

SHARED VALUE  
SOLUTIONS



# TECHNICAL REVIEW FOR THE TILT COVE EXPLORATION DRILLING PROJECT

Prepared for: Mi'gmawe'l Tplu'taqnn Incorporated  
July 5, 2023

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# PROSPERITY. STEWARDSHIP. JURISDICTION.

## Mi'gmawe'l Tplu'taqnn Incorporated

c/o Erica Ward  
40 MicMac Road  
Eel Ground, New Brunswick  
E1V 4B1

July 5, 2023

Dear Erica,

It is our pleasure to provide you with our technical review of the Suncor Tilt Cove Environmental Impact Statement. This review was completed by Marnie Benson, Morgan Edwards, Robin Heavens, Emily Stairs, Mike VanEgmond, and Alley Amos of Shared Value Solutions, covering the breadth of the Environmental Impact Statement chapters and focusing on potential interactions of project activities with your rights, interests, and values.

We look forward to continuing to serve you in consultation and resources protection matters. Please do not hesitate to get in touch with us if you have any questions or concerns with the enclosed report.

With best regards,

<Original signed by>

Mark MacDougall, M.Sc., C.E.T., P.M.P

*Senior Regulatory Consultant, Shared Value Solutions*



# CONTENTS

- 1.0** Introduction.....3
- 1.1** M’igmawe’l Tplu’taqnn Incorporated Rights and INterests Relative to Project Interactions .....3
- 1.2** Review Objectives.....7
- 1.3** Review Methodology and Approach .....7
- 1.4** Review Scope.....8
  
- 2.0** Project Description and Regulatory Process..... 10
- 2.1** The Project..... 10
- 2.2** Accord Acts..... 11
- 2.3** Federal Environmental Assessment ..... 12
- 2.4** Other Regulatory Requirements..... 12
  
- 3.0** Review Findings ..... 13
- 3.1** Engagement and Consultation..... 13
- 3.2** Marine Physical Environment ..... 14
- 3.3** Biological Environment ..... 16
- 3.4** Existing Socio-Economic Environment..... 20
- 3.5** Atmospheric Environment and GreenHhouse Gas ..... 21
- 3.6** Marine Fish and Fish Habitat..... 22
- 3.7** Marine and Migratory Birds..... 24
- 3.8** Special Areas..... 26
- 3.9** Indigenous Peoples ..... 28
- 3.10** Commercial Fisheries and Other Ocean Users ..... 30
- 3.11** Cumulative Effects ..... 34
- 3.12** Accidental Effects..... 36
  
- 4.0** Summary and Recommendations ..... 37
- 4.1** Information Requests..... 42
  
- 5.0** References ..... 46
  
- Appendix A : Comment Tracking Table ..... 47



# 1.0 INTRODUCTION

In May 2023, the Impact Assessment Agency of Canada (IAAC) invited Mi'gmawe'l Tplu'taqnn Incorporated (MTI) to review and comment on the Environmental Impact Statement (EIS) Summary submitted by Suncor Energy (the Proponent) for the Tilt Cove Exploration Drilling Project (the Project). The Project includes the drilling, testing, and abandonment of exploration wells within exploration licence 1161, located approximately 300 km southeast of St. John's, Newfoundland and Labrador.

Shared Value Solutions Ltd. (SVS) prepared this independent environmental, cultural and socio-economic peer review of the EIS for the Suncor Tilt Cove Exploration Drilling Project. SVS consultants, with expertise in marine water resources, aquatic ecology and fisheries biology, socioeconomics, and community development, conducted the review.

We conducted our review with a clear focus on the rights, values, and interests of MTI First Nation communities. Our scope of work and intention was not to conduct a comprehensive and holistic review of the Environmental Assessment (EA) process and documentation but rather to focus the review and comments on the areas where MTI's rights, values, and interests intersect with the project as currently proposed, its potential and residual effects, and the Environmental Assessment (EA) process.

## 1.1 M'IGMAWE'L TPLU'TAQNN INCORPORATED RIGHTS AND INTERESTS RELATIVE TO PROJECT INTERACTIONS

M'igamawe'l Tplu'taqnn Incorporated is a not-for-profit organization created by the Mi'gmaq First Nations in New Brunswick. Its objectives include promoting and supporting:

- The recognition, affirmation, exercise, and implementation of the Aboriginal and Treaty Rights
- The right of self-determination
- Political, cultural, economic, educational, and social development
- Justice and equity
- Wider respect and understanding
- General awareness of its member communities and their Mi'gmaq laws, rights, values, traditions, customs and practices



The Mi'gmaq are signatories to the Covenant Chain of Peace and Friendship Treaties which were signed with the British Crown. The Mi'gmaq have established Aboriginal and Treaty Rights under Section 35 of the Constitution Act, 1982, that have been upheld by the Supreme Court of Canada.

For this review MTI represents the rights and interests on behalf of eight of its nine member communities: Amlamgog (Fort Folly) First Nation, Natoaganeg (Eel Ground) First Nation, Oinpegitjoig (Pabineau) First Nation, Esgenoôpetitj (Burnt Church) First Nation, Tjipôgtôtjg (Buctouche) First Nation, L'nui Menikuk (Indian Island) First Nation, Ugpi'ganjig (Eel River Bar) First Nation and Metepenagiag Mi'kmaq Nation (Figure 1). MTI communities were formerly represented by the Assembly of First Nations Chiefs in New Brunswick Inc.

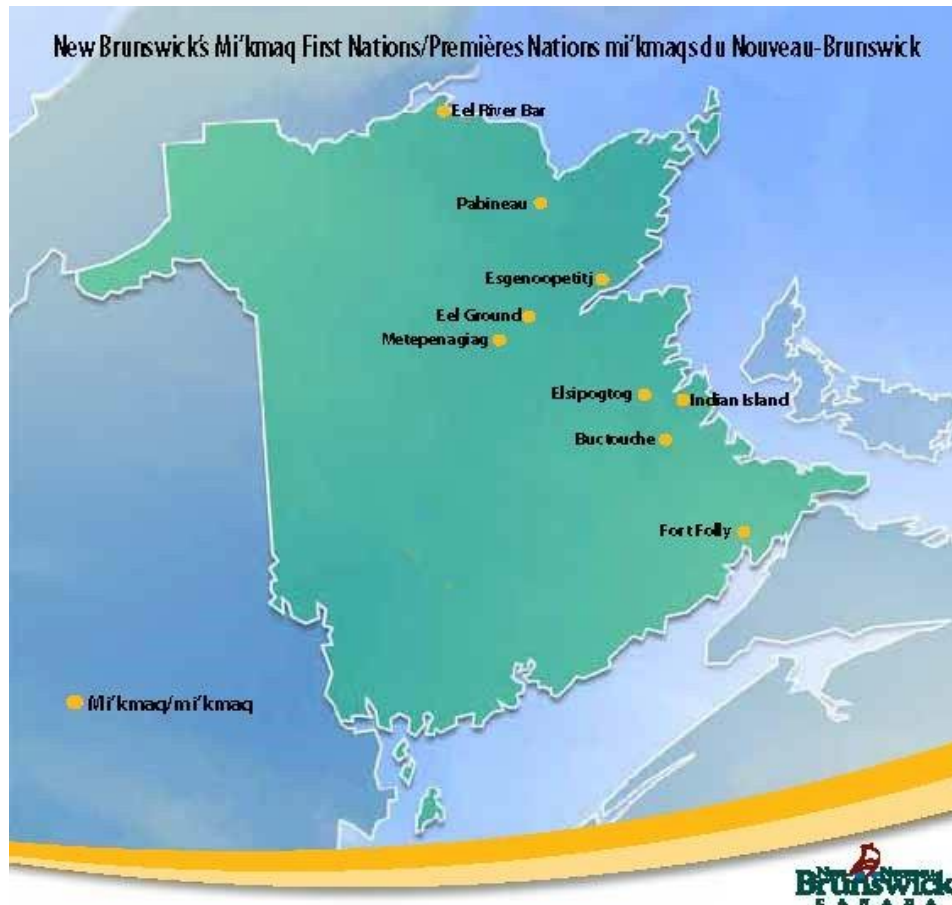


Figure 1. MTI member community locations throughout the Province of New Brunswick (Government of New Brunswick 2016)

