



## **SUBMISSION TO THE PUBLIC REVIEW COMMISSION**

**FROM:** Elizabeth May  
Executive Director  
Sierra Club of Canada

**ADDRESS:** 1 Nicholas Street, suite 412  
Ottawa, Ontario  
K1N 7B7

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This brief is presented on behalf of the Sierra Club of Canada. While the Sierra Club of Canada is a member of the Save our Seas and Shores Coalition, this presentation is made only on behalf of the Sierra Club of Canada.

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## **1. INTRODUCTION**

The Sierra Club of Canada is a national, membership-based environmental organization. The Sierra Club of Canada is affiliated with the Sierra Club, founded in 1892, one of the oldest and most respected environmental organizations in the world. The Sierra Club has been active in Canada for nearly fifty years, with recognized formal chapters since 1969. The organization currently has four chapters in Canada as well as a national youth wing the Sierra Youth Coalition.

The object of the Sierra Club of Canada is to preserve, protect and enjoy the natural world. Our mission is to develop a diverse, well-trained grassroots network working to confront the five global over-riding threats: loss of biological diversity, deterioration of the global atmospheric and marine commons, toxic contamination, spiralling population growth and over-consumption.

The Sierra Club of Canada has four programme areas within which the national organization works to meet its mission. These programme areas are: Health and the Environment, Energy and Atmosphere, Protection of Biological Diversity, and the Transition to a Sustainable Economy (encompassing policy issues from globalization and trade to proper environmental assessment).

The proposed oil and gas exploration within license areas 2364, 2365, and 2368 will have an impact in each of the identified areas of Sierra Club of Canada's programmes. The proposed development poses a threat to life in the marine eco-system, to the health of people in adjacent coastal communities, to the global atmospheric commons, to the appropriate process of environmental assessment and to sustainability in the region.

**As a result, the national organization regards the current Public Review Commission as dealing with critical issues, from a regional, national and international viewpoint. The Public Review is a priority for the national Sierra Club of Canada, as well as for the Atlantic Canada Chapter and Cape Breton Group.**

## **2. PRELIMINARY AND PROCEDURAL RESERVATIONS**

### **a) On process:**

Before setting out our concerns about the exploratory phases of oil and gas development, Sierra Club of Canada wishes to place on record our continuing concerns about the process of the current review and the terms of reference.

Most of our concerns relate to decisions taken by the federal and provincial governments and more particularly by the Canada Nova Scotia Offshore Petroleum Board, as opposed to the Commission itself.

It is unacceptable that the licences were issued at all in the absence of full and thorough review of environmental impacts and identification of sensitive zones in the region. The decision to hold this

public review does not remove the fundamental wrong done by the cavalier fashion in which the licences were issued. The fact that they have not been rescinded is unacceptable. Further, the decision to allow the public review to be managed from the agency that made these initial unacceptable decisions represents a gross conflict of interest. The Canada Nova Scotia Offshore Petroleum Board (CNSOPB) should have had no role in the review of the licences it had already issued. The review should have been conducted within the terms of the Canadian Environmental Assessment Act.

The environmental assessment process, as administered by the Canadian Environmental Assessment Agency, would have differed in a number of respects from the current process. The proponent would have been responsible for preparing an environmental impact statement, to which all participants could have submitted comments and notations of deficiencies. The proposed development would have been assessed by a panel with expert support, and participant organizations would have been eligible for participant (intervenor) funding. It is unlikely that terms of reference as narrow as those under which we are currently constrained would have been established. The CEAA process allows for the assessment of cumulative effects. In short, the impacts of actually moving to oil and gas development following an exploratory phase would have been unlikely to have been precluded. (see comments to the CNSOPB on the Draft Terms of Reference for a fuller exposition of Sierra Club's concerns about the TORs). The Commission may wish to consider comments to the Standing Committee of the House of Commons on Environment and Sustainable Development as that committee is currently holding hearings into proposed amendments to the Act (Bill C-19).

