

**NEWFOUNDLAND OFFSHORE
EXPLORATION DRILLING**

**Environmental Impact Statements
for the Projects of**

- 1. Statoil Canada Ltd.**
- 2. ExxonMobil Canada Ltd.**



Submission of the Innu First Nation of Nutashkuan

Preliminary Version

Submitted to the

Canadian Environmental Assessment Agency

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1. Foreword

This brief is based essentially on the Environmental Impact Statement (EIS) submitted by Statoil Canada Ltd. (December 2017).

However, the letter of January 5, 2018, addressed to Chief Rodrigue Wapistan from the Canadian Environmental Assessment Agency (CEAA) points out that the Statoil EIS was conducted in conjunction with the EIS of ExxonMobil Canada Ltd., to the point that [TRANSLATION] “*the documents have the same structure and share the same content where it is relevant to do so.... To enable the reviewers to work more efficiently, the Agency is conducting a joint technical review and allowing a joint comment period for both projects.*”

After reviewing the two tables of contents and a few passages from the ExxonMobil EIS,¹ we decided to base our analysis on the Statoil report. That is why the references to sections and pages are based on the Statoil EIS.

1.1. Main references used

This foreword explains why we will regularly refer to the following four documents, which will be marked as *op. cit.* in this brief, while all the other references will be indicated in a footnote.

- **Statoil Canada Ltd. (2017). Flemish Pass Exploration Drilling Program – Environmental Impact Statement. Prepared by Amec Foster Wheeler and Stantec Consulting. St. John’s, NL, Canada. November 2017. 1,379 p. (<http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=121309>)**
- Statoil Canada Ltd. (December 2017). Flemish Pass Exploration Drilling Program – Environmental Impact Statement – Summary. 120 p. (<http://www.ceaa-acee.gc.ca/050/documents/p80129/121308E.pdf>)
- Canada-Newfoundland and Labrador Offshore Petroleum Board. Eastern Newfoundland Strategic Environmental Assessment. Final Report. August 2014. (<http://www.cnlopb.ca/sea/eastern.php>)

¹ ExxonMobil Canada Ltd. (2017). Eastern Newfoundland Offshore Exploration Drilling Project – Environmental Impact Statement. Prepared by Amec Foster Wheeler and Stantec Consulting. St. John’s, NL, Canada. November 2017.

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- CEAA, 2016. Guidelines for the Preparation of an Environmental Impact Statement Pursuant to the *Canadian Environmental Assessment Act, 2012*. Statoil Canada Ltd. Flemish Pass Exploration Drilling Program. 45 p., December 23, 2016. (<http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=116854>)

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2. Introduction

2.1. Environmental assessment process

This environmental assessment conducted by the Canadian Environmental Assessment Agency (hereinafter, CEAA) is being carried out pursuant to the *Canadian Environmental Assessment Act, 2012*, which is unfortunate, since this Act adopted under the previous government has been widely criticized, particularly by the First Nations. Since the current government made a commitment to conduct an in-depth review of this Act, in 2016 the government launched broad-based consultations in which the Innu First Nation of Nutashkuan participated jointly with the Innu First Nation of Essipit and the Innu First Nation of Pekuakamiulnuatsh. These three First Nations submitted a brief on December 23, 2016,² and then another on August 28, 2017,³ offering feedback on the government's discussion paper. These briefs recommended several improvements to the 2012 Act, particularly concerning the excessively short timeframes and the need for stable expertise within the offices of the Band Councils.

It was only when the drafting of the present brief was nearly completed that we learned that bills aimed at amending the *Canadian Environmental Assessment Act*, the *Fisheries Act* and other legislation are in the process of being tabled in Parliament. Unfortunately, these legislative changes will not apply to the five known Newfoundland offshore exploration drilling projects.

2.2. Scope of the comments and recommendations of the Innu First Nation of Nutashkuan

This Environmental Impact Statement (hereinafter, EIS) prepared by Statoil Canada Ltd. (hereinafter, Statoil) – just like the ExxonMobil EIS – is apparently very detailed, which would require a team of experts and more time to conduct a thorough critical analysis, which is not feasible, particularly in view of the

² December, 2016. Mémoire des Premières Nations des Pekuakamiulnuatsh, des Innus Essipit et des Innus de Nutashkuan. Examen des processus environnementaux et réglementaires: 1. Processus d'évaluation environnementale. Présenté au Comité d'experts de l'Examen des processus d'évaluation environnementale. [in French only]

³ August, 2017. Mémoire des Premières Nations des Pekuakamiulnuatsh, des Innus Essipit et des Innus de Nutashkuan. Examen des processus environnementaux et réglementaires: Phase II. Commentaires et recommandations sur le document de travail (juin 2017) de l'examen des processus d'évaluation environnementale et réglementaire. Présenté à Environnement et Changement climatique Canada, Pêches et Océans Canada, Transport Canada, Ressources naturelles Canada. [in French only]

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established timeframe and the financial resources provided. We would therefore like to point out that it is possible that some of our comments could have been avoided if we had had the opportunity to review the entire EIS in depth; if that is the case, we apologize in advance.

We also quickly realized that the EIS Summary is insufficient to get a clear idea of the impacts of the Flemish Pass Exploration Drilling Program (hereinafter, the Project). The lack of thematic maps, particularly showing the nature of the marine environment and of the living organisms, is one of the weaknesses of this summary. Therefore our brief will refer in particular to the complete study.

We will focus particularly on the ecological components of the EIS and on the overall impact of the project, taking into account the fact that this exploration drilling can potentially lead to production drilling. In other words, several aspects considered in this EIS will deliberately not be discussed in this brief, such as the effects on marine mammals and migratory birds, or the drilling techniques presented.

It should also be understood that a number of our comments and recommendations are aimed at the Government of Canada, particularly on the fundamental issues of the basic knowledge necessary for the preparation of an EIS.

Finally, this brief must be considered a very preliminary analysis, since the documents on the other three projects have not been consulted and since the cumulative effects of these five announced projects⁴ (Statoil Canada Ltd.; ExxonMobil; Husky Energy; Nexen Energy ULC; BP-Canada Energy) are not known. In other words, Nutashkuan reserves the right to issue a final opinion during the analysis of the last EIS received.

⁴ Will there be others?

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3. The Innu First Nation of Nutashkuan

3.1. Some comments

We acknowledge that the description of the Innu of Nutashkuan in Chapter 7 (§ 7.3.5) is reasonably accurate. However, certain technical corrections need to be made. First of all concerning the name of our First Nation: please take note of the name change of our First Nation as well as of the toponym of our community, and consequently, of our contact information for all future correspondence:

- ✓ **Nutashkuan** is the official toponym of our place of residence (reserve), recognized by INAC and the Commission de toponymie du Québec (June 14, 2017). It replaces the toponym Natashquan.
- ✓ **Innu First Nation of Nutashkuan** is, as of August 24, 2017, the official name of our community. This name replaces the name “Montagnais of Natashquan” (see Table 7.104).

We would also like to point out that the data provided by Statistics Canada on the population of Nutashkuan in 2016 appear to be incorrect when compared with the data of Indigenous and Northern Affairs Canada (INAC), which provides the following figures⁵: on-reserve population, 1,047; off-reserve population, 110; total population, 1,157. There is therefore a discrepancy of 322 persons relative to the population of 835 indicated by Statistics Canada and relative to the actual facts.

Two other comments concerning § 7.3.5.2.2: policing services are not provided by Nutashkuan, but by the Sureté du Québec; and the Mukutan Corporation no longer represents the interests of Nutashkuan, which has established its own Economic Development Office.

While the general description of the land claims of the Innu of Nutashkuan is acceptable, we would like to provide more details on our claimed territory of Nitassinan (Appendix 1).

A few additional clarifications on the Indigenous commercial fishing activities of the Innu of Nutashkuan are provided in Appendix 3.

Finally, the Innu of Nutashkuan would like to stress that we have been keenly interested for a number of years in the contemporary issues of oil and gas

⁵ https://www.aadnc-aandc.gc.ca/Mobile/Nations/profile_natashquan-eng.html

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exploration and production, particularly in the marine environment, as is attested by the various briefs submitted in connection with this topic:

1. **December 19, 2011.** Mémoire sur le rapport préliminaire présenté au ministère des Ressources naturelles et de la Faune, par GENIVAR, “Évaluation environnementale stratégique sur la mise en valeur des hydrocarbures dans les bassins d’Anticosti, de Madeleine et de la baie des Chaleurs (EES-2).” 23 p. [in French only]
2. **October 2012.** Mémoire sur le projet de mise à jour de l’évaluation environnementale stratégique de la zone extracôtière de l’Ouest de Terre-Neuve-et-Labrador. 13 p. [in French only]
3. **May 30, 2016.** Demandes de certificats d’autorisation, de permis de forage et de complétion relativement à des activités d’exploration pétrolière sur l’île d’Anticosti. Mémoire adressé aux ministre du Développement durable, de l’Environnement et de la Lutte aux Changements climatiques et ministre de l’Énergie et des Ressources naturelles. 11 p. [in French only]
4. **October 16, 2017.** Mémoire sur le “Cadre législatif de la mise en oeuvre de l’accord entre le gouvernement du Canada et le gouvernement du Québec sur la gestion conjointe des hydrocarbures dans le golfe du Saint-Laurent.” Présenté au ministère des Ressources naturelles du Canada. 18 p. [in French only]