Mi'gmaq First Nations peoples have occupied, relied on, used, and been stewards of the lands and waters in what is presently called New Brunswick since time immemorial and have shared and continue to share the land with Wolastoqiyik/Maliseet Nations in accordance with historic Sacred Treaties. The Peace and Friendship Treaties have been renewed many times with the Crown and are in the process of being implemented through a Mi'gmaq /New Brunswick/Canada Framework Agreement.



MTI Mi'gmaq First Nations members have established Aboriginal and Treaty Rights to hunt, fish and gather from the lands and waters of their territory for food, social and ceremonial purposes, as well as to trade and to earn a moderate livelihood.

The Mi'gmaq are the original inhabitants of New Brunswick and have occupied and cared for the lands and waters since time immemorial. Along with their Wabanaki brothers and sisters, the Mi'gmaq entered into sacred, constitutionally protected Treaties of Peace and Friendship with the Crown from 1725 onwards. Under these Treaties, the Mi'gmaq never ceded the lands and waters of New Brunswick, and the Treaties were signed with the intent that the Mi'gmaq would continue their stewardship of their lands and waters.

The Mi'gmaq have established Aboriginal and Treaty Rights to hunt, fish and gather from the lands and waters of their territory for food, social and ceremonial purposes, as well as to trade and to earn a moderate livelihood all have which have been upheld by the Supreme Court of Canada.

### **1.1.1 MTI'S MI'GMAQ RIGHTS IMPACT ASSESSMENT FRAMEWORK**

MTI has established a Mi'gmaq Rights Impact Assessment (MRIA) Framework to set out a self-determining, Mi'gmaq-led process for assessing the potential impacts of proposed activities on Mi'gmaq Aboriginal and Treaty Rights and Title, and for determining if Mi'gmaq consent for a project is to be granted.

To achieve the objective of this MRIA Framework, all proposed resource development projects and expansions of existing projects will be subject to the Mi'gmaq-led process and methodology as set out in Steps 1 through 8 below (Figure 2). A MRIA will be carried out whether or not a provincial Environmental Impact Assessment ("EIA") or federal Impact Assessment ("IA") is required for the proposed project.

A MRIA may be undertaken in conjunction with, concurrently, or separately, from a provincial EIA or federal IA, but will always be Mi'gmaq-led. If Proponents wish to obtain consent for their project to proceed, the Proponent must adhere to its obligations as set out in Steps 1 through 8 of this document. To ensure the MRIA for a project is not delayed, the Proponent should ensure that it meets its obligations set out in Step 1 as early as possible.

This Framework lays out the steps in the MRIA process, so that other governments and proponents can better understand the process. However, Proponents and the Crown must understand that the Steps set out in this MRIA Framework are not a 'tick-the-box' process, and that the completion of Steps 1 through 6 of this MRIA does not guarantee Mi'gmaq consent will be granted for a project. An overarching objective of this MRIA Framework is to ensure that Mi'gmaq Aboriginal and Treaty Rights and Title are respected and protected for future generations. (M'igamawe'l Tplu'taqnn Incorporated, 2020).

A copy of the MIRA Framework was provided to Suncor on December 11, 2020, with the expectation that Suncor would fully incorporate it into its consultation and engagement approach with MTI.



## Overview of the MRIA Methodology

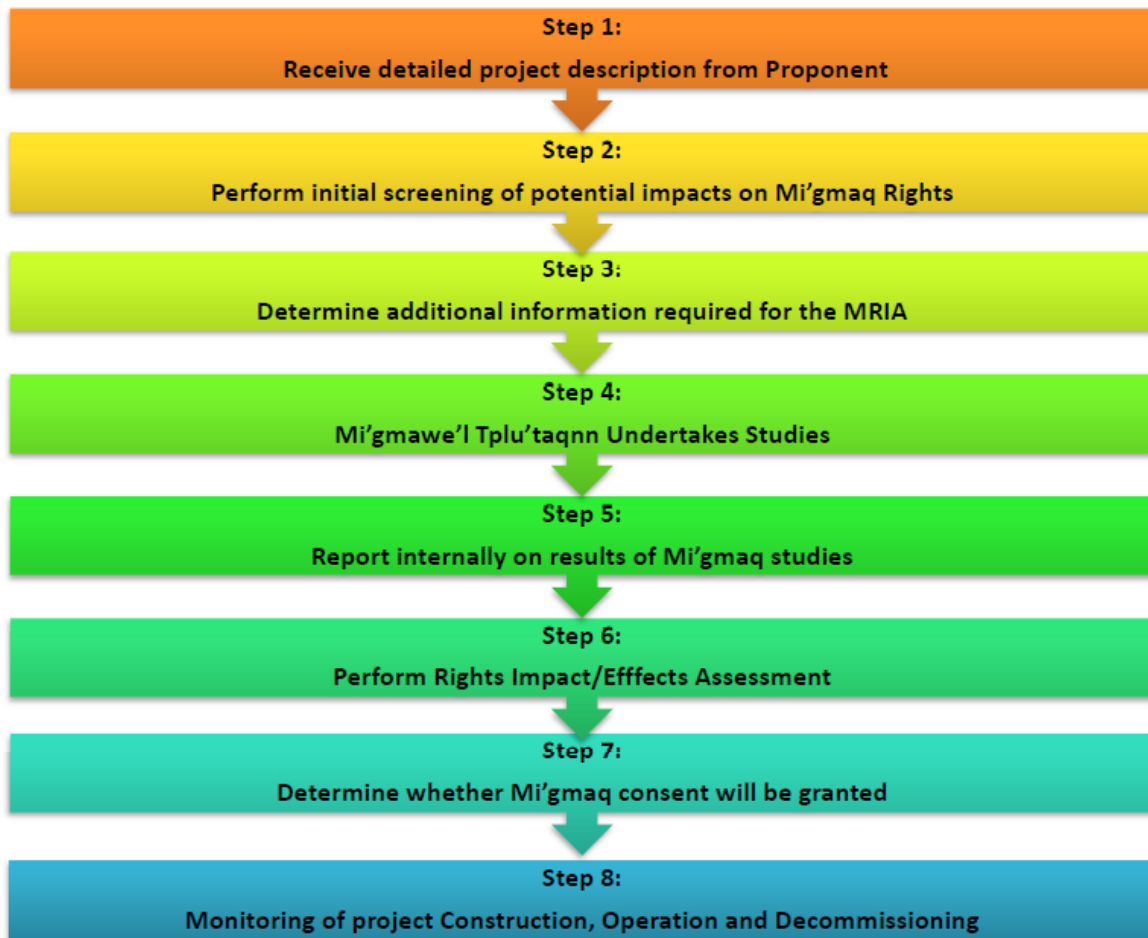


Figure 2. Overview of the MRIA Methodology (MTI, 2020).