In no event should the process currently underway be construed as meeting the requirements for a complete environmental assessment.

Some latitude and improvements have been adopted by the Commissioner, particularly on the allowable length of presentations. Such changes from the draft TORs are appreciated. Unfortunately, other rules and constraints have worked a disproportionate hardship on non-government organizations and local residents as opposed to the industry proponents. It appears that the CNSOPB has strongly influenced, in fact set, the narrow terms of reference and has influenced procedures. The procedures for this public review have been far less "user friendly" than those employed in the George's Bank Review. For example the requirement for the submission of briefs by December 28, 2001 has had the impact of disrupting numerous family holidays.

**b) On substance:**

The terms of reference preclude an examination of many of the issues of greatest concern to the Sierra Club of Canada (SCC). Due to the exclusive focus on seismic testing and exploratory drilling, SCC is unable to address fundamental concerns about oil and gas development. The issue of climate change and the unavoidable greenhouse gas emissions from development, the issue of pollution through routine operations and the risk of serious devastation in the event of oil spills, cannot be addressed. Neither SCC nor the broader Save our Seas and Shores Coalition, have approached any experts in these areas, nor have we included such evidence in our list of references.

We will be extremely concerned, however, if allegations of potential benefits of oil and gas development are allowed to play any role whatsoever in the Commission's deliberations. By definition, the alleged benefits of oil and gas development are not a permissible consideration in a review that precludes examination of the risks and threats posed by such development.

### **3. RISKS OF SEISMIC TESTING AND EXPLORATORY DRILLING**

In the view of the Sierra Club of Canada, there are significant risks posed by seismic testing and exploratory drilling in the in-shore coastal areas of western Cape Breton and Sydney Bight. These risks include a risk to economic sustainability to the local communities dependent on the fishery and on tourism, a risk to the health of the marine eco-system (both of commercial and non-commercial species of fish, reptiles, invertebrates and marine mammals), and a risk to the health of residents in coastal communities.

None of these risks exists in the absence of a degree of uncertainty. The evidence, whether in economic data, biological observed effects of seismic or of increased illness in communities downwind from gas flaring, is all subject -- to varying degrees -- to the same caveat: there are significant data gaps, not all the evidence is clear.

What is clear, however, is that proceeding with oil and gas exploratory activity **does present a risk**. Equally clear is that **exploratory work for possible oil and gas development offers virtually no benefits**.

The burden of proof must rest, as in any proceeding, on those hoping to disrupt the status quo. In this case, it is for Hunt Oil and Corridor Resources to prove that their activities will not harm existing industries, non-commercial life in the sea, or human health. Given the strong evidence amassed for this public review process, it is clear that the proponent cannot establish that the risks of exploratory activity are outweighed by the "benefits."

The Public Review Commission in weighing the unassailable reality that the activity poses risks with zero to marginal benefits must then recommend to policy makers that the licences be immediately rescinded. No development, exploratory or otherwise should be allowed in coastal areas of Cape Breton and the entire Gulf of St. Lawrence should be off-limits. Oil and Gas development has ample room in off-shore areas without endangering the fishery, marine mammals, tourism benefits, human health and environmental health of the in-shore coastal area.

#### **a) Economic impacts:**

The Sierra Club of Canada will be relying on research, commissioned through the Save our Seas and Shores Coalition, by Laura Landon and Linda PannoZZo from Halifax to examine the risks to existing economic activity from the exploratory phases of oil and gas activity. The report, Crude Costs, is extensive, well researched and provides a grounding in many of the issues facing the Commission. The terms of reference given to the researchers were to compare jobs in Cape Breton from existing

industries. It should be stressed however, that the jobs generated in the southern Gulf of St. Lawrence fishery total some 20,000 including the fishing, processing and attendant activities. Should any serious disaster befall the southern Gulf, all these jobs would be at risk.