3.2. Statements of principles

In our brief of 2012 (*op. cit.*) addressed to the Canada-Newfoundland and Labrador Offshore Petroleum Board and dealing with the review of the Strategic Environmental Assessment (SEA) of 2005, we presented several principles and statements, which we would like to repeat here, since they are still relevant:

- [TRANSLATION] “[M]any species highly valued by the Innu, particularly several seabirds, waterfowl, Atlantic salmon, capelin, smelt, sea trout, many crustaceans, such as crab and lobster, and molluscs are very vulnerable to hydrocarbon pollution.
- The activities and decisions that could result from oil and gas exploration and production are likely to have the following adverse effects on the Indigenous rights and interests of our First Nation:
 - ✓ Infringement upon, interference with and prejudice to our First Nation’s Indigenous title;

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- ✓ *Infringement upon the distinctive society and culture of our First Nation and upon our traditional activities;*
 - ✓ *Infringement upon, interference with and prejudice to the occupation, possession and use by our First Nation of the Gulf, its coastline and its resources in our Nitassinan;*
 - ✓ *Infringement upon, interference with and prejudice to traditional activities on our traditional lands, such as sea and river fishing, fishing in the intertidal zone, and the hunting of marine mammals and shorebirds;*
 - ✓ *Interference with and prejudice to wildlife, including endangered or vulnerable species, such as marine mammals, crustaceans, molluscs and reptiles (leatherback turtle), and to the plants of the maritime portion of the traditional territory of our First Nation, and to the ecosystems of which they are part;*
 - ✓ *Infringement upon our First Nation's environmental rights;*
 - ✓ *Infringement upon the right to move freely and to access all of our Nitassinan.*
- *Our community is established on the shores of the Gulf of St. Lawrence, at the mouth of the Natashquan River, on a very dynamic sandy formation. Our Nitassinan includes a considerable length of shoreline, both on the mainland (approximately 200 km) and on the shores of Anticosti Island (approximately 350 km).*
 - *In addition, several of our rivers empty into the Gulf, including in particular the Natashquan River, and are therefore subject to tides over a certain distance upstream of their mouth. Most of these large rivers are salmon rivers, and the Innu of Nutashkuan have been fishing salmon for food for millennia, while salmon are also a source of tourism income for the outfitters owned by the community.*
 - *The western Newfoundland offshore zone may seem remote from our territory, but one need only observe the dynamics of winds, tides and, especially, currents in the Gulf of St. Lawrence to understand that our shores are not immune to the effects of an accidental oil spill, even a minor one."*

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4. Overall impressions of the EIS and general questions

4.1. Scope and multiple projects

The Statoil exploration project stands out by virtue of its scope and several aspects that appear to be new compared to the known petroleum production activities east of Newfoundland (Hibernia, Hebron, Terra Nova, White Rose). One example is the geographic location of the exploration licences (ELs), all located beyond the limit of Canadian waters (EIS, Figure 1-1), with the exception of those indicated in the legend as “*Other ELs*.” Another difference is the depth of the exploratory well casings, which can be more than 3,000 m. If we add to this the serious environmental constraints (waves, icebergs,⁶ fog) and the large number of wellholes (approximately 30, for Statoil alone), for which there are no accurate location data – and not counting the anticipated increase in applications for exploration licences,⁷ owing to the Canadian ban on exploration drilling in the Arctic, among other reasons – we can only conclude that these projects raise very complex issues and that it is difficult to draw reasonable conclusions and to adopt an objective and realistic view.

4.2. Marine territory and international maritime limits

In the report of the Northwest Atlantic Fisheries Organization (NAFO, 2014⁸), in response to the Newfoundland SEA (2014), several concerns were raised, as mentioned in the cover letter of April 16, 2014, addressed to the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), while it was also noted that these ELs in the high seas are often located outside Canada’s exclusive economic zone (EEZ):

- ✓ There is extensive fishing activity in this part of the Northwest Atlantic adjacent to Canada’s EEZ, which overlaps certain ELs;

⁶ Unlike the Statoil EIS, the map in Figure 5-58 of the Exxon EIS does not indicate the location of the project study areas.

⁷ *Given the relatively early (licencing) stage of such planning and regulatory decision-making, details on the specific number, characteristics, location and timing of potential future offshore oil and gas activities that may be planned and undertaken under any new licences are not currently available.* SEA, 2014, p. 73 (*op. cit.*)

⁸ NAFO, 2014. Northwest Atlantic Fisheries Organization submission in response to the Canada-Newfoundland and Labrador Offshore Petroleum Board Eastern Newfoundland Strategic Environmental Assessment. 30 p. <http://www.cnlopb.ca/pdfs/enlsea/nafocomment.pdf?lbisphreq=1>

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- ✓ Some ELs overlap extensively with vulnerable marine ecosystems (VMEs);
- ✓ Exploration activities can adversely affect certain research projects. In particular, it should be pointed out that certain seismic activities related to oil and gas exploration have considerably disrupted biological research conducted by the EU in the Flemish Pass area.

The Directorate-General of Maritime Affairs and Fisheries of the European Union also formulated comments on the draft Newfoundland SEA (*op. cit.*), in a letter dated April 15, 2014,⁹ and addressed to the C-NLOPB; these comments support NAFO's concerns particularly regarding VMEs, the impacts on fisheries and fishers and the impacts on research.

Indeed, our first surprise on examining the map of the ELs was to note that all the Statoil and ExxonMobil ELs are located outside Canada's EEZ, i.e. more than 200 nautical miles from the terrestrial limit of Newfoundland, and therefore of Canada. Without suggesting that this is a major problem of this EIS, it would have been relevant to know how petroleum activities are regulated in the seas outside Canadian waters (limited to 12 nautical miles from the mainland), and outside Canada's EEZ. How are exploration licences granted in the international maritime zone? What is the applicable international law? Is Canada a signatory to the United Nations Convention on the Law of the Sea (UNCLOS)? According to the official UNCLOS document¹⁰ dated 1992, Canada is not listed as a signatory. It was not until 2003, i.e. 21 years after the adoption of this Convention by the United Nations, that Canada signed it.¹¹

Furthermore, we think that it would have been important to know the nature of the commitments that Canada made by signing this Convention, and the degree to which Canada has respected those commitments, particularly in the case of oil- and gas-related projects. This is not an idle question, since in order to judge the acceptability of offshore projects such as these, and especially outside Canada's EEZ, it is necessary to know the strength of the regulations governing oil and gas exploration and production, in terms of the international, and indeed moral, obligation to ensure sustainable management of the oceans.

⁹ <http://www.cnlopb.ca/pdfs/enlsea/eucomcomment.pdf?lbisphreq=1>

¹⁰ http://www.a.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

¹¹ http://www.a.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#The%20United%20Nations%20Convention%20on%20the%20Law%20of%20the%20Sea

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Quite recently, we received e-mail from the CEAA containing information that enables us to better understand this issue of the limits outside Canada's EEZ. But, curiously, the limit of the "extended continental shelf,"¹² which appears to constitute the outer limits of Canada's sovereign rights under the United Nations Convention on the Law of the Sea (UNCLOS), is still not clearly indicated. All that we find is a three-dimensional bathymetric model that appears to show the continental slope, but its exact location is not clear (Appendix 2). Despite all this information...

...we think that the EIS should have shown this continental shelf limit on a map and should have provided the necessary references as well as the links dealing with the management of this area outside our borders.

4.3. Location of the exploration drilling

It is known that *"30 wells could be drilled by Statoil, with specific wellsite locations being selected as planning and design activities progress."* (§ 1.2.1)

It is also known that Statoil has held four exploration licences in the same Flemish Pass area (§ 2.2) since 2015, but since the locations of these wellholes are not known, it is impossible to understand what their impact will be on each of the ecosystems affected. A discussion of a few of the conclusions from these previous ELs concerning the impacts on the ecological environments affected could have enlightened us about this new project.

Although Statoil states that the planning will come after the government authorizations have been obtained, it is hard to believe that the company does not already have an idea of the locations of the first wellholes in the exploration licences, and indeed that it has not already decided on the priority exploration sites. If this is the case, we do not understand why the information on this initial planning was not included in its EIS.

¹² Fisheries and Oceans Canada. Sovereignty and UNCLOS. Defining Canada's Extended Continental Shelf. 17-1-2018. <http://www.dfo-mpo.gc.ca/science/hydrography-hydrographie/UNCLOS/index-eng.html>

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5. Presentation of knowledge on the environment (Chapters 5 and 6)

Our first concern when we quickly reviewed this EIS was to see how the areas potentially affected by the drilling projects are presented, particularly from an ecological or ecosystem standpoint.

5.1. Concept of ecosystem

The research presented in the EIS is undoubtedly impressive, and the compilation of data and knowledge on the environmental components is interesting in its own right. At first glance, this is an impressive body of work; however, it is too fragmented to provide a coherent image of the ecosystems. The physical parameters are presented, but not the **biotopes**, which are the environments defined by an integration of the physical parameters; The elements of the “biota,” or living organisms, can clearly be seen, but not the **biocenoses**, which are the communities that these living organisms form in association with the biotopes. Lastly, we do not see any integration of these two ecosystem components, biotopes and biocenoses, which would have provided an overall understanding of the **ecosystems**, which we believe was required by the CEEA guidelines (§ 4.3, p. 15).

The separation of the description of the physical environment and of the biological environment into two chapters is symptomatic of this way of viewing ecosystems.

