

Gas

Keywords – title

- > Shale gas
- > threatened species
- > fossils
- > moratorium
- > water quality
- > traditional livelihoods



Figure 2: Shipwreck on Anticosti
(source: www.quebecmaritime.ca)

Timeline

1962- Jean Lesage, 19th premier of Québec, signed a social contracting guaranteeing the primacy of petroleum resources of Anticosti to the people of Québec.

2002- 2006- USD 8 million is invested by Hydro-Québec to complete oil and gas prospecting on Île Anticosti.

2008- The Liberal Party of Québec under leadership of Jean Charest, sold all exploration permits on Anticosti at 10 cents a hectare to three private enterprises (Pétrolia, Corridor, and Junex).

2010- The three private enterprises announce the discovery of oil and gas deposits valued at greater than 40 billion barrels

2014- Parti Québécois leader, Pauline Marois, announces the investment of USD 96 million for oil and shale gas exploration on Anticosti.

(Source: www.liberaux.net)

Background

Anticosti Island (49°30' N 63°00' W), nicknamed the 'Pearl of the St. Lawrence' is located in the Gulf of St. Lawrence and is approximately 225 km in length, and 56km at its widest point (Figure 1). It covers approximately 7,943km² in terms of land area and is features vast landscapes, rich wildlife, and a sparse human population. Given its location at the mouth of the St. Lawrence seaway and the Gulf leading to the Atlantic Ocean, the island lies along a core navigation route and has over the centuries had a number of shipwrecks wash upon its shores (Figure 2).

Features

Anticosti has three major protected areas where all industrial areas have been off limits. These areas include one national park (Parc National d'Anticosti) and two ecological reserves, the Grand Lac-Salé and the Pointe-Heath, protected for their unique biodiversity and geological features. Access to these areas is strictly forbidden, except in cases of scientific research or for educational purposes. The majority of the island is categorised as habitat for fauna, including migrating birds, deer, bison, caribou, red fox, otter, elk, mink, moose, grey seals, muskrat, black bears, and the highly vulnerable atlantic salmon, among others. Additionally, more than 600 species of prehistoric fossils have been found on the island, including species of brachyopods, cephalopods, marine gastropods and trilobites.

A number of unique geological features are also present, unparalleled in North America. These include majestic canyons such as the Vauréal Falls and a series of caves with depths of over 400m, and calcite accumulations unrivaled in the province of Québec. The reefs off the island are among the most ecologically sensitive in the St. Lawrence seaway.



Figure 1: Location of Anticosti Island
(Google maps, 2014)

Oil and Natural gas exploration

In February, 2014, Pauline Marois of the Parti Québécois announced the approval of plans to invest more than USD \$96 million into exploration for oil and shale gas reserves on Anticosti Island (Figures 3 and 4). The island sits along the northern edge of the Utica Shale deposit, and has been speculated to contain more than 45 billion barrels of oil. This speculation alone has generated substantial interest to commence an exploratory phase of petroleum extraction. Part of this interest has centred on assessing the total amount of oil revenue, and potential job creation from exploration. However, no environment impact assessments have been considered prior to beginning an exploratory phase, casting considerable concerns over project sustainability and social well-being for residents of the island and Québec's future generations.

The oil and gas enterprise, Gaz Métro in a strategic arrangement with Hydrocarbures Anticosti (a co-enterprise formed by the QC government, and three other enterprises: Pétrolia, Corridor Ressources and St-Aubin) would have a monopoly on the commercialisation of natural gas exploitation. Over the course of the summer of 2015, Pétrolia plans to lead 15 explorations of between 1.5 and 2 kilometres deep in order to determine where three future sites of shale gas extraction will be located (Radio Canada, 5 August, 2014). However, no exploitable deposits of natural gas have yet been found on the island, despite



Figure 3: Area open for shale gas exploration (in blue)
(Source: Corridor Resources)



Figure 4: Initial exploration
(source: LeDevoir)



Figure 5: Protest against oil and gas exploration in Montréal (QC)-
Translation: "The real thugs are in government"
(Source:
www.sabotagemedia.anarkhia.org)



Figure 6: Rivière à l'Huile,
Anticosti
(source: Wiki Commons)

decades of investigation. According to one study, more than 12,000 boreholes would be required to extract just 1 to 2% of the total supply (assuming the 45 million barrels of oil shale prove accurate) (Le Devoir, 24 October, 2014).