This Vision, and Mi'gmaq's rights and interests, were considered throughout the completion of this review. We also considered, in a more generic sense, that the effects of importance in the federal EA process are also important to MTI's rights and interests (as per Section 5(1)(c) of CEAA, 2012):

Section 5. (1)(c)- "with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on:

- i. health and socio-economic conditions;
- ii. physical and cultural heritage;
- iii. the current Mi'gmaq use of lands and resources; or
- iv. any structure, site or thing that is of historical, archaeological, paleontological or architectural significance."



The proposed Projects have potential to impact Mi'gmaq rights to the lands and waters. Of particular importance are culturally significant species whose migratory routes intersect with the Project areas.

## 1.2 REVIEW OBJECTIVES

Shared Value Solutions consultants with expertise in marine water resources, aquatic ecology and fisheries biology, socioeconomics and community development, and regulatory processes conducted the review. The objectives of the technical review were to:

- Determine whether MTI rights, interests, concerns, and values are adequately considered by Suncor in the EIS.
- Determine whether Suncor has adequately identified and assessed potential project interactions with the environment and MTI Rights, interests, concerns, and values in the EIS.
- Determine whether Suncor has offered adequate avoidance, mitigation, and enhancements measures to reduce adverse impacts of the Project on the environment and MTI Rights, interests, and values.
- Provide recommendations to Suncor for addressing any shortcomings found through the above assessment.

Overall, this review intended to determine whether Suncor has accurately characterized the existing baseline conditions, understand how this project is expected to change the baseline conditions and MTI Valued Components (VCs), and discuss mitigations for limiting adverse impacts.

## 1.3 REVIEW METHODOLOGY AND APPROACH

The comments and recommendations provided within this submission focus on the following values and technical areas: Indigenous Knowledge, engagement and consultation, marine species and environment, commercial fisheries, socioeconomics, and cumulative effects. Within each key issue of concern, technical reviewers completed a high-level scan of all relevant studies in the EIS to identify potential project interactions with the environment and MTI's member Nations' rights, interests, concerns, and values.

Once interactions and potential impacts were identified, technical reviewers assessed whether Suncor proposed adequate measures to address the impacts. Where relevant, technical reviewers identified knowledge gaps and identified potential measures or modifications that could be adopted by Suncor to avoid or mitigate impacts on MTI rights, interests, concerns, and values.

To assist in the collection of information to fill knowledge gaps identified by technical reviewers, a list of applicable information requests has been compiled. Our expectation is that these information requests will be considered by IAAC and issued to Suncor for an appropriate response.





This report provides a summary of our review findings, which are also provided in the form of a Comment and Response Tracking Table in Appendix A: Comment Tracking Table.

## 1.4 REVIEW SCOPE

The following sections of the EIS were reviewed:

- Chapter 02- Project Description
- Chapter 03- Engagement and Consultation
- Chapter 05 – Physical Environment
- Chapter 06 – Biological Existing Environment
- Chapter 07 - Existing Socio-economic Environment
- Chapter 08 – Atmospheric Environment and Greenhouse Gas (GHG) VC (valued component)
- Chapter 09 - Marine Fish and Fish Habitat VC
- Chapter 10 - Marine and Migratory Birds VC
- Chapter 11 - Marine Mammals and Sea Turtles VC
- Chapter 12 - Special Areas VC
- Chapter 13 - Indigenous Peoples VC
- Chapter 14- Commercial Fisheries and Other Ocean Users VC
- Chapter 15 - Cumulative Effects
- Chapter 16- Accidental Events

Appendices related to these sections were also considered. In Section 4.0, a synopsis of the findings for each Chapter is provided.

### 1.4.1 SPATIAL SCOPE AND FOCUS

Although we align much of our technical review with the geographical scope defined in the EIS (such as the extent of the project area, Local Assessment Area (LAA) and Regional Assessment Area (RAA), neither the ocean environment nor Indigenous territory can be confined by arbitrary boundaries on a map. Oceanic currents, species migration patterns, and regional and international transport all mean that effects caused on a local scale can have far reaching residual effects extending to the shoreline coast of the Maritime provinces and in some instances even connected inland waters. We further note that applying this approach to the spatial extent of the EIS, it fails to recognize and appropriately demonstrate understanding of Mi'gmaq territory. Hence, where applicable, reviewers took a broad



approach to considering the spatial extent of this EIS review, applying contextually appropriate spatial bounds..

Where appropriate, technical reviewers also discussed impacts in the context of the broader environment or in the context of MTI Rights and interests, both of which extend beyond the spatial footprint of the Project Area, LAA and RAA – ensuring that interactions with MTI Rights and interests are appropriately captured.

## **1.4.2 EVALUATION AND INFORMATION REQUESTS**

To provide meaningful feedback to IAAC’s review of the EIS, we offer both a narrative evaluation of our key findings and recommendations, as well as specific comments and recommendations—found in Appendix A—that describe specific issues with the EIS. These comments and recommendations are meant to be appropriately considered by both IAAC and Suncor in evaluating the efficacy of the EIS and be incorporated into revised project planning to ensure it ultimately reflects the rights, interests, and values of MTI First Nations. In addition to the evaluation of the EIS, we have also provided a list of information requests that we put forward to provide clarity in understanding the project and its potential effects. These information requests are rooted in identified information gaps and must be acted upon appropriately to fully assess potential impacts. It is our expectation that IAAC will put these information requests forward to Suncor who will then provide a meaningful response.



# 2.0 PROJECT DESCRIPTION AND REGULATORY PROCESS

## 2.1 THE PROJECT

Suncor Energy Offshore Exploration Partnership (Suncor), on behalf of its partners Equinor Canada Ltd. and Husky Oil Operations Limited, is

proposing an exploration drilling program, referred to as the Tilt Cove Exploration Drilling Project (the Project), on Exploration Licence (EL) 1161, located in the Jeanne d'Arc Basin (Figure 3 Error! Reference source not found.), located approximately 350 km southeast of St. John's, Newfoundland and Labrador (NL). Suncor is already an active participant in the offshore oil and gas industry for NL) as the operator of the Terra Nova oil field located on the Grand Banks.