And yet, in the *Memorandum of Understanding between Canada-Newfoundland and Labrador Offshore Petroleum Board and Environment Canada*, signed in July 2015,¹³ we can read in point 4.4 that “Both Participants recognize the importance of an ecosystem approach to management which places the ecosystem in the forefront,¹⁴ whereby its thresholds of change beyond those deemed to be acceptable determine the nature in which a collection of human activities should be managed, so that ecosystem attributes remain within an acceptable range.”

The least that can be said is that ecosystems are far from being at the forefront of the analysis of the impacts in this EIS.

¹³ <http://www.cnlopb.ca/pdfs/mous/mouec.pdf?lbisphpreq=1>

¹⁴ All emphasis in the quotations from the EIS is ours.

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However, on page xii of the table of concordance, Statoil wrote that “*In describing and assessing effects to the physical and biological environment, the proponent will take an ecosystem approach.*” Further on, on page 151, it states that “*Although the EIS provides individual environmental effects assessments for each VC (Chapter 8 to 13), it is done with full consideration of the interactions and interrelationships between these environmental components through a holistic, ecosystem based approach.*”

We have searched in vain for this holistic, ecosystem-based approach as agreed upon in the MOU of July 2015, and on which it is claimed that the EIS is based.

Although the EIS frequently uses this terminology and on several occasions mentions the presence of vulnerable marine ecosystems delineated by the Northwest Atlantic Fisheries Organization (NAFO), we do not find any explicit scientific presentation of the main, or indeed, all of the ecosystems – ones that we could qualify as “*submarine ecological units*” or “*submarine landscape units*” – where Statoil’s drilling will be carried out. The EIS also frequently mention habitats, while the concept of habitat can easily be associated with the concept of ecological units. Despite the fact that certain ecosystems have reportedly been delineated, there is no map at any level of detail, let alone a description.

5.2. Brief review of research in ecology

The concept of “landscape ecology” is just as applicable to the marine environment as to the terrestrial environment. Moreover, Canada has lengthy experience in this field dating back to the 1960s (Hills, 1961¹⁵; Rowe et al., 1960¹⁶; Lacate, 1969¹⁷; Jurdant et al., 1977^{18, 19}).

¹⁵ HILLS, G.A., 1961. The ecological basis for land-use planning. Ontario Dept. Lands and Forests, Res. Br., Res. Report 46, 204 p.

¹⁶ ROWE, J.S., P.G. HADDOCK, G.A. HILLS, V.J. KRAJINA and A. LINTEAU, 1960. The ecosystem concept in forestry. Proc. 5th World For. Congress, Vol. 1, p. 570-572.

¹⁷ LACATE, D.S., 1969. Guidelines for biophysical land classification. For classification of forest lands and associated wildlands. Report of Subcommittee, Canada Dept. Fisheries and Forestry. Publ. 1264.

¹⁸ JURDANT, M., J.L. BÉLAIR, V. GERARDIN and J.P. DUCRUC, 1977. L’ inventaire du Capital-Nature. Méthode de classification et de cartographie du territoire (3ème approximation). Fisheries and Environment Canada, Ecological Land Classification Series, No. 2, 202 p. [in French only]

¹⁹ In the same vein, see also http://www.mddelcc.gouv.qc.ca/biodiversite/cadre-ecologique/rapports/cer_partie_1.pdf [in French only]

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This type of analysis has also been applied at the North American scale, based on the concept of *marine ecoregions* (2011²⁰). At the Canadian scale, an indispensable reference is the Ecological Framework of Canada, which provides a very small scale characterization of the terrestrial and marine *ecozones* of Canada.²¹

More specifically, we can also cite the research on characterization of the biodiversity of the St. Lawrence (Desgranges and Ducruc, 2000²²) and a study related explicitly to the classification and delineation of marine ecosystems applied to the St. Lawrence (Fontaine et al., 2015²³).

Not to mention the research done by the International Council for the Exploration of the Sea (ICES²⁴), of which Canada is a member. Benthos ecology is one of several topics studied by ICES.²⁵

Lastly, very illustrative of the approach to marine ecosystems, the very recent (unpublished²⁶) study by Poisson and Li (2017) entitled *Analyse de carence du golfe et de l'estuaire du Saint-Laurent* [in French only] and the explanatory notes for this ecological framework, *Province naturelle de le Estuaire et du golfe du Saint-Laurent. Version de diffusion – septembre 2017. Notes explicatives* [in French only] (unpublished²⁷), by Li (2017), demonstrate the relevance and the feasibility of an ecological framework specific to marine environments.

For example, we have included in this brief three of the some 50 maps produced in the specific context of proposals for marine conservation zones in the Estuary and Gulf of St. Lawrence (Figures 1, 2 and 3).

²⁰ Commission for Environmental Cooperation: Canada, Mexico and the United States, 2011. Marine Ecoregions. <http://www2.cec.org/nampan/ecoregions>; <http://www.ccea.org/ecozones-maps/>

²¹ Ecological framework of Canada. Descriptions of ecozones and ecoregions. <http://ecozones.ca/english/zone/index.html>;

²² DESGRANGES, J.-L., and J.-P. DUCRUC (under the direction of). 2000. Biodiversity Portrait of the St. Lawrence. Canadian Wildlife Service, Environment Canada, Quebec Region, and Ecological Heritage Directorate, Quebec Department of the Environment. <http://publications.gc.ca/collections/Collection/En1-33-11-5E.pdf>

²³ Anne Fontaine, Rodolphe Devillers, Pedro R. Peres-Neto and Ladd E. Johnson, 2015. Delineating marine ecological units: a novel approach for deciding which taxonomic group to use and which taxonomic resolution to choose. *Diversity and Distributions*, (Diversity Distrib.) (2015) 21, 1167–1180.

²⁴ <http://www.ices.dk/explore-us/who-we-are/Pages/Who-we-are.aspx>

²⁵ <http://www.ices.dk/community/groups/Pages/BEWG.aspx>

²⁶ But can be consulted by contacting Frédéric Poisson of the MDDELCC (418-521-3907, ext. 4423).

²⁷ But can be consulted by contacting Tingxian Li of the MDDELCC (418-521-3907, ext. 4797).

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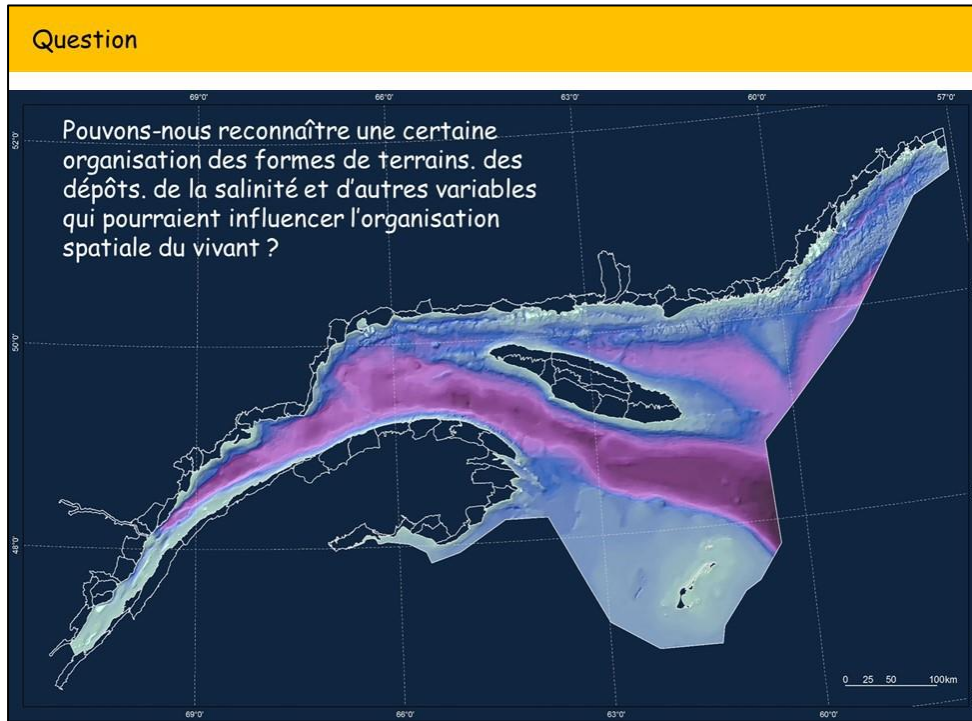


Figure 1. Digital Bathymetric Model of the Estuary and Gulf of St. Lawrence
(Poisson and Li, 2017)

French	English
Question	Question
Pouvons-nous reconnaître une certaine organisation de formes de terrain, des dépôts, de la salinité et d'autres variables qui pourraient influencer l'organisation spatiale du vivant?	Can we recognize a certain organization of land forms, deposits, salinity and other variables that could influence the spatial organization of the living environment?

Although Canada does not appear to have devoted the same level of effort to producing a detailed ecological characterization of its maritime environment as it has of the terrestrial environment, a search for appropriate references to characterize the marine environments should have been part of the study process for the EIS conducted in this Atlantic region.

Finally, it would have been relevant to mention the Oceans Protection Plan²⁸ (OPP). The OPP focuses particularly on the preservation and restoration of marine ecosystems, as well as on the characterization of coastal ecosystems (Gendreau, 2017²⁹). This Fisheries and Oceans project will last five years.

²⁸ https://www.canada.ca/en/transport-canada/news/2017/10/the_oceans_protectionplan.html

²⁹ Gendreau, Y., 2017. Characterization of coastal ecosystems. DFO, PowerPoint presentation.