The risks to existing industries and the jobs created by the fishery and tourism are significant. The benefits in terms of seismic activity are minimal. As a recent report on the Hibernia Project's economic impact noted, "The exploration phase, though expensive has 'limited opportunities for local involvement' since exploration contractors bring in work crews from elsewhere." (Marshall, 2001)

#### **b) Ecological impacts:**

The threat to marine life is one of the most compelling reasons to reject any oil and gas exploratory activity in the coastal areas around western Cape Breton and Sydney Bight.

The areas in question are extremely rich in biological diversity, with many species of marine mammals, fish, turtles, birds and invertebrates. The coastal areas adjacent to the proposed development have an extremely high proportion of designated protected areas and other federal and provincial designations of ecological significance. Just slightly north of the southern Gulf license area is the Cape Breton Highlands National Park. Any development in the Parcel 1 licence area would be inconsistent with the protection of the National Park. The principle that protected areas should not be threatened by inconsistent industrial activity at their borders is enshrined in the United Nations Convention for the Protection of Biological Diversity. Canada has signed and ratified this Convention. It is a legally binding international commitment.

Along the borders of the Parcel 1 licence to Corridor Resources are also highly significant salmon rivers. The Atlantic salmon is a species in extreme peril. The Committee on the Status of Endangered Wildlife in Canada has designated the Atlantic Salmon as endangered. Both the Cheticamp River and the Margaree River are important salmon rivers. The Margaree River has been designated a National Heritage River and currently is the only Cape Breton River to meet all the requirements for healthy salmon production. Its watershed management plan engaged current industrial "neighbours" such as Stora. There has been no involvement or consideration of in-shore coastal oil and gas exploration in the Margaree Heritage River Management Plan.

There is also a protected sea bird area on Margaree Island, also known as Sea Wolf Island. The island's Blue Heron rookery is protected. The island is completely within the licence area.

On the Sydney Bight side of the island, Hunt Oil's licensed area includes another highly significant seabird protected area. The Bird Islands, famous for Atlantic Puffins, Double-crested cormorants, Black guillemots and numerous other seabirds, is protected from development -- except that oil and gas exploration permits were granted for the area without any consultation with the Nova Scotia Bird Society or the local tourism businesses taking boat tours around the islands.

It is highly significant that every reputable independent agency that has examined the issue of oil and

gas development in the licence areas in question has recommended that the development not proceed.

The first body to find fault with the CNSOPB issuance of licences was the Fisheries Resource Conservation Council (FRCC). Its spring 2000 report noted concerns about "fragility of the ecosystems involved and the numerous people dependent on these ecosystems." The FRCC went on to state:

"Several scientific works have described the **detrimental effect of seismic blasting on every life stage of fish**. It is also known that drilling releases toxic elements into the environment. The FRCC recommends that any oil and gas production activities in the Gulf of St. Lawrence, from exploration to production phase, be postponed until a complete assessment, made through a transparent process, on the potential impact of those activities on the marine life is made." (emphasis added)

Since that report, in the fall of 2001, the Standing Committee on Fisheries and Oceans of the House of Commons, in the course of its review of the Oceans Act, made a similar finding -- that the licences in question should not have been issued.

Most recently and very significantly, the Department of Fisheries and Oceans issued its report in anticipation of this Public Review. Its findings through the Maritimes Regional Advisory Process were released in draft form on December 13, 2001. The RAP provides a strong corroboration of the following key points:

- 1) seismic testing will harm fish (some species arguably more than others, with many impacts incompletely understood);
- 2) for key commercial species, such as snow crab, no data at all exists due to a complete lack of scientific inquiry of impacts of seismic;
- 3) the in-shore, enclosed and shallow nature of the areas in question will intensify impacts over those found in other areas in the off-shore;
- 4) the areas are extremely biologically sensitive with high levels of biomass at all times of year;
- 5) there is no season in which marine life is not in a sensitive stage of development (i.e. there is no "safe" time for sonic blasting.)