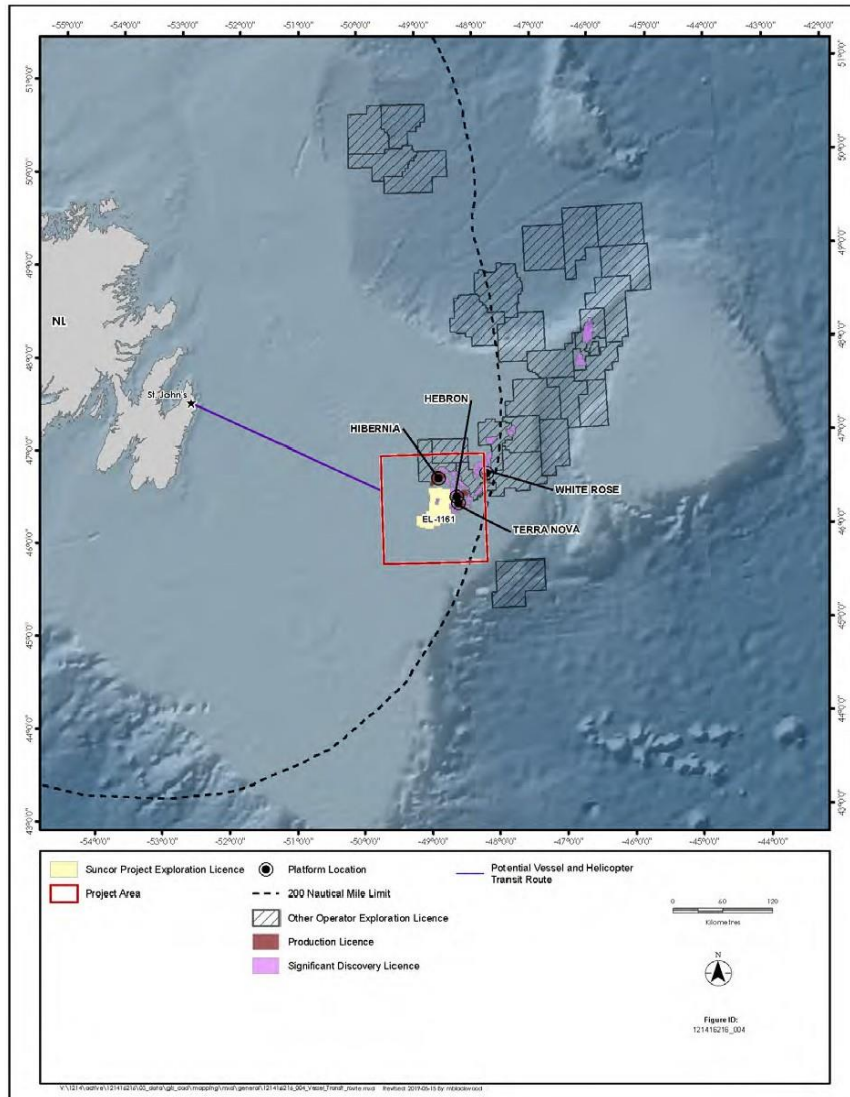


Figure 3. Tilt Cove Project Area and Potential Transit Route (Stantec, 2023)

Exploratory drilling of up to 12 wells is being proposed over the next nine years to determine the presence, nature, and volume of potential oil and gas resources within EL 1161. While seven wells have previously been drilled within the geographic boundaries of EL 1161 from 1973 to 2000, the current Project would represent the first drilling program in this area since being licensed to Suncor as EL 1161.



Assuming regulatory approval, the start of drilling would occur in Q2 of 2024. Subsequent wells would be considered based on the results of the first well.

## 2.2 ACCORD ACTS

Petroleum activities in the Newfoundland offshore area are regulated by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), a joint federal-provincial agency reporting to the federal and provincial Ministers of Natural Resources.

In 1986, the Government of Canada and the Province of Newfoundland and Labrador signed the Canada-Newfoundland and Labrador Offshore Petroleum Resource Accord to promote social and economic benefits associated with petroleum exploitation. The federal and provincial governments have also established mirror legislation to implement the Accord. The federal *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act, 1987* and the provincial *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act, 1990* are collectively referred to as the Accord Acts.

Under the Accord Acts, the C-NLOPB issues licences for offshore exploration and development and is responsible for the management and conservation of offshore petroleum resources, and protection of the environment, as well as the health and safety of offshore workers, while enhancing employment and industrial benefits for NL residents and Canadians.

Offshore petroleum activities and the C-NLOPB's decision-making processes are governed by a variety of legislation, regulations, guidelines, and memoranda of understanding. Exploration drilling programs require an Operations Authorization (OA) under the Accord Acts. Prior to issuing an OA, the C-NLOPB requires the following to be submitted:

- An Environmental Assessment Report
- A Canada-Newfoundland and Labrador Benefits Plan
- A Safety Plan
- An Environmental Protection Plan (including a waste management plan)
- Emergency Response and Spill Contingency Plans
- Appropriate financial security
- Appropriate certificates of fitness for the equipment proposed for use in the activities

For each well in the drilling program, a separate Approval to Drill a Well (ADW) is required. This authorization process involves specific details about the drilling program and well design. There are several regulations under the Accord Acts that govern specific exploration or development activities. There are also various guidelines, some of which have been jointly developed with the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) and Canada Energy Regulator (CER; formerly the National Energy Board [NEB]), which are intended to address environmental, health, safety, and



economic aspects of offshore petroleum exploration and development activities. Of particular relevance to the EA of this Project are:

- The Drilling and Production Guidelines (C-NLOPB and CNSOPB, 2017)
- The Offshore Waste Treatment Guidelines (OWTG) (NEB, 2010)
- The Offshore Chemical Selection Guidelines for Drilling and Production Activities on Frontier Lands (NEB (National Energy Board), 2009)

## 2.3 FEDERAL ENVIRONMENTAL ASSESSMENT

This project is considered a designated physical activity under the *Canadian Environmental Assessment Act, 2012* (CEAA, 2012) and is subject to a federal environmental assessment. As the project description was introduced in 2019, it is grandfathered under *Canadian Environmental Assessment Act, 2012* rather than the more modern *Impact Assessment Act, 2019*. To complete the assessment, Suncor has been collecting information to develop their EIS. This statement is the Proponent's account of the existing (baseline) environment, the proposed activities, predicted environmental effects, description of mitigations to prevent impacts from effects, and any residual effects which are those that will occur even with mitigation.

We note that as this project was grandfathered under CEAA 2012, it is not required to meet current best practices as outlined in the *Impact Assessment Act, 2019*. As a result, the EIS Guidelines and evaluation process for this project do not provide as stringent requirements for robust Indigenous inclusion. While we recognize the legal and regulatory requirements associated with CEAA 2012, we stress that the social and ethical standard for Indigenous inclusion has moved beyond those outlined under CEAA 2012. Therefore, we assert that for Suncor to demonstrate that they maintain appropriate consideration of adverse impacts to the rights and interests of Indigenous communities including those represented by MTI, they must meet an enlightened standard for Indigenous inclusion.

## 2.4 OTHER REGULATORY REQUIREMENTS

In addition to regulatory requirements pursuant to the Accords Acts and CEAA 2012, the Project is subject to various federal legislative and regulatory requirements, including:

- *Canada Shipping Act, 2001*
- *Canadian Environmental Protection Act, 1999*
- *Fisheries Act, 1985*
- *Migratory Birds Convention Act, 1994*
- *Species at Risk Act (SARA), 2002*
- *Navigation Protection Act, 1985*



An Environmental Assessment under the provincial Environmental Protection Act is not anticipated as Suncor will not be constructing onshore facilities as part of the Project. Suncor is proposing to contract onshore supply base services from an existing base in St. John's, NL. This facility would be operated by a third-party that has the necessary permits and approvals to undertake activities related to offshore oil and gas projects. In addition, while no provincial or municipal permits are currently anticipated to be required for the Project by Suncor, we note the potential requirements for biological surveys related to drilling activities that will need to be appropriately considered.