Marc Durer, retired professor from the Department of Earth and Atmospheric Sciences at the Université du Québec à Montréal has stated: "The drilling platforms could occupy up to 4 to 5% of the surface of the island without including the associated infrastructure that would need to put in place" (Le Devoir, 4 June, 2013). Former Québec premier Pauline Marois expected that over USD \$37 billion in royalties, profits and taxes over a period of 30 years could be expected from the oil on Anticosti and that 'energy independence' could be achieved given that the province currently imports nearly USD \$12 billion of oil annually (Council of Canadians, 20, February, 2014). The prospect of transporting the natural gas from Anticosti remains another contentious point, given that one option proposed has been the construction of an undersea pipeline. No assessment of costs or of environmental impacts of transportation options has been conducted.

The conflict

With a population of barely 250 individuals, the residents of Anticosti are fiercely proud of their island and its natural heritage. As fervour grows over oil shale exploration, the residents of the island continue to suffer from a lack of basic services, primarily to potable drinking water due to the poor maintenance of existing water treatment facilities on the island in recent years. Yet residents are also aware that the voices of 180 adults are no match against the substantial economic demands for energy in the province and

the powerful interests of politicians and industries seeking domestic extraction.

In one recent study conducted in 2013 by a Master's student, more than 150 residents of Port-Ménier, the principal town on the island, were interviewed in order to gain a better understanding of the socio-ecological challenges associated with oil and gas exploration on the island. The results were revealing; more than 70% of interviewed residents felt that their voices were not considered or heard in the debate concerning resource exploitation. As one island resident, Frédéric Michaud proclaimed: "Supporters of the oil extraction are not from the island and do not see it as a jewel, or they say that Anticostiens won't be affected...they take us for imbeciles." He also emphasized the rare unique beauty of the island and a quality of life built upon community solidarity. "Off the gulf coast, we can see seals, even whales, while on land we can find salmon and royal eagles. I've lived in other parts of Québec, but what we find here does not exist elsewhere." In relation to community relations, resident Anne-Isabelle Cuvillier stated: "We are a close community who helps each other, and give each other the resources to survive." Of those who expressed concern over the oil shale developments, near unanimous agreement was declared that the arrival of the petrol industry would completely disrupt the existing mode of life, the risk of tourism potential on the island. As Frédéric Michaud added: "This issue is already having impacts here- the people are divided about oil exploration." (Le Devoir, 28 June, 2014).

Several environmental groups and political parties have vehemently opposed oil exploration on the island (Figure 5), including The David Suzuki Foundation, Équiterre, and the Québec Solidaire party. The mayor of the

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municipality of Anticosti Island in Port-Ménier, Jean-François Boudreault, confirms that there exists an interest to explore the potential of oil wealth beneath the surface but emphasizes concerns about the co-habitation of traditional fishing (Figure 6) and hunting activities with oil and gas exploration.

Meanwhile, concerned individuals from around Québec and beyond have launched an online petition expressing their concerns over the industry and the future of the environment and well-being of people on Anticosti. A petition on the Avaaz site has received nearly 40,000 signatures and has called for an immediate moratorium on shale gas exploration to avoid irreversible damages on the island prior to more informed understanding of the short and long-term impacts of hydraulic fracturing. As Anticosti activist Marie-Hélène Parant states: “I have a feeling that there will not be a period of investigation; they will continue without examining the risks.” (Le Devoir, 4 June, 2013).

Specific Impacts

Environmental:

The principal impacts associating with drilling on the island correspond to the loss of biodiversity, particularly species which are already threatened on the island. These include a number of plants which are not found on the mainland and are unique to Atlantic Canada, such as: *Cypripedium arietinum*, *Carex backii*, and *Symphotrichum anticostense*. (Sabourin and Morin, 2009). The Atlantic Salmon, various species of whales and seals offshore, and migrating birds could also be affected by oil drilling and transport.

Elsewhere, oil exploration on the island will pose risks to water quality (through both surface and groundwater contamination), which is already compromised on parts of the island. The unique geological features of the island may also be impacted by large-scale disturbances of hydrological and geological systems associated with drilling.

Socio-Economic:

The greatest social impacts from oil exploration on Anticosti relate to the disruption of traditional livelihoods associated with hunting, fishing, and to tourism. The consequences associated with these losses could include land dispossession, loss of a sense of place, lost tourism revenue, loss of archaeological and natural heritage for present and future generations, and the risk of social conflict.

Health:

Significant health risks are posed by shale gas exploration, including risks of increased groundwater and surface water contamination, given the already poor water treatment facilities on the island. The loss of a sense of place and potential ramifications from the loss of traditional livelihoods might also disrupt established community relationships and support systems.



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