underwater, multiport discharge suggested by Northern Pulp to promote mixing, factor of dilution.
- “Closed loop” effluent system (which would not require discharge) is not viable - rapid degradation of industrial components, comparable mills are not equipped with such a system.
- Aeration, biological processes utilized for effluent treatment, breakdown of organic molecules.
- It has been suggested that the Provincial Government has conflicting interests relating to this issue as it is responsible for the Environmental Assessment which would approve or deny the proposed new effluent treatment facility whilst also potentially committing funds to construct such a facility.

Additional reading:

Northern Pulp info:

<https://sites.google.com/dillon.ca/northernpulpetf/effluent-treatment-facility>
<https://sites.google.com/dillon.ca/northernpulpetf/environmental-assessment>
<https://sites.google.com/dillon.ca/northernpulpetf/project-overview>

Conclusion:

Though we do not claim to provide the entirety of the relevant information pertaining to the case of A'se'k (Boat Harbour) and the environmental, legal and political discussions surrounding the issue, we as students of St. Francis Xavier University have provided this summary such that the guest speakers and attendees of the Science Atlantic Environment Conference 2019 may have a general insight to a central topic of the event. We have made every effort to be objective and to represent each side of the issue as accurately as possible.

Should anyone have questions or concerns regarding the information presented in this document, please contact one of our student representatives.

Thank you, and we look forward to seeing you at the conference.

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