## **3.0 REVIEW FINDINGS**

Findings of SVS's review of the EIS with respect to the marine environment, socio-economic and cultural environment, and other sections of the EIS (effects of the environment on the Project) are presented below.

### **3.1 ENGAGEMENT AND CONSULTATION**

#### **3.1.1 SUMMARY OF EIS CONTENT**

Chapter 3 focuses on outlining Suncor's efforts to engage and consult with Indigenous groups and other stakeholders affected by this proposed project. Included within this engagement is communication with Government Departments and Agencies, Indigenous groups in NL, New Brunswick, Prince Edward Island, Nova Scotia, and Quebec, Fisheries stakeholders and other public stakeholder groups (not described). In summarizing engagement, Suncor provides a description of engagement events with each party, as well as a consolidated breakdown of concerns expressed by Indigenous groups. Specific consultation logs or issue tracking tables are not provided by Suncor.

#### **3.1.2 EVALUATION**

Communication and engagement by Suncor in many instances were characterized by that which occurred before the end of 2020 and that which occurred after 2022, as the Project assessment and engagement was impacted by COVID-19. While the impact that COVID-19 had on Suncor's ability to engage in person is undeniable, the engagement record provided by Suncor illustrates a disjointed approach to communicating with MTI. Notably, while several meetings were held in late 2019, a gap in meetings is evident between the end of 2020 and the beginning of 2023, with several of the meetings in 2023 held simply to reintroduce the project and engagement team to MTI staff. As a result, meaningful discussions about MTI's concerns, especially those directly from the Mi'gmaq MTI represents were largely not heard and reflected in the EIS. Additionally, the engagement record shows a lack of engagement with MTI regarding the collection and inclusion of appropriate Indigenous Knowledge relevant to the project. This is counter to the EIS Guidelines, which directed Suncor to meaningfully incorporate Indigenous Knowledge into the EIS.

In recognizing the many Indigenous governments and organizations that Suncor was directed to engage with, we understand the approach that was taken to synthesize Indigenous concerns and



interests. However, in doing so for the sake of efficiency, we note that the context of many of the concerns raised and how it is presented in the EIS is lost. Notably, there is no effort to document which communities raised which concerns therefore making it difficult to consider how Suncor will approach providing a meaningful Nation- or community-specific remedy. This is reflected in the EA's actions and mitigations, which serve as Suncor's response to the concerns which are expressed. The result is a gap between understanding a specific impact or concern and assessing whether that concern will be appropriately addressed in the Project. Ultimately, we see this not only as a departure in meaningfully addressing Indigenous concerns—the norm in many other EISs conducted under CEAA, 2012—but also as an overall failure in providing effective mitigation or avoidance measures to ensure impacts are minimized.

In delegating procedural aspects of the duty to consult, IAAC should not view Suncor's execution of engagement as appropriate consultation, nor should proposed actions and mitigations be considered effective and meaningful accommodation.

### **3.1.3 RECOMMENDATIONS**

We recommend that Suncor commit to additional engagement efforts with MTI, including the provision of capacity support for MTI to conduct community engagement sessions to collectively gain feedback on the Project. Our expectation is that Suncor will work with MTI to appropriately capture specific concerns and recommendations which are a product of these sessions, address them appropriately, and revise the EIS based on that feedback. Additionally, we expect Suncor to demonstrate how information collected from MTI and Mi'gmaq First Nations and individuals was used to inform the EIS.

In recognizing the absence of Indigenous Knowledge specific and applicable to this Project from the MTI First Nations, we expect Suncor to engage with MTI to understand expectations for the inclusion of Mi'gmaq sourced Indigenous Knowledge and develop a plan for the collection and inclusion of a Project-specific Indigenous Knowledge and Land Use and Occupancy Study, which affords appropriate capacity support to conduct this work. Following the direction of the EIS Guidelines, it is our expectation that Suncor will demonstrate how MTI First Nations' Indigenous Knowledge was used to influence the EIS.

## **3.2 MARINE PHYSICAL ENVIRONMENT**

### **3.2.1 SUMMARY OF EIS CONTENT**

Chapter 5 of the EIS focuses on the characterization of the marine physical environment, which includes marine geology, atmospheric environment (including wind climatology, air and sea surface temperature, precipitation, icing, visibility, lightning, and tropical storms), physical oceanography (including bathymetry, ocean currents, wave climatology, extreme winds and waves, tides, storm surge, temperature, salinity, pH and turbidity), sea ice and icebergs, air quality, acoustic environment, climate change (including atmospheric climate changes to wind, temperature, precipitation and



storms; oceanographic changes to ocean-water temperatures, waves, currents, and sea level; and ice conditions to sea ice and icebergs).

### 3.2.2 EVALUATION

Suncor characterizes marine geology to be predominantly sand matrix (>90%) with more than 50% gravel content; however, many marine species occupy the interstitial spaces between these grain sizes on the seafloor, and all of which provide important nutrient cycling in this sensitive marine environment.

The atmospheric environment is described as being among the harshest and most variable environmental operating areas in the world, with numerous climatic factors varying annually, seasonally, and from storm to storm. Wind climatology, air and sea surface temperature, precipitation, icing, visibility, lightning and tropical systems sections considers the MSC50 winds and waves dataset, among other data sources required under the EIS Guidelines prepared for the Project; however available information is limited for select items.

Physical oceanography is described in terms of bathymetry, ocean currents, waves, extreme winds and waves, tides, storm surge and water properties. Many items showed significant and pronounced seasonal variabilities, for others only scarce information was available. Sea ice and icebergs vary in extent and size, and timing/detectability in the Project Area is dependent on both winds, wave action and temperature. Some inconsistencies with the data presented for sea ice and icebergs is misleading.

Air quality was generally categorized as “good” but presented no site-specific ambient air quality data for the Project Area, other than to indicate it was below exposure limits. Although the vessel emissions are regulated by International Maritime Organization (IMO) through the International Convention for the Prevention of Pollution from Ships (MARPOL), this region also receives long-range air contaminants from industrial mid-west and northeastern US seaboard and exhaust contaminants from existing offshore oil production facilities, supply ships, and other vessels in the area.

The acoustic environment section used underwater sound modelling to identify a combination of natural and anthropogenic sources contributing to the Project baseline acoustic environment. This information was supplemented by a 2015-2017 ESRF study in the region. Sources of natural sound included fin whale vocalizations, sea ice, precipitation, and wind, with low frequencies generated by earthquakes/geological events; whereas baseline anthropogenic sound sources included vessel traffic, activities associated with oil and gas exploration and extraction (offshore supply vessels and platforms, with distant seismic noise), and fishing activities (other than fishing vessel movement).

General climate change considerations relevant to offshore were considered (atmospheric, ocean and cryospheric variables). Given the proposed Project timeline (ending in 2029), the physical environment will experience impacts similar to those presently found in recent trends and interannual variability:

- Atmospheric trends include potential 1% decrease in wind speeds, 1°C increase in temperatures over the short-term, potential 1% increase in total precipitation, and storms





will be more intense with higher winds, precipitation, and storm surge totals when they do occur. Some items lack robust data or enough historical data available to justify the trends proposed.

