SAVE OUR SEAS AND SHORES PEI:
PRESENTATION ON THE WATER ACT

1. Introduction

Save Our Seas and Shores PEI (SOSS PEI) is a coalition of fishing organizations, environmental and tourism groups, coastal landowners, First Nations organizations and individuals, and citizens who are dedicated to defending the Gulf of St. Lawrence from offshore oil and gas exploration and drilling. We are concerned that this ecologically rich and diverse area, home to over 2,200 marine species, is particularly sensitive to any disturbance caused by exploration and drilling.

2. Importance of the Gulf of St. Lawrence to Prince Edward Island

The importance of the Gulf of St. Lawrence to Prince Edward Island (PEI) cannot be overstated. From earliest times PEI has been known by the Mi'Kmaq name Abegweit - loosely translated meaning "Cradled on the Waves", or "Lying on the Water". This phrasing evokes powerful imagery that epitomizes the symbiotic relationship between the Island - and Islanders – with the Gulf of St. Lawrence.

In a symbolic and powerful ritual, a recent First Nations Sacred Water Ceremony was held on October 26th, 2015, on the neighbouring shores of the Gulf in Nova Scotia – a shoreline that directly faces Prince Edward Island to the South. The ceremony extended a protective intention to the entire Gulf in all directions, understanding that each shore that this body of water touches has an integral relationship to each province and respective community in each of the five provinces that border the Gulf.

The tidal ebb and flow of the Gulf does not merely lap at the shores of PEI, but percolates beyond the shoreline to interact with rivers, streams, estuaries and ground water in a natural, cyclic, and perpetual rhythm. Given our appreciation of the present ecosystems, and the nature of life on Prince Edward Island, it only stands to reason that we consider the Island's - and Gulf's – biodiversity in the discussion of this Water Act.

With this in mind, let us turn our focus to the economic importance of the Gulf waters on PEI and the significant role it plays in the sustenance of life for Islanders. Specifically, in 2011 the economic impact of the multi-species fishery in PEI contributed $278 million to the PEI economy (Government of Prince Edward Island, 2011). In 2014 alone, the lobster landings of the Maritime Provinces and the Gulf totaled over $784 million (DFO, 2015) - a figure that represents increased landings and economic value for fishers in PEI. In addition, "tourism is a vital industry in Prince Edward Island that provides over 7,000 full-time equivalent jobs for Islanders. It accounts for approximately $400 million in economic activity each year and seven per cent of GDP, the highest percentage of any Canadian province." (Journal Pioneer, 2015)

It is the goal of SOSS PEI that we convey the interdependence of the Gulf of St. Lawrence as a key economic stronghold for our region, but as importantly highlighting

the interconnectedness of the Gulf waters with the only source of potable water available to Islanders in our only aquifer – one that we share with our neighbours as it extends from its origin in New Brunswick through PEI and continuing eastwards to Cape Breton.

3. Impacts of Oil Spills on Marine Ecosystems

In 1989 the Exxon Valdez oil tanker spill in Prince William Sound off the coast of Alaska created a huge ecological disaster, not because of the volume of oil spilled (eleven million gallons) but because of the amount of shoreline affected, the sensitivity and abundance of organisms in the area, and the physical characteristics of the Prince William Sound. Despite extensive cleanup attempts, less than ten percent of the oil was recovered and a study conducted by the National Oceanic and Atmospheric Administration determined that, as of early 2007, more than 26,000 U.S. gallons of oil remained in the sandy soil of the contaminated shoreline, declining at a rate of less than 4% per year. The scientific studies of the effects of the Exxon Valdez are ongoing, including the impact on groundwater.

In Nigeria, an estimated 260,000 barrels of oil spill each year into the Niger Delta and surrounding areas, with devastating impacts on people, plants and wildlife and contaminating much of the groundwater in the area.

We are all too familiar by now with the April 20, 2010 explosion and sinking of the Deepwater Horizon oil rig in the Gulf of Mexico about 70 kilometers off the coast of Louisiana. By the time the well was capped on July 15, 2010 - 87 days later - an estimated 4.9 million barrels of oil had leaked into the Gulf of Mexico, making the spill the largest accidental ocean spill ever recorded. And it became an environmental disaster unparalleled in US history. Hundreds of kilometers of shoreline in the northern Gulf of Mexico were affected, including the fragile and ecologically important wetlands of Louisiana's Mississippi River Delta ecosystem. Currents and winds carried the oil, and oil combined with dispersants (chemicals that disperse the crude into very small oil droplets), to the Gulf shores, where it washed up on sandy beaches. According to a study released in November 2012 by Florida State University and Utrecht University in the Netherlands, the dispersants made the oil sink more quickly and more deeply into beaches and possibly into groundwater.