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On this major issue of basic knowledge about the marine environment, we request that the CEAA ensure that the viewpoint of Nutashkuan concerning the concept of the marine ecosystem and its application is passed on to the officials responsible for the characterization of marine ecosystems at Fisheries and Oceans.³⁰

³⁰ yanick.gendreau@dfo-mpo.gc.ca

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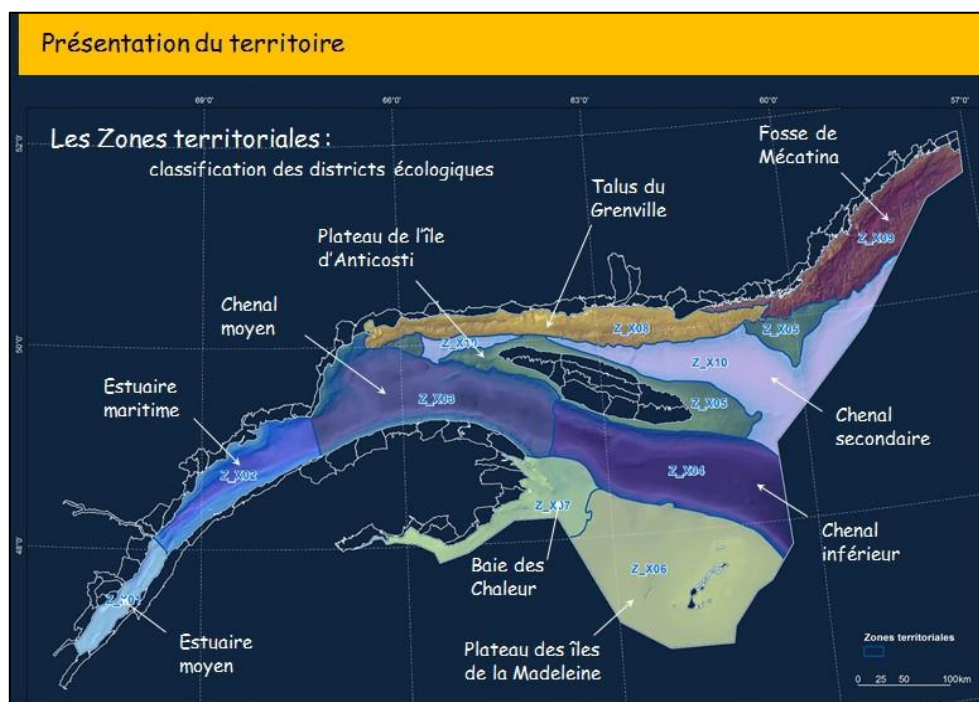


Figure 2. Ecological Districts of the Estuary and Gulf of St. Lawrence
(Poisson and Li, 2017)

French	English
Présentation du territoire	Map of the area
Les Zones territoriales:	Territorial zones:
Classification des districts écologiques	Classification of the ecological districts
Estuaire moyen	Upper estuary
Estuaire maritime	Lower estuary
Chenal moyen	Middle channel
Plateau de l'île d'Anticosti	Anticosti Shelf
Talus du Grenville	Grenville Slope
Baie des Chaleur	Chaleur Bay
Plateau des îles de la Madeleine	Magdalen Shelf
Fosse de Mécatina	Mecatina Trough
Chenal secondaire	Secondary channel
Chenal inférieur	Lower channel
Zones territoriales	Territorial zones

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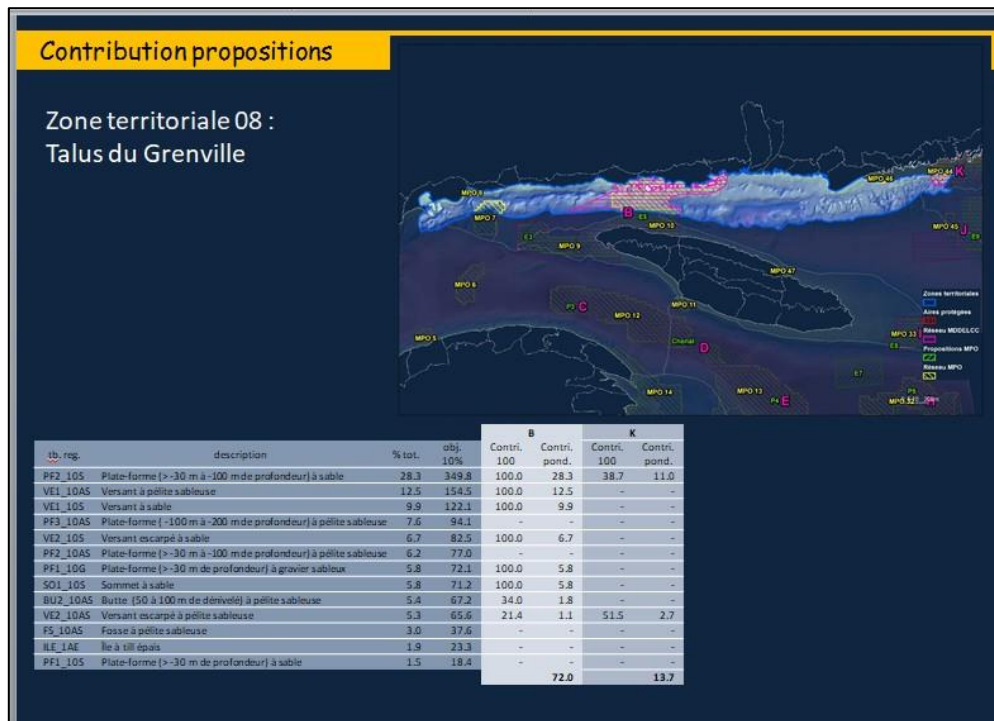


Figure 3. Description of the Elements Forming Ecological District 08 (Poisson and Li, 2017)

French	English
Contribution propositions	Contribution proposals
Zone Territoriale 08: Talus du Grenville	Territorial zone 08: Grenville Slope
PF2_10S Plate-forme (>-30 m à -100 m de profondeur) à sable	PF2_10S Sandy shelf (depth of >-30 m to -100 m)
VE1_10AS Versant à pelite sableuse	VE1_10AS Sandy pelite slope
VE1_10S Versant à sable	VE1_10S Sandy pelite slope
PF3_10AS Plateforme (-100 m à -200 m de profondeur) à pelite sableuse	PF3_10AS Sandy pelite shelf (depth of -100 m to -200 m)
VE2_10S Versant escarpé à sable	VE2_10S Sandy scarp slope
PD2_10AS Plateforme (>-30 m à -100 m de profondeur) à pelite sableuse	PD2_10AS Sandy pelite shelf (depth of >-30 m to -100 m)
PF1_10G Plateforme (>-30 m de profondeur) à gravier sablon	PF1_10G Sandy gravel shelf (depth of >-30 m)
SO1_10S Sommet à sable	SO1_10S Sandy summit
BU2_10AS Butte (50 à 100 m de dénivelé) à pelite sableuse	BU2_10AS Sandy pelite knoll (change in elevation of 50 to 100 m)
VE2_10AS Versant escarpé à pelite sableuse	VE2_10AS Sandy pelite scarp slope
FS_10AS Fosse à pelite sableuse	FS_10AS Sandy pelite trench
ILE_1AE Île à till épais	ILE_1AE Thick till island
PF1_10S Plateforme (>-30 m de profondeur) à sable	PF1_10S Sandy platform (depth of >-30 m)
Contr.	Contrib.
Contr. pond.	Weighted contrib.

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This research, and potentially other studies, could have been used as a source for other ideas, such as proposing an ecological framework expressed in the form of digital bathymetric models, similar to the digital elevation models used by ecologists studying the terrestrial environment. These three-dimensional models would make it possible to present the distribution of the ecosystems associated with seawalls and seabeds (continental shelf, slopes, troughs, underwater cliffs) as well as strictly aquatic ecosystems (planktonic, pelagic and benthic zones). This type of representation and description should consider the following ecological factors: light penetration, pressure of the water column, temperature, salinity, currents, water chemistry, nutrients, etc.

As Figure 1 suggests, this type of description and location data would make it possible to understand the type of ecosystem, its importance and its fragility – in short, the spatial organization of the living environment in which the drilling wells would be installed during the operation of a drilling ship, as well as for the numerous anchors of the semi-submersible platforms.

Therefore, neither the physical environment described in Chapter 5 nor the biological environment described in Chapter 6 are considered in relation to one another. The physical parameters are considered independently of each other, and yet, on page 165, it states that: *“These environmental features and processes are also relevant to understanding and assessing the potential environmental disturbances, and associated environmental changes and effects pathways, that may result in an effect on the Project from the environment.”*

The EIS discusses marine fish and anadromous fish such as Atlantic salmon and their habitats in a certain level of detail – without, however, explicitly describing these habitats – as well as seabirds, migratory birds and marine mammals. And yet, these animals are all related to a physical environment (bathymetry, geology and geomorphology of the seabed, currents, circulation, alkalinity and temperature of the water, etc.). The only example that we were able to find that incorporates this concept of ecosystem is that of *Key Marine Assemblages* (§ 6.1.3), but these assemblages do not offer much detail (*1. Grand Banks/Newfoundland Shelf; 2. Flemish Cap; 3. Oceanic Waters beyond the Shelf Break*), and are not mapped.

In our opinion, for a proper understanding of the effects of drilling activities on the environment, it is therefore essential to know the nature and distribution of the various ecosystems.