- Oceanographic changes consider a potential increase in sea surface temperature (1–1.5°C short-term), regional climate models project freshwater transport to double from the Labrador Current due to freshening (from 2011–2069) under a medium-level emissions scenario, projected sea level rise around NL can be up to 0.25m by 2040. Many models lack varying degrees of certainty, and some items lack robust data to justify the trends proposed.
- Ice condition changes include continued reduction of sea ice extent and thickness (up to 0.5% short-term), potentially increasingly mobile Arctic ice pack that could impact marine traffic, increased wave action may facilitate iceberg melt/deterioration.

### 3.2.3 RECOMMENDATIONS

- Chapter 5 should be revised to include further information regarding the interstitial grain size between sand and gravel that are presumed present in the Project Area
- Limited site-specific information is available for adequate characterization of baseline atmospheric environment, physical oceanography and sea ice/icebergs. If recent data are not available, Suncor should conduct site-specific surveys to fill these gaps.
- Revise the acoustic environment section to consider the interactions between project activities (e.g., sound and light, sound and sediment, etc.), and acknowledge the baseline environment is already disturbed by existing anthropogenic activities
- There is much uncertainty with respect to climate change, the effects of the Project on the environment and the effects of the environment on the project. As such, a more conservative approach to the assessment of effects must be used in conjunction with a lower confidence rating for data deficient areas.

## 3.3 BIOLOGICAL ENVIRONMENT

### 3.3.1 SUMMARY OF EIS CONTENT

Chapter 6 of the EIS focuses on the characterization of the marine biological environment, which includes Marine Fish and Fish Habitat, Marine and Migratory Birds, Marine Mammals and Sea Turtles, and Special Areas, corresponding with the effects assessments in Chapters 9–12.

Suncor has completed no fish field surveys as part of this Project. Suncor bases their presence/absence information primarily on Canadian Research Vessel (RV) trawl surveys of the Grand Banks from 2004 to 2021 and 2015 Environmental Effects Monitoring (EEM) studies from surrounding platforms. These data are used to show species distributions within the RAA and LAA for bottom-dwelling fish and invertebrates as well as select pelagic species. Suncor provides no information regarding surveys targeting pelagic fish (e.g., acoustic surveys) within the Project area. A



large number of fish and invertebrates found within the RAA were not captured in Canadian RV trawl surveys around the Project area, however neither the frequency nor timing of the surveys is provided.

Site-specific surveys from 2015 for the Hebron platform (adjacent to the Project area) captured nine (9) species of fish (Sand Lane, American Plaice, Capelin, Mailed Sculpin, Alligatorfish, Atlantic Cod, Yellowtail Flounder, Greenland Halibut, Laval's Eelpout, and Vahl's Eelpout) including some listed species and species of cultural importance of Indigenous Peoples. Of these, Sand Lance and American Plaice were most abundant. Canadian RV trawl surveys collected an additional eight (8) species (Lumpfish, Witch Flounder, Northern and Atlantic Wolffish, Roughead Grenadier, Thorny Skate, Redfish, and Atlantic Herring). Brief discussions regarding the distribution and life history are provided for most of these species.

Canadian RV trawl surveys and 2015 EEM surveys collected numerous invertebrate species, including four (4) species of crab, 14 species of shrimp, 14 species of echinoderm (e.g., sea star, sea urchin), octopuses, squid, scallops, and others. Sea Urchins were by far the most abundant invertebrate in EEM surveys at the Hebron platform. Additional details are only provided for four (4) commercially important species: Snow Crab, Northern and Pink-Striped Shrimp, and Short-fin Squid.

Suncor provides a list of 22 fish species that may occur within the RAA that are listed either under SARA or identified as conservation concerns by Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Suncor provides additional details regarding three (3) wolffish species that are expected to occur, and white shark which may migrate through. The majority of the 22 species are not discussed any further within the document.

Suncor also notes the potential presence of six (6) fish highlighted as important to Indigenous Peoples during engagement: American Eel, Atlantic Salmon, Swordfish, and three species of Tuna. Generally, Suncor discusses minimal life history information for these species, and gives a brief summary of why they are not expected to occur in the Project area. Suncor provides extensive life history information about the Designatable Units (DU) of Atlantic Salmon, including details regarding migration timing, routes, and patterns. However, Suncor notes that no information is available specific to the Project area. Despite this data gap, Suncor asserts that the chances of Atlantic Salmon from any DU interacting with the Project area and LAA is either none or low.

Similarly, site-specific surveys to characterize plankton communities were not completed to support baseline information for the Project Area. Plankton are an extremely diverse and ecologically important group, often forming the base and lower levels of the marine food web, and provide important biological links to processes such as nitrogen fixation, carbon absorption, and CO<sup>2</sup> regulation. Timing for spawning of many larval fish species occur during peak density and distribution of plankton communities. Variations from major climatic events (e.g., currents) will directly affect the intensity of these blooms and by extension, every animal that consumes them. Due to major shifts in the assemblages of species in the early 1990s stock collapses, there are likely different assemblages today than have existed previously. There is a significant knowledge gap presented as no major studies have been completed since 1998.



Coral and sponge distributions are influenced by several abiotic factors such as surficial geology, geomorphology, surface productivity, and water column chemistry, among others. As this is an ongoing area of research, limited information is available from annual trawl surveys conducted between 2004–2021 (only a few surveys were completed in the Project Area over the span of the survey period). Few documented occurrences (likely due to minimal area surveyed within the Project Area footprint) were determined below the NAFO threshold for significant concentrations of corals/sponges. Nine (9) small gorgonians, one (1) large gorgonian, fourteen (14) soft corals, and five (5) sponges were recovered during the trawling surveys. Large and small gorgonian corals were documented within the Project Area.

The region in which the Project Area is located is an important breeding, migrating, moulting, wintering and stopover habitat for the Marine and Migratory Birds VC. Data provided for the baseline information contained no site-specific information and was supplemented by data sources (including EAs from nearby offshore projects) between 1969 and 2021. *Globally* (Atlantic puffin, common murre, Leach’s storm petrel, northern gannet, great shearwater, black-legged kittiwake, dovekie, thick-billed murre, and [wintering] ivory gull), *continentally* (black-legged kittiwake, [wintering] common eider and great skua), and *nationally* (harlequin duck) important/significant numbers of seabirds are found in parts of the region throughout the year. Spawning capelin attract large concentrations of marine birds to coastal waters in summer (millions of nesting, and thousands of non-nesting birds), thousands of nesting bird species along the coast will remain in the region throughout the summer (including northern fulmar and black-legged kittiwake), and fall migration brings others to the region. Many SAR/SOCC inhabit the region throughout the year. Many other marine and migratory species (including land birds, waterfowl, and other SAR/SOCC) will also pass through the region during spring and fall migrations. Nine (9) SAR/SOCC (provincially, federally, or for consideration under COSEWIC) and an additional eight (8) species (recognized on the IUCN Red List of Threatened Species) were identified to have potential to occur in the RAA and Project Area.