A new major study by Florida State University into the Deepwater Horizon oil spill will provide much-needed information on the impact of oil spills on coastal areas. The study is researching how much and how deeply oil washed into shore is carried into the sand. The researchers believe that the toxic crude components that remain buried on Gulf Coast beaches are probably seeping into the groundwater below. The researchers say that "preventing groundwater contamination is crucial not only to Gulf Coast residents but also to coastal management and local economies like fisheries and tourism that depend on water quality."

Since 1997, the Newfoundland and Labrador Offshore Petroleum Board has recorded 337 oil spills from three rigs operating in the Atlantic, which have dumped an estimated 430,000 litres (or 2,700 barrels) of synthetic drilling fluids and other hydrocarbons into the ocean. At the moment, four charges have been laid against Hibernia Management and Development Company after a crude oil spill was reported from the offshore platform on the Grand Banks. The charges involve an oil spill of at least 6,000 liters.

Marine spills such as these can lead to freshwater system contamination when the oil washes onto the shoreline and drifts upstream through estuaries into rivers and streams and eventually contaminates groundwater (Biennial Report by Peter H Gleick et al). This is especially true where rivers are tidal.

Clean water is an essential component of healthy communities and healthy ecosystems - our survival depends on it. Increasingly, though, oil drilling, oil blowouts, huge oil tankers, and oil pipelines pose one of the greatest threats to coastal communities and our groundwater.

4. Status of Exploration and Drilling for Oil and Gas in the Gulf of St. Lawrence

Although not fully accepted by the provinces, the federal government owns the seabed and underground resources in the Gulf. In 1964, the five Gulf provinces agreed to subdivide their pretension on the Gulf's underground resources. The federal government never formally recognized this sub-division, but has respected it. In addition, some First Nations, such as the Mi'kmaq and the Innu of the North Shore have land claims over large parts of the Gulf.

Since court cases have established that the federal government owns the offshore oil and gas resources, provinces need to sign co-management agreements in order to develop hydrocarbons in their respective offshore territories. These agreements give 100% of royalties to the provinces and provide for the setting up of co-managed Offshore Petroleum Boards. The roles of the Boards are: to issue calls for bids and licences; and to act as regulators for all aspects, including workers' security and environmental protection.

Newfoundland and Labrador (NL) has had an Offshore Petroleum Board since 1986 (C-NLOPB) and Nova Scotia since 1988 (C-NSOPB). Quebec signed a co-management agreement in March 2011, but it is not yet in force. Enabling legislation for a Canada-Quebec agreement passed first reading in Parliament in June 2015, but will now have to be re-introduced and passed before it can be put into force.

The C-NSOPB has not yet issued any licences in the Nova Scotia portion of the Gulf.

The C-NLOPB has issued eight licenses in the Gulf to date, the first being a licence issued to Corridor Resources in 2008 for the Old Harry prospect. Two thirds of the prospect is in the QC portion of the Gulf and the remaining one third is in the NL portion. The Old Harry prospect lies in the middle of the Laurentian Channel, about 80 km from

both the Magdalen Islands and the coast of Newfoundland. The water depth at the projected drilling site is 470 m, nearly six times the depth at the Hibernia site. The environmental assessment for Old Harry is nearing completion, but the C-NLOPB has not yet decided on the format for public consultations.

Quebec issued ten offshore licences in the Gulf in 1996-97, but they have been suspended until the Canada/QC agreement comes into force. One year after the agreement comes into force and a QC Offshore Petroleum Board is set up, the ten licences will be re-instated. (Archambault)

Clearly, exploration and drilling for oil and gas in the Gulf in the near future is a real probability, not a distant possibility, unless steps are taken to protect the Gulf. Numerous seismic tests have already been conducted, with potentially harmful impacts on marine species.

5. Inter-connectedness of the Gulf with PEI Bays, Estuaries and Groundwater

The Gulf of St. Lawrence surrounds Prince Edward Island. The Gulf includes the Northumberland Strait. PEI's numerous bays and estuaries exchange water with the Gulf twice daily as tides advance and recede. Contaminants in the Gulf eventually flow into the bays and estuaries, while contaminants such as nitrates and pesticides in the estuaries make their way into the Gulf. In fact, nitrates from PEI accounted for 96% of the total nitrate loading in a study area surrounding and including the Northumberland Strait, even though PEI represented only 34% of the land surface area included in the study. (Somers, Savard, Crane).