In the absence of a general ecological framework, we recommend that an ecological description of the environment specific to each EL be prepared.

5.3. Analysis of Chapters 5 and 6 of the EIS

We are repeating ourselves, but ecosystems are not simply a superposition of ecological factors, but rather a complex and specific organization of physical factors closely intertwined with biological factors. An ecosystem is a space that is defined at various levels of detail (scales) by the integration of a biotope and a biocenosis with close, dynamic links. It is therefore unfortunate that the EIS does not describe the main ecosystems present in the study area.

While a number of the maps presented in the EIS (Figures 6-1 to 6-48) are of definite interest, they are not integrated in a way that would provide a clear picture of the various ecological entities and their functioning. For example, Figure 6-8 claims to present the regions within which the benthic environments will be described, but it does not delineate them or provide any information on their benthic environment. Figures 6-10 to 6-14, 6-16 to 6-30 and 6-32 to 6-36 present only random data on the distribution or density of species or groups of species. The map in Figure 6-1 shows the water depth zones, and the map in Figure 6-38 shows the general direction of the main currents. Figures 6-46 to 6-48 are undoubtedly interesting, but integration of the biophysical factors would provide a more holistic, more ecological image of the study area. Figures 6-46 to 6-48 are interesting, but all these maps would benefit from a discussion and integration that would highlight the spatial organization of these ecosystems. In addition, certain thematic maps do not cover all the EIS study area, such as Figures 5-2 and 5-3.

Furthermore, the cartographic information on species distribution and abundance presents only a somewhat static image of the situation. Indeed, if we compare, for example, the map in Figure 6-17 (our Figure 4) of the EIS with the map in Figure 4.80 (our Figure 5) of the SEA (2014, *op. cit.*), we can see that in the first case, i.e. the 2008–2012 survey, there are no lanternfish in the area of the Statoil CEEA 2012 exploration licences, while in the second case, i.e. the 2005–2009 survey, lanternfish are very abundant. Hence, from one survey to another, the results can modify the interpretation of the impacts.

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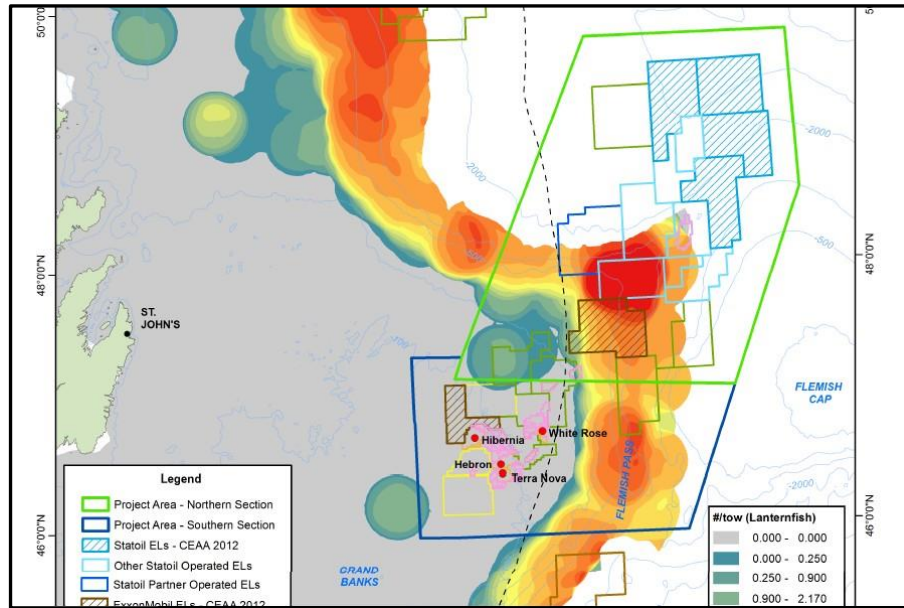


Figure 4. Lanternfish Distribution and Abundance as Compiled from Canadian RV Trawl Survey Data (2008–2012) (excerpted from Figure 6-17 of the EIS)

In short, although very extensive “environmental” information is provided in this EIS, it clearly lacks the integration necessary to define and map the following:

- a) the biotopes based on the physical parameters,
- b) the biocenoses based on the living species, and
- c) an integration of these two parts, biotope and biocenosis, to define the underwater ecosystems.

Indeed, we had already pointed this out in our brief of 2012 (*op. cit.*).

In conclusion, we are of the opinion that the “ecosystem approach” that Environment Canada and the C-NLOPB undertook to apply in the MOU of 2015 has not been followed. We therefore recommend that, in order to accurately assess the impact of each drilling well on the environment, it is absolutely necessary to know the spatial distribution (cartography) and the nature (typology) of the marine and underwater ecological units affected.

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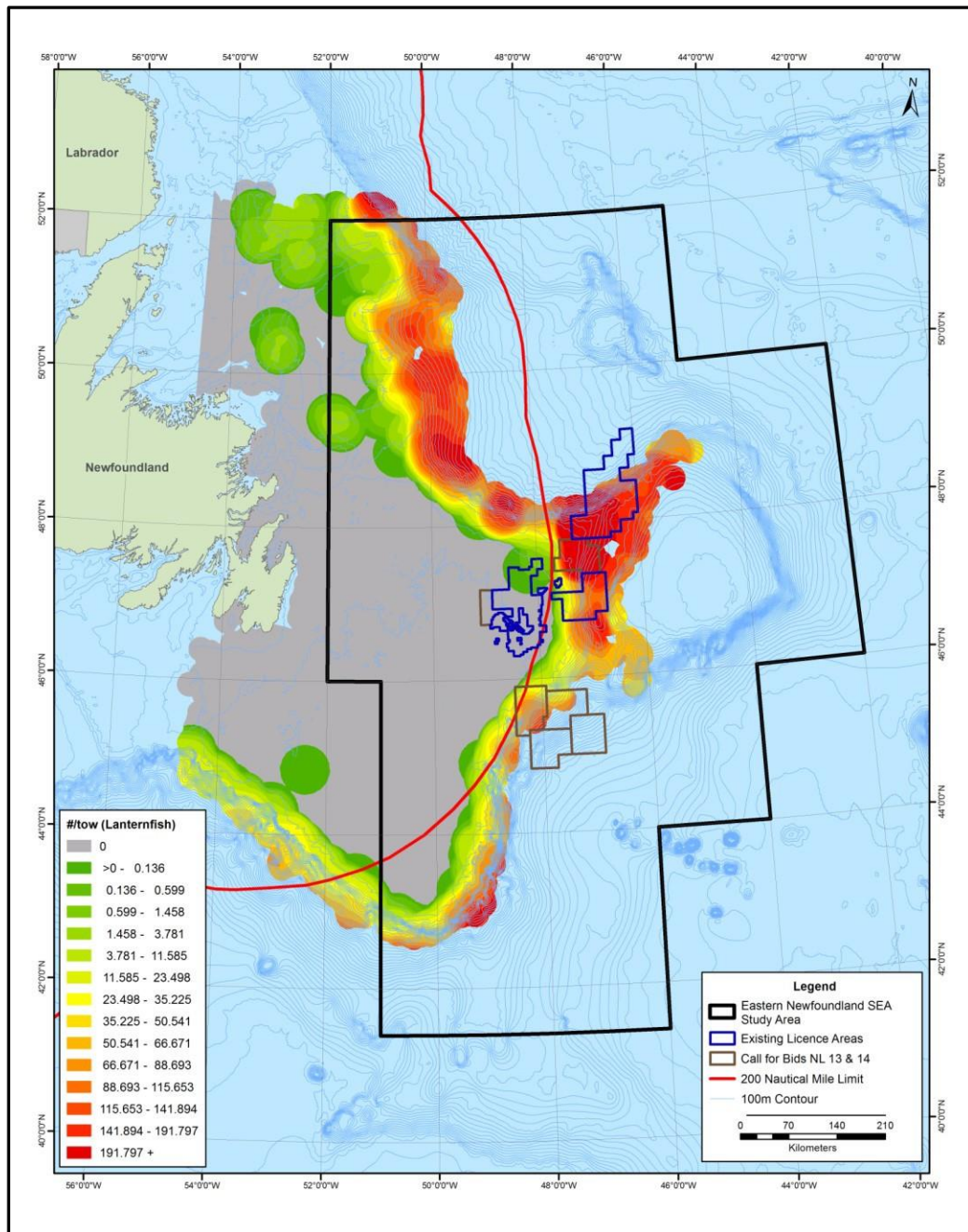


Figure 5. Distribution and Abundance of Lanternfish in the SEA Study Area (2005–2009 Surveys) (Figure 4.80 of the SEA, 2014)

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6. Salmon: an essential resource for the Innu of Nutashkuan

It is well known that there have been significant changes in the dynamics of fish populations over the last 30 years (since 1985). Major species for human consumption and of economic importance have declined dramatically, as is the case for cod, to the point that the Canadian government had to institute a moratorium on cod fishing.

There are also very serious concerns about Atlantic salmon. According to COSEWIC,³¹ several salmon populations are threatened, while some have become extinct: the South Newfoundland population is threatened, the Quebec Eastern and Western North Shore populations are classified as special concern, and the Anticosti Island population is endangered.