The region offers important foraging habitat for many species of marine mammals and sea turtles which are known to use the area seasonally, throughout the year. Project-specific information is sparse, and many species are data deficient in the region to provide adequate baseline information for the assessment. Most of this data is based on incidental sightings or opportunistic reporting. Acoustic monitoring studies from 2015-2017 were used to supplement baseline data; however, only one (1) recorder was located in the Project Area, but outside the EL 1161; three (3) were deployed in the region. Suncor uses a LAA for Marine Mammals and Sea Turtles in this chapter that was not defined until later chapters of the assessment. Mysticetes (baleen whales), Odontocetes (toothed whales), Phocids (seals), and sea turtles were assessed, and SAR/SOCC include five (5) species or populations of marine mammals, and two (2) sea turtle species. Concentrations of marine mammals and sea turtles in certain areas at certain times may be an artifact of the survey effort that has taken place in these locations. Similarly, low sightings in other regions may be attributable to reduced survey effort. Generally, Suncor discusses minimal life history information for these species, and gives a brief summary of why they are not expected to occur in the Project area.

Special Areas within the region were identified as having ecological or socio-economic value and/or have been designated as protected by international, Canadian, or Provincial organizations with relevant jurisdiction. Suncor states its focus on biological and ecological features rather than socio-



cultural reasons. Errors between text and corresponding tables or referred sections are prevalent in this section of the EIS.

### **3.3.2 EVALUATION**

The baseline data for the biological environment are based primarily on studies from a number of government sources (Canadian and international) and limited site-specific information. A large proportion of the data is old, in some cases multiple decades old, with very limited recent data. There appears to be no information regarding when surveys were completed on species presence/absence figures (Fish and Fish Habitat) – the data displayed could be 2 years old, or 20 years old.

Grammatical and sentence structure errors affect the clarity of this section, and when considered alongside figure labelling errors, are concerning. MTI worries that insufficient oversight or review was applied to the document prior to its submission, which contributes to its unreliability.

Suncor's reliance on out-of-date information is concerning, as it likely reflects an unwillingness to characterize and assess current conditions. Numerous assumptions are made in the absence of data (either recent data, or any data at all) but the assumptions are often not at all conservative. This is especially significant for species such as Atlantic Salmon, blue whale, and sea turtles that are highly important to Mi'gmaq and other Indigenous Peoples.

Overall, the characterization of the biological environment within the Project area is based on sparse and often old, data. Site-specific surveys and data are replaced with assumptions that are made, on occasion, without evidence or citation. Considering the Grand Banks is a sensitive area with numerous listed (SARA and COSEWIC) species, the characterization and assessment must be as conservative as possible.

### **3.3.3 RECOMMENDATIONS**

Section 6 of the EIS must be revised to include information about the life history, distribution, and potential for interaction for all listed species at risk (SAR) and SOCC species and any non-listed species of cultural importance to Mi'gmaq Peoples. Population and distribution data and figures must be updated to include data collected within the last 5 years. If recent data are not available, Suncor should conduct site-specific surveys to fill these gaps. At minimum, sufficiently detailed surveys for pelagic species (i.e., not trawl surveys) that follow established field methodology should be conducted.

Section 6 should also be reviewed and revised to provide clarity of language, and figures should be updated with symbology that allows the reader to determine when surveys were conducted for each data point.

Finally, Suncor should update the text in Section 6 to recognize that due to the influence of nearby platforms, the Project area is already substantially disturbed and current conditions cannot represent the natural baseline. There should be recognition that if the existing platforms were not present (i.e., under more natural conditions), distributions of many species would change, and they would be more likely to interact with the Project area.



## 3.4 EXISTING SOCIO-ECONOMIC ENVIRONMENT

### 3.4.1 SUMMARY OF EIS CONTENT

Section 7 of the draft EIS provides a characterization of the existing socio-economic environment, including the urban and rural setting (Section 7.1), commercial fisheries (Section 7.2), Indigenous Peoples and communities (Section 7.3), and other ocean users (Section 7.4). This technical review focuses on Section 7.3 and the Proponent's presentation of the existing socio-economic environment related to Indigenous Peoples and communities.

### 3.4.2 EVALUATION

The requirements of the EIS Guidelines for information presented in this section specify that there should be enough detail to "provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples." (Section 7.1.8, EIS Guidelines). Despite this, Section 7.3.1 of the draft EIS states that the contents of the draft EIS were primarily based on "publicly available reports and studies, such as recent EAs (e.g. Newfoundland Orphan Basin Exploration Drilling Program, Flemish Pass Exploration Drilling Project, etc.)" and that "where limited information was available on aspects of individual Indigenous communities, such as community health or land and resource use, more general information has been provided at the regional or provincial level" (p. 7-59).

The information that follows, specifically in Section 7.3.3.3 related to the eight Mi'gmaq First Nations represented by MTI is cursory in nature: it does not meet the requirement of the EIS Guidelines to provide a sufficient level of detail to provide a comprehensive understanding of the current state of each VC. The lack of readily available information in EA documents completed by proponents of other offshore exploration drilling projects does not excuse Suncor from ensuring sufficiently detailed, Project-specific information is documented and included in the EIS for its own Project.

In particular, Table 7.38 provides an insufficiently detailed overview of each MTI member community's socio-economic conditions that does not meet the requirements of the EIS Guidelines. For example, under the heading "Current Use of Lands for Traditional Purposes" the same statement is repeated for each of the eight Mi'gmaq First Nations represented by MTI, which has been extrapolated from a 2017 Indigenous Knowledge, Land Use and Occupancy Study (IKLUOS) report written for the purposes of another Project (BP's Scotia Basin Drilling Project). Summarizing findings from one study, completed 7 years ago and intended for a completely different Project into one conclusive statement in reference to MTI members' land and resource use for this Project is disrespectful to the unique exercise of Aboriginal and Treaty rights of each of our member First Nations and does not fulfill the requirements or intent of the EIS Guidelines.

### 3.4.3 RECOMMENDATIONS

Section 7 of the EIS, and specifically Section 7.3.3.3 related to the eight Mi'gmaq First Nations represented by MTI, must be amended to provide a sufficient level of detail to provide a comprehensive characterization of socio-economic baseline conditions.



MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS Study and Impact Assessment specific to this Project, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the Project on MTI's rights that fulfills the requirements of the EIS Guidelines.

## **3.5 ATMOSPHERIC ENVIRONMENT AND GREENHOUSE GAS**

### **3.5.1 SUMMARY OF EIS CONTENT**

Chapter 8 of the EIS provides a summary of potential interactions between project activities and the atmospheric environment, which includes the direct release of greenhouse gas emissions, air quality constituents, noise, and lighting. A notable exception to Suncor's characterization of project effects to the atmospheric environment is the consideration for the combustion of petroleum products generated from the project. Only one potential environmental effect is identified in the EIS which is "GHGs released to the atmosphere, which is measured as an increase in emissions of GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O) in tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) per year.

Based on its assessment, Suncor considers the project effects to be adverse and moderate (63 tonnes CO<sub>2</sub>e/year calculated for the Project, a reportable quantity for federal programs) in magnitude, but short- to medium-term in duration (considered irreversible for at least 100 years); however, with mitigation and environmental protection measures, the residual environmental effects on the atmospheric environment are not predicted to be significant, with a high level of confidence. Based on this finding, Suncor proposes no specific follow-up monitoring.