The Department of Fisheries and Oceans' "Description of the Southern Gulf of St. Lawrence and Sydney Bight Marine Ecosystems in Relation to Oil and Gas Exploration" Report is an impressive summary of the ecological significance of the coastal areas in question and of the evidence that those ecosystems could be damaged by exploratory activity. Many of the findings of the DFO report are echoed in the Preliminary Report to the Commission from Dr. Arthur Popper of the University of Maryland.

In light of the strong findings of the DFO report supporting the sensitivity and biological importance of the licence areas, it is worth reviewing the findings of the Georges Bank Review Panel Report. The "exceptional ecological value" of the Georges Bank area, the "credible evidence" that fish catches will be affected, that the fishery would be disrupted, all led the panel to recommend a continued moratorium to prevent oil and gas activity. The key consideration ("most important factor") in decision-making for that panel was the "unacceptability of potential harm."

Given the DFO assessment, it is clear that there is no justification for treating these in-shore coastal areas as any less sensitive than Georges Bank. In fact, a case can be made that the southern Gulf of St. Lawrence and Sydney Bight are more sensitive than Georges Bank. The "unacceptability of potential harm" must also dictate a recommendation to reject exploratory activity in the areas under review.

Scientific understanding of the detrimental impacts of sonic blasting is still in its infancy. But it is clear that impacts are significant and extend far beyond the area of immediate blasting. Former oil and gas industry geologist, Dave Lincoln, has provided an expert report summarizing much of what has been learned about seismic impacts. Dr. Christopher Clarke of Cornell University, while unable to attend the Public Review to present evidence, has prepared a written submission on behalf of SOSS relating to impacts on whales of seismic activity. His research on the impacts of invasive sonic blasting on whales played an important role in ending the practice in coastal US waters.

There are at least fifteen species of whales found in the area around the Cabot Strait. Of these, the Right Whale is extremely endangered, and the Fin whale and humpback are listed as of special concern. As the DFO report notes, there is inadequate data to assess the population health of the other whale species present. The health and fate of the whale populations besieged by sonic blasting is a key concern of the Sierra Club.

There is little uncertainty that sonic blasting is detrimental to marine mammals.

We know much less about the impact of extreme noise on another endangered species, the Leatherback turtle. There are three species of sea turtles found in the waters under review. There has been very little research on their behaviour, population health and habitat requirements. What we do know is that the Leatherback turtle is endangered. Nothing should be done to disturb this species without a vast amount of further study to ensure the species' survival. In fact, what little research has been done on turtles and the impact of noise, suggests the noise does impact turtle behaviour.

The intensity of the noise is hard to imagine. According to the text Marine Mammals and Noise, "Peak levels of sound pulses from airgun arrays are much higher than the continuous sound levels from any ship or industrial source." The authors of that article noted that powerful airgun arrays can achieve peak noise levels as high as 259 decibels. They also note that the noise does not funnel downward only, but also projects horizontally and can be heard many kilometres away.

A recent article in **Science** (January 26, 2001 "Ocean Noise") noted that investigations by the National Oceanographic and Atmosphere Agency, attempting to detect underwater earthquakes

have been "overwhelmed by low-frequency pulses sometimes produced thousands of kilometres away by oil exploration ships using pressurized air-gun arrays." One researcher is quoted saying "A single seismic survey vessel can **sonify the entire North Atlantic.**" (emphasis added)

The impacts on the fishery, on non-commercial species, on species at risk and of special concern and particularly on whales (which while not a "commercial species" have a growing economic value through the proliferation of whale watch tours) are all compelling reasons to reject sonic blasting.

### **c) Health impacts**

There are two ways in which human health can be negatively impacted by the exploratory phase of oil and gas development.