The salmon rivers in the Nitassinan of Nutashkuan straddle COSEWIC Designatable Units DU7 and DU8 (see Appendix 4); the Natashquan River – on the shores of which the Innu First Nation of Nutashkuan resides – is the dividing line. However, COSEWIC (*op. cit.*) notes in its summary table of all the DUs that DU7 has “*No clear geographic boundary with DU8 or DU2, but [is] separated from other DUs by the Gulf of St. Lawrence.*” In fact, DU2 is located along the Labrador coast in the Strait of Belle Isle.

We were surprised to see only 37-year-old data. More relevant data could have been presented, such as those provided by COSEWIC (2010, *op. cit.*). For example, our Figure 6 does a better job of illustrating – without attaining the desirable level of precision – the salmon migration routes than Figure 6-38 of the EIS does.

Although the 2014 SEA (*op. cit.*) states that the “*Migration pathways are region-specific but Atlantic salmon from Newfoundland, the Gulf of St. Lawrence, the Canadian Maritimes and Maine at least pass through (and may feed in) the SEA Study Area from January through April (Lear 1976; Reddin 1985) on their journey to and from spawning grounds,*” the information provided by the EIS on salmon is relatively poor. In § 6.1.7.4 we read that “*Information on Atlantic salmon (*Salmo salar*) migration and habitat patterns in the North Atlantic is provided here as baseline information to support the eventual analysis of potential effects on this*

³¹ COSEWIC. 2010. COSEWIC Assessment and Status Report on the Atlantic Salmon (*Salmo salar*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xlvii +136 pp.
http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Atlantic_Salmon_2011a_e.pdf

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migratory species.” It should be pointed out that this is really very basic and minimal information. Figure 6-38 of the EIS particularly illustrates the lack of scientific information, since the area where salmon populations are present are not mapped in detail (Greenland, Labrador Sea and East Grand Banks). Elsewhere, on page 369, last paragraph, the EIS refers to scale analyses, which make it possible to link the smolts captured on the high seas to their natal river, but does not establish links with the rivers of the Quebec North Shore.

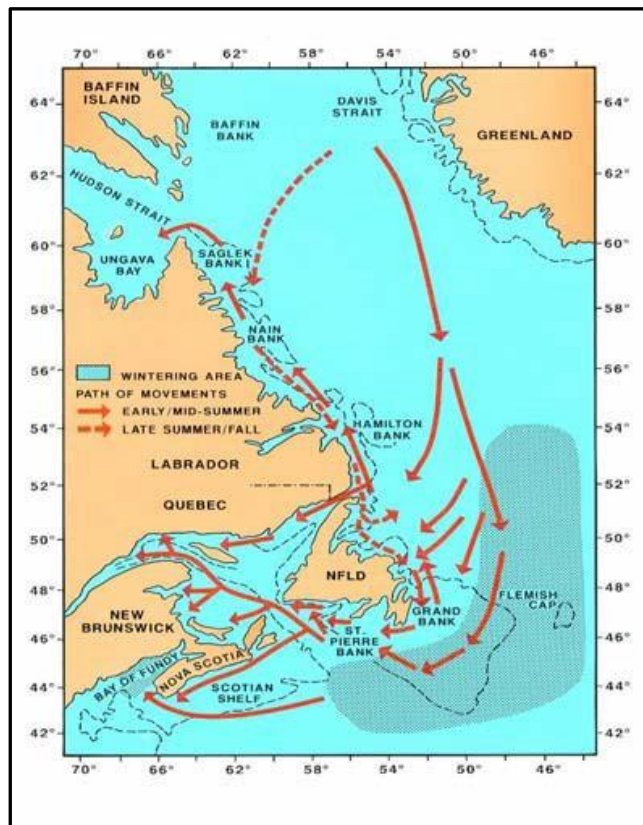


Figure 6. Marine Migration Routes of Adult Salmon Returning to Spawn
(Source: COSEWIC, 2011, Figure 11)

Other examples: The map in Figure 6-39 indicates a single study of research vessel catches covering the 1965–1985 period. The map in Figure 6-40 indicates only a few scattered tagging and recapture data that date from 1979 and 1980. No map on the migration routes of this fish is provided, while the 2014 SEA includes two (Figures 4.85 and 4.86). Although general, these figures could have been used in the EIS.

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There is also the question of grilse, but this was not considered in Chapter 6 of the EIS – although grilse were mentioned in Chapter 12 but not described – unless we are talking about post-smolts, which would be astonishing, since post-smolts are smolts that spend more than one winter at sea. However, grilse are young salmon that spend only one season at sea and therefore swim back up their natal river after a winter spent on the high seas. There is some information that suggests that rivers of the Quebec North Shore are characterized by a great abundance of grilse – if 1SW³² are grilse; at least this is what the EIS suggests (§ 12.3.2.2.3, p. 1056)! No mention is made of the habitats or areas used by these grilse. According to verbal information from a DFO researcher, even less is known about grilse than about adult salmon.

Hence, we have a lot of questions, such as the following: What are the biological links between these marine environments in which salmon live and the populations that swim back up the rivers of the Lower North Shore? For example, do salmon in the Labrador Sea use the Strait of Belle Isle during their return to their natal river? In other words, are salmon that are born in the rivers of the Quebec North Shore (DU8, DU7, DU2) likely to spend their life at sea in the EIS study area? Are the risks of impact greater during certain seasons?

The bibliography provided by Statoil and ExxonMobil is extensive, and a number of studies, particularly those of COSEWIC, appear to have been consulted. However, we remain disappointed with the presentation and the discussion concerning the distribution and dynamics of salmon populations, the migration routes used and the links with the salmon of the EIS study area that migrate annually to the rivers of the North Shore of the St. Lawrence, of which the Natashquan River is one of the largest.

The data on salmon catches in the region date back to 1987, i.e. some 30 years ago. Is it possible that changes have occurred in the meantime? Did studies of the scales of captured salmon indicate their rivers of origin on the Lower North Shore?

³² We did not find a definition for 1SW, which we assume means “one sea winter salmon,” i.e. salmon that have spent only one winter at sea, also called grilse.

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Over the past 15 years of petroleum exploration and production offshore of Newfoundland, have any follow-up studies been undertaken to measure the potential impact of these activities on aquatic wildlife, and on salmon in particular? Anything that risks adversely affecting the productivity of the salmon's diet, from small crustaceans up to capelin as prey, would be likely to adversely affect the salmon. Leaks from drilling wells in particular need to be considered.

Statoil considers that salmon is a species not likely to be impacted by exploration drilling, since it is a "mobile" species, without critical habitat and protected by the project's mitigation measures (Table 8.12, p. 834). However, according to COSEWIC, and repeated in the EIS (§ 8.4.4, p. 840), it appears that the decline of Atlantic salmon populations may be associated with profound changes in the North Atlantic ecosystem.

On the whole, it would appear plausible that salmon are not affected by Statoil and ExxonMobil's petroleum exploration operations, but the lack of knowledge about the species, its behaviour and the effects of climate change on the marine ecosystem do not allow us to draw overly optimistic conclusions.

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7. Other marine species

For a number of years, profound changes have been observed in fish and shellfish populations, including the regional disappearance of certain species, resulting in ecological imbalances, as in the case of northern gannets in the Gaspé region. These birds are finding it increasingly difficult to feed, since their favourite prey, mackerel, are remaining at greater depths, apparently because of the increase in surface water temperature.

Since the Innu First Nation of Nutashkuan fishes several species in the waters of the Gulf of St. Lawrence, such as cod, halibut and herring (Appendix 3), it would have been...

...necessary to clearly understand the nature of the ecological links between the study area of the Statoil project and the Gulf of St. Lawrence in order to measure the effects of drilling on Gulf populations.

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8. Reef effect

In Chapter 8 (§ 8.3.3.2), it is suggested that “*The combination of drilling installation colonization opportunities and artificial light emissions from the operating decks and navigation may create a ‘reef effect’ in which fish aggregate underneath in response to increased foraging and shelter opportunities.*”

There is probably some truth in this assertion, supported by a few scientific references, but perhaps the question that we need to ask is whether these reef effects are on the whole positive for marine biodiversity. Are certain species disturbed by these effects?

Moreover, since these artificial structures will be in place for only a short period, it is difficult to see how they will contribute sustainably to this increased biodiversity.

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9. Cumulative effects

The cumulative effects must be assessed according to a methodological approach specified in the CEAA guidelines (§ 6.6.3). Essentially, the measurement of cumulative effects must

1. Consider the valued components (VCs) selected by the proponent, of which a minimal list is provided, i.e. fish and fish habitat; migratory birds; marine mammals and sea turtles; species at risk; marine plants; special areas; commercial fisheries; Indigenous peoples; air quality and greenhouse gases; the human environment.
2. Include *other projects or activities that have been or that are likely to be carried out that could cause effects on each selected VC within the boundaries defined, and whose effects would act in combination with the residual effects of the project.* (See Table 14.2 of the EIS and <http://www.cnlopb.ca/assessments/> for the list.)

9.1. Preliminary reflection on the concept of cumulative effects

The major problems that we encounter concerning the measurement of cumulative effects are 1) the lack of information on all similar projects and on those likely to occur, and 2) the lack of a temporal, geographic and ecological baseline. It is also difficult, indeed impossible, to draw rigorous conclusions concerning projects that are presented piecemeal, which is the case here with the five projects that have been announced, a number of projects that are already under way, and other projects that are very likely to go forward.

Furthermore, the cumulative effect of, say, five projects, is not equivalent to the sum of $1 + 1 + 1 + 1 + 1 = 5$, but rather the product of an equation in which the result is greater than 5: this is the well-known principle in ecology that the whole is greater than the sum of the parts.