A study of the hydrogeology of the south-central part of the Maritimes Basin aquifers classified the Prince Edward Island portion as highly vulnerable to surface contamination and found the shallow saltwater-freshwater interface to be located up to 200 m inland in a PEI estuary, representing a potential problem of brackish water in nearshore wells. (Resource Materials: Canadian Groundwater Inventory).

Given the inter-connectedness of the groundwater and the fresh and salt water in streams and estuaries with the water of the Gulf, the water under, on and around Prince Edward Island should be considered one ecosystem and protected from contaminants to the greatest extent possible.

6. Recommendations

6.1 Stewardship of the Gulf of St. Lawrence. At the Party Leaders' Forum on the Environment held during the recent provincial election campaign, Premier MacLauchlan said that the PEI economy depends on the health and good stewardship of the Gulf and that PEI should take the initiative to work with the other provinces, the federal

government, First Nations and environmental groups to develop a positive plan to look after the Gulf.

Recommendation 1: In keeping with Premier MacLauchlan's statement, we recommend that the Water Act recognize that Prince Edward Island is surrounded by the Gulf of St. Lawrence, that water flows back and forth between the Gulf and the Island's tidal bays and estuaries, and that the salt water of the Gulf transitions into Prince Edward Island's groundwater. For these reasons, the Water Act should include as a principle that good stewardship of the Gulf, including protection from contaminants, is an essential element of protecting the quality of our water supply. PEI must be protected from the potential pollution of its water which would result from exploration and drilling for oil and gas in the Gulf. The Water Act should protect all water in and around PEI, including PEI's portion of the Gulf of St. Lawrence, and should make the discharging of any deleterious substance into this water an offence under the Act.

6.2 Clean, safe drinking water and healthy aquatic ecosystems. Contamination of Prince Edward Island's groundwater, streams and estuaries by nitrates, pesticides and run-off is a well-documented and serious problem. Protecting the safety of our drinking water and the health of our aquatic ecosystems should be the primary reason for establishing a Water Act.

Recommendation 2: We recommend that the Water Act state that clean, safe drinking water is a fundamental human right and that protecting the health of aquatic ecosystems is the primary goal of the Act.

6.3. High capacity wells and saltwater intrusion. The Water Act Backgrounder states "Pumping by high capacity wells within a few hundred meters of the coast is [a] much greater issue" than sea level rise as a factor affecting sea water intrusion into fresh groundwater. In addition, the resource document "Saltwater Intrusion and Climate Change" states "in Atlantic Canada, overexploitation is the most common cause of saltwater intrusion" and "PEI appears to be particularly vulnerable to saltwater intrusion", and the document lists several PEI communities where saltwater intrusion has been discovered.

Recommendation 3: We recommend that the moratorium on high capacity wells for agricultural irrigation continue and be extended to include non-essential uses such as golf courses, that approval for industrial and commercial purposes be strictly limited and regulated, that regulations prohibit high capacity wells within a specific distance from the coast, and that the current 237 high capacity wells be gradually phased out to the extent possible.

Sources:

Archambault, S., St. Lawrence Coalition, 2013. Offshore Oil and Gas in the Gulf of St. Lawrence Backgrounder, pp.1-2.

Department of Fisheries and Oceans (2015) Canadian Lobster Landings 2014.

Gleick, P.H. et al, Biennial Report

Government of Prince Edward Island (2011) Prince Edward Island Fisheries Statistics.

Journal Pioneer (Published on February 04, 2015) 2015 Tourism Marketing Plan Looks to Seize Momentum, http://www.journalpioneer.com/Business/2015-02-04/article-4032231/2015-tourism-marketing-plan-looks-to-seize-momentum%0D%0A/1

Somers, G., Savard, M. M., Crane, C., 2014.The Nitrogen Cycle in PEI: Agricultural Sources, Fate and Impact on Groundwater and Surface Water Resources. Presentation, slide 3.

Water Act website Resource Materials:

- A Water Backgrounder;
- Canadian Groundwater Inventory: Regional hydrogeological characterization of the south-central part of the Maritimes Basin;
- Consequences of climate change on contamination of drinking water by nitrate on Prince Edward Island;
- Quick Facts about Prince Edward Island's Water;
- Saltwater Intrusion and Climate Change;
- Shorter fries? An alternative policy to support a reduction of nitrogen contamination from agricultural crop production.