One would be through the mobilization of hazardous wastes of military origin on the ocean floor. This issue was raised in the scoping process and requires further investigation. There are several sites on navigation charts noting that disposal of hazardous materials has happened within the licence areas under review. The Commission should recommend that the Minister of Natural Resources obtain from the Minister of National Defence as complete an inventory as possible of abandoned chemicals (such as mustard gas and other noxious substances) on the ocean floor within the area of the licenses under review.

The second way in which human health can be negatively impacted in the exploration phase is through gas flaring. As noted in the DFO report, gas flaring is part of the exploratory phase. Once a gas deposit is found through exploratory drilling, and prior to a decision to proceed to development, the gas is flared to the atmosphere. The evidence of Dr. James Argo is extensive and compelling on the range of serious health problems associated with flared gas.

Clearly, the risk to human health is a significant issue for the licence areas in question. The human health issue was not of concern in the Georges Bank Review as there was no proximity to human communities. The movement of pollutants from gas flaring over 5 kilometres is a significant concern for residents of Cape Breton.

If we learn nothing else from the tragedy of the Sydney Steel plant and the legacy of death, pollution and disease it has left behind, it is that there must be no "trade-offs" between jobs and health. Eventually the jobs are gone and the health problems remain.

## **4. CONCLUSION**

There is no question that Cape Breton needs an economic stimulus and new investment. There are a number of ways that existing oil and gas activity, at Sable for example, could be harnessed to bring economic activity to Cape Breton. Both Sydney Harbour and Port Hawkesbury are logical supply centres for Sable.

The lure of development as the excuse for taking significant risks with the health of existing sustainable industries, such as fishery and tourism, must be resisted. Firstly, because it is outside the terms of reference of this Commission to even consider the promised pot of gold at the end of the rainbow. Secondly, because even if the area moved to development, significant new jobs would not be created (given the experience with Sable).

This is not an inquiry tasked with solving Cape Breton's economic woes. If it were, we would have presented evidence of the significant economic benefit of establishing a wind turbine generator manufacturing facility in industrial Cape Breton. Wind turbine installation in North America is increasing at an exponential growth rate, but all wind turbines must be imported from Europe as no manufacturing facilities exist in North America. This would be an industry with a requirement for the skill set already possessed by a Cape Breton workforce. It would not threaten existing sustainable industries.

A full exploration of economic development strategies that respect and strengthen community and local culture would have a very different focus from the current inquiry.

The current inquiry is to examine the potential threat of exploratory sonic blasting and drilling in two in-shore coastal zones. Every fisheries organization on these coasts opposes the development. So too do the First Nations, with their own significant interests protected by the Canadian Constitution and ignored by the CNSOPB. Many tourism operators oppose the oil and gas development. And, not surprisingly, the development is opposed by every conservation and environmental group working in the region.

The Fisheries Resource Conservation Council, the Standing Committee on Fisheries and Oceans, and the Department of Fisheries and Oceans RAP all point to the same conclusion. These permits should never have been issued.

## **5. RECOMMENDATIONS**

The Sierra Club of Canada urges the Commissioner to recommend a complete rejection of exploration or development in the in-shore, coastal areas of the Gulf of St. Lawrence and Sydney Bight. Moreover, as recommended by the FRCC, although outside the immediate mandate of this public review, the Commission should recommend that the Gulf of St. Lawrence as a whole be placed "off-limits" to oil and gas activity.

Furthermore, the SCC urges the Commissioner to make recommendations to the federal and provincial ministers for a fundamental review of the current licensing and approvals process. The CNSOPB requires an extensive over-haul if mistakes such as granting licences in these highly sensitive areas are not to be repeated.

Thank you for the time and attention you have given the concerns of the Sierra Club of Canada.

## 6. REFERENCES

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- 3) The Report on the Oceans Act of the Standing Committee of Fisheries and Oceans of the House of Commons, Wayne Easter, MP Chairman.
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