This is not to mention that it would be important to have information on all the exploration projects in the vicinity of the Maritime Provinces, including the projects of Statoil and ExxonMobil. The question is how long one must wait to measure the intensity and the nature of the effects of these projects, combined with all the other “industrial” activities, such as commercial fishing and shipping in general.

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In other words, the goal is to assess the state of use of the ecosystems relative to their capacity to support new activities. Therefore, what this EIS should measure is the increase in pressures on the natural environment caused by the project, on top of the existing or foreseeable activities. For this purpose, a baseline should be considered, such as an ecological environment at time T_1 , which would be, for example, a time before the industrial era, or at least a time for which sufficient historical data are available, with time T_0 being the time before the era of traditional cod fishing and hunting of marine mammals by Europeans (French, Portuguese, etc.). This time T_1 could be the mid-nineteenth century. It would be necessary to solicit the input of historians for this kind of research.

9.2. Conducting SEAs and REAs

In the 2012 brief submitted by Nutashkuan (*op. cit.*), we noted a weakness in the review of the 2005 SEA: [TRANSLATION] “*We also think that the next version of this SEA must be improved by including in it a structured description of the marine and coastal ecosystems, rather than only a fragmented description of the individual components of those ecosystems.*” We see this weakness again in the 2014 version (*op. cit.*).

Incidentally, the preparation of that 2014 version did not involve any participation from Indigenous peoples (cf. p. 7).

In June 2017 (*op. cit.*), Canada proposed the following (p. 9): “*We are considering a deliberate approach to the assessment and management of cumulative effects, working collaboratively with provinces, territories and Indigenous peoples to develop and implement it. The proposed approach includes:*

- *Developing and strengthening national environmental frameworks to inform regional assessments (e.g. Pan-Canadian Framework for Clean Growth and Climate Change; Air Quality Management System)*
- *Conducting strategic assessments that explain the application of environmental frameworks to activities subject to federal oversight and regulation, starting with one for climate change*
- *Regional assessments to guide planning and management of cumulative effects (e.g. biodiversity and species at risk), identify the potential impacts on the rights and interests of Indigenous peoples, and inform project assessments...*”

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In the brief to which Nutashkuan is a co-signatory (August 2017; *op. cit.*), we expressed our support for those proposals: [TRANSLATION] “*We resolutely support the proposal that strategic and regional assessments of cumulative effects be conducted.... [T]hat direction should be mandatory across Canada, with consideration given to large ecosystems at the very least.*”

The Canadian government has looked at this issue,³³ but there is still plenty of work to do. In the present case, we are wondering whether the oil- and gas-production projects that are likely to follow these exploration activities should, hypothetically, be integrated, so that the cumulative effects include the effects of the increased production of oil and the use of that oil on climate change.

As a result, even though the Statoil and ExxonMobil projects are subject to the 2012 Act, we request that

- 1. the 2014 Strategic Environmental Assessment (*op. cit.*) be reviewed in order to provide a better framework for measurements of cumulative effects;**
- 2. a regional environmental assessment (REA) be conducted, focusing on the ocean waters east of the island of Newfoundland³⁴;**
- 3. the SEA and REA be based on a marine ecological reference framework (MERF), which we discuss below. The MERF would be cross-referenced with data and marine territory cover and use maps (fishing, exploration and production drilling, navigation, icebergs,³⁵ presence of marine mammals, etc.) for this area.**

9.3. Comments on the cumulative effects of the EIS

The work that Statoil performed is sound, and it is not clear that it would be possible to do a better job without improvements to the methods, data and knowledge at all levels (ecological, historical, environmental, etc.), hence our recommendation above.

However, because the conclusions reached are presented by theme (fish, birds, mammals, special areas, Indigenous peoples, etc.), it is difficult to gain an overall

³³ <https://www.canada.ca/en/environmental-assessment-agency/services/policy-guidance/cumulative-effects-assessment-practitioners-guide-about-guide.html>

³⁴ It would certainly be useful for this work to be done in partnership with the European Union and the United States.

³⁵ See Figure 4.58, Iceberg Sightings: 2011 and 2012, in the 2014 SEA and Figure 5-64 of the EIS.

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picture of the impact that these wellholes will have on the current and future state of the environment. For example, § 14.2.6 states, with regard to marine fish and fish habitat, that “*The Project activities will operate for a short period of time in any one location, resulting in a short-term disturbance within a relatively limited zone of influence. This will reduce the potential for individuals and populations to be affected through multiple interactions with this Project and other activities in the marine environment, and for species to be affected simultaneously and repeatedly by multiple projects and activities.*” This conclusion cannot be questioned, except to look farther ahead, into the likely near future when the intensity of oil and gas production activities increases.

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10. Climate change

The CEAA guidelines make reference to climate change, particularly on page 9, “*The EIS could include an analysis of the pathway of the effects of environmental changes on each VC,*” and on page 24, “*with consideration of predicted climate change effects.*”

Section 5.8 effectively meets the expectations of the guidelines and provides a climate change analysis, but it does not suggest any link with the known causes of climate change, including the production and consumption of oil and gas, which are one of the major causes of climate change.

The problem stems undoubtedly from how the *Canadian Environmental Assessment Act, 2012* and the mandate of the CEAA are interpreted, as they do not require all oil- and gas-related projects to be judged in terms of the effects that they may have. No analysis relating to climate change and the impacts of expanded oil and gas production is required by the CEAA or proposed in the EIS.

We understand that the solution to these major problems does not lie in the immediate and complete cessation of oil production and related activities. But given that Canada, and particularly Environment and Climate Change Canada, is gradually increasing its capacity to curb the oil and gas race, it is hard to understand why there is no CEAA guideline requiring oil and gas developers to measure the impact of their activities on the urgency of curbing this race.

Our comment is supported by the very recent publication by Archambault et al. (2017³⁶), who state that [TRANSLATION] “*In the context of climate change, whose impact is being increasingly felt worldwide, and the adoption of the Paris Agreement on December 12, 2015, we wish to analyze how the development of the oil and gas sector in the greater St. Lawrence region could alter greenhouse gas (GHG) emission balances at the provincial, national and global scales. In this analysis, we consider the extraction of fossil fuels (natural gas, oil) in terrestrial and marine environments in the St. Lawrence region (including the river, estuary and gulf) as well as the transportation of oil and gas to the region, specifically pipelines carrying crude oil from Western Canada to Quebec and New Brunswick and the potential refinement of that oil.*”

³⁶ Philippe Archambault, Irene R. Schloss, Cindy Grant, Steve Plante, 2017. Les hydrocarbures dans le golfe du Saint-Laurent. Enjeux sociaux, économiques et environnementaux. Rimouski, QC, Canada, 324 p. [in French only]

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That is why we are surprised not only by the failure to take into account the effects of oil and gas activities on climate change, but also by the inexplicable lack of analysis of rapidly developing changes in the climate in terms of their effects on exploration activities. Since these exploration projects are likely to extend over a 10-year period – and the production projects that are likely to follow will extend even longer – and given that there are and will continue to be other projects, it would have been useful to understand the dynamics of these changes in the climate, if only with respect to the passage of icebergs or the frequency of fog.

Despite the publication of *Canada's Mid-Century Long-Term Low-Greenhouse Gas Development Strategy*,³⁷ we have searched in vain for Canada's position on research work and oil and gas development. It worries us to think that projects like these are left up to the proper conduct of the oil and gas companies with respect to environmental impact statements.

About Newfoundland and Labrador, Archambault et al. (*op. cit.*) wrote, on the basis of a report by the David Suzuki Foundation (2012³⁸), that [TRANSLATION] “*The carbon footprint of Newfoundland and Labrador is heavily affected by the fossil fuel sector, as production and refining account for 19% of the province's emissions, while mining and oil and gas extraction, including fugitive emissions, account for 14%.*”

Nutashkuan has a strong desire to see the EISs for oil- and gas-related activities take into account their potential impact on climate change.

³⁷ https://unfccc.int/files/focus/long-term_strategies/application/pdf/canadas_mid-century_long-term_strategy.pdf

³⁸ David Suzuki Foundation 2012. All Over the Map 2012 - A comparison of provincial climate change plans, 103 p.

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11. Risk of accidents

What can we say about the risk of accidents? Obviously any offshore oil and gas exploration and development company will work hard to avoid well blowouts and oil spills. That is probably what BP thought it was doing before the Deep Water Horizon accident in the Gulf of Mexico in 2010!

We can only hope that nothing serious will happen off the coast of Newfoundland.

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12. Summary of the analysis by the Innu First Nation of Nutashkuan

Despite the impressive amount of work, which was certainly taken seriously by Statoil and ExxonMobil, it took us quite a while to understand where to begin and on what to base our analysis of this EIS.

The first question we asked ourselves related to the fragmentation of the projects, with the submissions of separate EISs for each of the five projects. However, all of the projects share the same objectives, the nature of the work is the same, and the projects are all located within a relatively well-defined territory of ocean ecosystems, all to the east of the island of Newfoundland, outside Canada's EEZ, and therefore in international waters (Figure 2.4).

Given the shared territory, objectives and nature of the work, the whole should be analyzed within an appropriate Canadian political, geographic and ecological framework, which is not the case.

Indeed, unlike with Canada's continental land and aquatic environments, for which the various levels of government have policies for land use, integrated knowledge tools (mappings, typologies, etc.) and land-use planning (forest land, agricultural land, municipal land, conservation land, etc.), no such global framework seems to exist for Canada's marine and ocean environment.

Furthermore, the SEA (2104, *op. cit.*) explains at p. 172, in Chapter 4, that “*Fauna in the North Atlantic have physiological, morphological, life history and trophic characteristics that dictate their distribution. Correspondingly, depth and temperature are important factors in species distributions, where increased species richness is generally observed in progressively warmer waters (Rose 2005a). Within these depth and temperature zones, differences in assemblages can be delineated with habitat types (e.g. Houston and Haedrich 1984; Baker et al 2012; Cote et al 2013). When distributions of fish overlap consistently in time and space, these groups of co-occurring species form an assemblage (Haedrich and Merritt 1990).*”

Unfortunately, this SEA does not provide any details about these “assemblages,” which could be loosely assimilated to the concept of submarine ecosystems; instead, like the EIS, the SEA merely presents species density maps without integrating them into an ecosystem-based vision.

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In order for us to be able to judge the overall and cumulative impact of offshore drilling projects, we would need the developers to generate or at least obtain the following information:

- **A hierarchical and multi-scalar marine ecological reference framework (MERF).** This MERF would express, from the general to the specific, the integration of the biophysical parameters of marine and submarine ecosystems. To some extent, this MERF would be designed using an approach similar to the landscape ecology approach and could present submarine landscape units.
- **The potential and sensitivities of the ecosystems** described by the MERF, enabling informed decisions regarding sustainable activities.
- **A Canadian ecosystem management policy.**
- **A strategy for the conservation and enhancement of ocean ecosystems.** Such a strategy, governed by the above-mentioned policy, would be based on the sustainability of marine ecosystem management and would provide a framework for the planning and development of these areas.
- **An integrated Canadian oceans management plan.** Such a plan would be based largely on the MERF, as well as on detailed knowledge of the uses of ocean surface and ocean depths.

This very simplified proposal would avoid leaving it up to private stakeholders and developers to strongly influence, if not decide, how marine waters under government responsibility will be managed. Such an approach to Canadian ocean governance would have allowed us to judge the appropriateness of the exploration drilling projects by enabling the public, including our First Nation, to measure the wisdom of such projects and the extent to which they correspond to a long-term vision of sustainable use of the oceans under Canadian jurisdiction.

Therefore, in the absence of sufficient knowledge, both ecological and political, about the management of these marine territories, we are of the view that this consultation exercise is premature and that the exercise required of the proponents by the order to produce EISs is not enough to develop a prudent position.

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13. Position of the Innu First Nation of Nutashkuan

The Innu First Nation of Nutashkuan is aware of the immense complexity of energy issues and our community's very small voice among the din of big oil companies and powerful governments. Our First Nation is also aware of its ties that bind it to fuel consumption.

Nevertheless, we feel that these two EISs that we are being consulted about (and the three upcoming ones) give us an opportunity to express our opinion and concerns to the department that is explicitly responsible for climate change.

We have expressed our surprise at the lack of specific instructions on the evaluation of the contribution of exploration activities to increasing greenhouse gases stemming from the search for new oil and gas development sites.

We are concerned—and we have said so specifically in the case of oil and gas drilling projects on Anticosti Island—about the ongoing development of oil and gas production in the light of worldwide alarm about climate change, especially in this area, where icebergs from melting glaciers pass through and where the water currents, temperatures and salinity are changing.

Even if the project is several hundred kilometres from our Nitassinan, climate change is affecting the entire planet, especially ancestral lands, the waterways that border them, and traditional activities.

However, so as not to respond on a case-by-case basis, unlike the EIS currently under way, we are waiting for the end of this consultation on the EISs concerning exploratory drilling projects off the coast of Newfoundland to make our overall position known.

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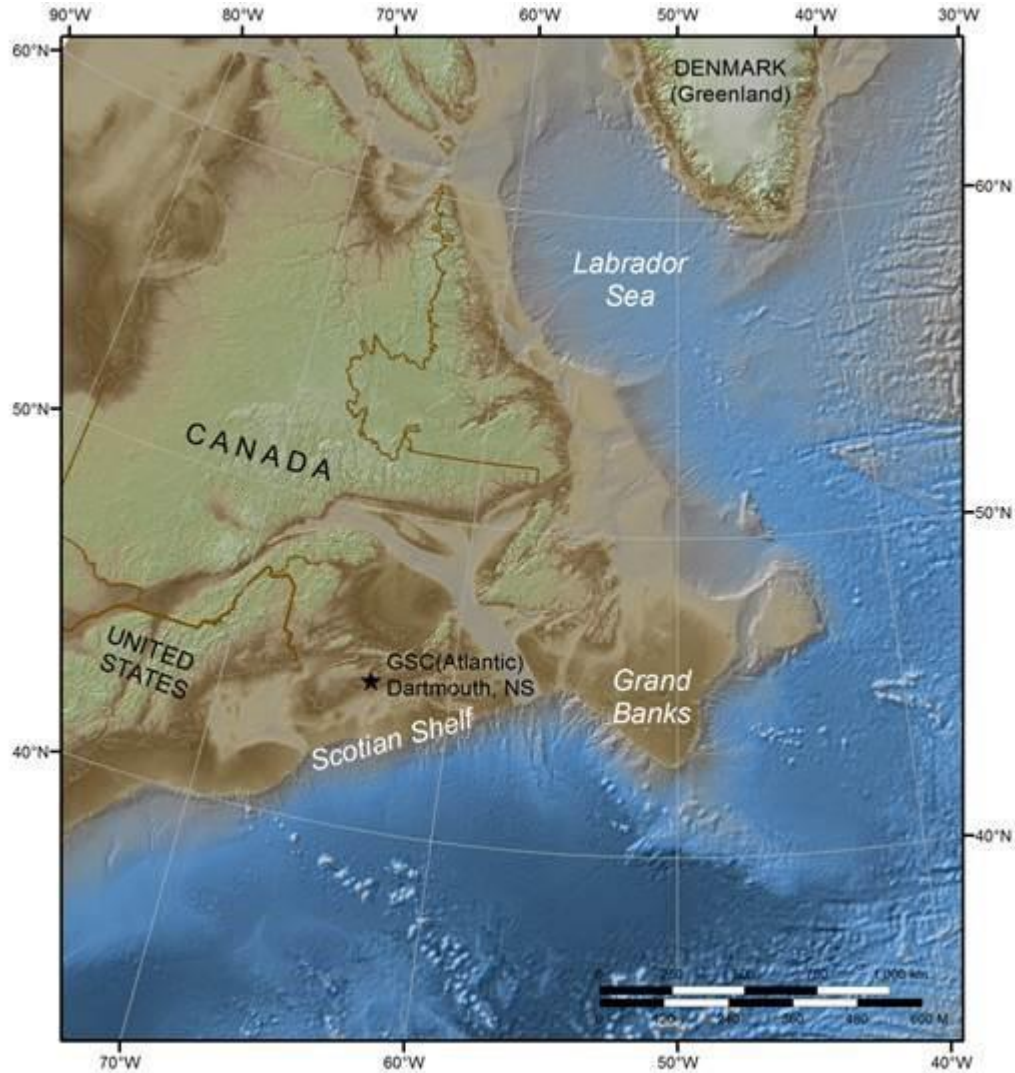
Appendix 1. Nitassinan of Nutashkuan (source: APGN, Appendix 4.1)



French	English
Nitassinan de Nutashkuan	Nitassinan of Nutashkuan
Terre-Neuve et Labrador	Newfoundland and Labrador
Province du Québec	Province of Quebec
Rivière Natashkuan	Natashquan River
Havre-Saint-Pierre	Havre-Saint-Pierre
Baie-Johan-Beetz	Baie-Johan-Beetz
Aguanish	Aguanish
Nutashkuan	Nutashkuan
Île d'Anticosti	Anticosti Island
Fleuve St-Laurent	St. Lawrence River
Source Carte préparée par le Conseil des Montagnais du Lac Saint-Jean	Source Map prepared by the Montagnais du Lac Saint-Jean Council
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Appendix 2. Canada's extended continental shelf



Source: **DFO, 2018**, <http://www.dfo-mpo.gc.ca/science/hydrography-hydrographie/UNCLOS/index-eng.html> (consulted on 7-11-2018)

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Appendix 3. Note on the commercial fishing licences of the Innu First Nation of Nutashkuan (food fishery)

1. Fishing vessels

The Council of the Innu First Nation of Nutashkuan has two vessels³⁹: the Lady Rachel and the C.N.M. Nutashkuan.

2. Jobs related to fishing

- 2 captains
- 2 assistant captains
- 7 fishers
- 2 dockworkers
- 16 substitute fishers
- 1 fishery coordinator

3. Fishing is carried out in several zones, for various species⁴⁰

- **Zone 4S2⁴¹**
 - Cod
 - Atlantic halibut
 - Greenland halibut
 - Fluke
- **Zone 15**
 - Mackerel
 - Herring
 - Groundfish
- **Zone 7**
 - Whelk
- **Zone 18H**
 - Lobster
- **Zone 4B**
 - Arctic surfclam
- **Zone 4RST**
 - Groundfish
- **Zone 15.16**
 - Crab
 - Scallops

³⁹ Nutashkuan is considering the possibility of a third vessel.

⁴⁰ Other species may also be harvested accidentally.

⁴¹ Area map: <http://www.qc.dfo-mpo.gc.ca/peches-fisheries/commerciale-commercial/index-eng.html>

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Appendix 4. COSEWIC Designatable Units