### **3.5.2 EVALUATION**

Suncor has not taken a conservative approach to assessing air quality and GHG emissions for the Project. While acknowledging the significant information gaps for this VC, Suncor uses comparative criteria/data from Canada, Australia, and the US, among their own data for similar projects to justify the result of the assessment. As the thresholds applied from multiple jurisdictions is supposed to make up only a small part of what is used to collectively assess and mitigate the full range of impacts to the Project area, caution also needs to be applied when implementing these thresholds in the assessment as there are often substantial differences in the legal definitions to which these thresholds may be applied.

Light, noise and other non-GHG related air quality was not considered, among other constituents listed in the EIS Guidelines developed for the Project for GHG emissions (e.g., perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>)), as criteria relates directly to human receptors.

Applying a high level of confidence to information that is inherently lacking for baseline studies is not appropriate for this assessment. Justification for the high level of confidence is based on 'good' understanding of the general effects of Project activities on GHGs and effectiveness of mitigation



measures. The assessed temporal effects on this VC is also flawed (short- to medium-term [defined as for the duration of the activity or accidental event, to beyond the duration of activity up to the end of the Project or for duration of threshold exceedance of an accidental event – *weeks or months*]), considering the impacts are irreversible for at least 100 years. Suncor has not assessed what has not been defined in the assessment, and the significance of information gaps, and broad generalizations presented for this VC questions the validity of their prediction of effects.

### 3.5.3 RECOMMENDATION

Suncor’s assessment and admitted uncertainties, represent significant barriers to MTI’s acceptance of this report. Suncor must undertake fulsome revisions of Section 8.0 to incorporate, at minimum, project area-specific data and Indigenous Knowledge. This information will then facilitate a more accurate assessment of potential effects. Specifically, MTI needs to see:

- Light, noise, remaining GHG and other non-GHG related air quality considerations that were not included in the original iteration of the EIS, but stated within the EIS Guidelines developed for the Project
- Acknowledgment of the cautionary principle when applying standards and thresholds from various jurisdictions
- Reassessing the potential Project-related effects to demonstrate appropriate confidence, significance, and timeline of anticipated effects
- Engagement in preparation of the GHG Management Plan required for medium/moderate emissions Project.

## 3.6 MARINE FISH AND FISH HABITAT

### 3.6.1 SUMMARY OF EIS CONTENT

Section 9 of the EIS outlines Suncor’s assessment of the potential effects of the Project on marine fish and fish habitat, including SAR, invertebrates (e.g., pelagic zooplankton, sponges, bivalves), and fish behaviour. Suncor has highlighted two potential effects: (1) Change in risk of mortality, injury or health, and (2) Change in habitat availability, quality and use. Suncor chose to focus only on mortality of fish and invertebrates, behavioural changes due to light and noise, and the overlaying of bottom habitat with drilling sediments. Other potential effects, pathways, and measurable parameters were minimized.

Based on Suncor’s assessment of the Project’s potential interactions with fish and fish habitat, they have characterized the vast majority of potential effects as low magnitude and short-term duration. They evaluate effects in isolation and do not consider their interactions or cumulative effects in this chapter. Suncor asserts that the majority of potential effects are mitigated by mobility of fish and other organisms, which will simply move away from the Project area. Sessile or immobile organisms may be significantly affected, but Suncor claims the effects would be limited to individuals rather



than populations. They have predicted effects to be not significant, and despite stating numerous compounding uncertainties, have moderate confidence in their predictions.

Suncor has committed to following standard industry practices and industry guidance documents but provides very little detail. They have committed to an imagery-based pre-drilling seabed survey to evaluate the presence of sensitive communities, shipwrecks, or other debris but have provided no additional details. Post-drilling surveys are also proposed to validate their modelling of discharges. Suncor has chosen to distribute the results of these surveys over the internet after they have occurred, rather than engaging Indigenous communities throughout the process or facilitating Indigenous monitoring.

### **3.6.2 EVALUATION**

Despite claiming conservatism, Suncor has taken a very unconservative approach to the evaluation of effects on marine fish and fish habitat. Potential effects are consistently minimized and/or dismissed based on cherry-picked western science and sweeping assumptions. The boundaries of effects are variable, with potential changes evaluated based on the entirety of the Grand Banks in some cases and localized to the comparatively small mobile offshore drilling unit (MODU) footprint in others.

Suncor's evaluation of effects in isolation is especially concerning. Numerous, compounding impacts to marine fish and fish habitat will occur concurrently during the Project, yet they are evaluated as if occurring separately. Further, there is little-to-no mention of how the Project will add stressors to an already heavily stressed environment (due to the presence of existing infrastructure).

A lack of detail and broad generalizations are used to further dismiss potential effects. Decades-old data are used to support their assertions, despite the availability of newer data, and it appears as though no efforts were made to undertake collection of site-specific field data. Often, assertions are made to minimize effects, but no citation(s) provided. Many of the mitigations boil down to "they will probably move away from the area" or "only individuals, not populations, will be affected" with little-to-no evidence. Suncor even recognizes the numerous uncertainties associated with the assessment – such as a lack of localized studies, or poor understanding of effects on marine species – but dismisses these uncertainties and proclaims moderate confidence in their predictions.

Overall, Suncor's poor diligence demonstrates a lack of respect for the sensitive marine environment on the Grand Banks and does not accurately characterize potential Project effects on marine fish and fish habitat.

### **3.6.3 RECOMMENDATIONS**

Overall, inconsistencies within Suncor's assessment and, by their own admission, substantial uncertainties, represent significant barriers to MTI's acceptance of this report. Suncor must undertake fulsome revisions of Section 9.0 to incorporate, at minimum, more recent data and Indigenous Knowledge. This information will then facilitate a more accurate assessment of potential effects. Specifically, MTI needs to see:





- Specific individual effects assessments for all SAR and culturally valued fish (inclusive of crustaceans and molluscs).
- Evaluation of impacts due to deposition of cuttings, including toxicity of synthetic based mud (SBM), on benthic fauna rather than more tolerant infauna such as polychaetes.
- Consideration of the interactions between project activities (e.g., sound and light, sound and sediment, etc.).
- Evaluation of impacts to fish beyond mortality, including injury and health impacts.
- Recognition that the Grand Banks is an environmentally sensitive area and already significantly impacted.

Additional details can be found in the comment tracking table, (Appendix A).

## 3.7 MARINE AND MIGRATORY BIRDS

### 3.7.1 SUMMARY OF EIS CONTENT

Chapter 10 of the EIS focuses on Marine and Migratory Birds, and their potential interactions with project activities. Marine and migratory birds were chosen as a VCs because of their role in pelagic and coastal ecosystems, as well as the cultural and economic importance they play. Two potential environmental effects were identified – Change in Risk of Mortality or Physical Injury and Change in Habitat Quality and Use. These were then measured by mortality or injury detected during the Project; change in area of habitat (qualitative) used for feeding, breeding, resting, or travelling; and stranding detected during the Project.

Suncor concludes that the Project is not likely to result in significant adverse effects on marine and migratory birds. Suncor evaluates its confidence in predictions as being “moderate” given uncertainties in predicting the impact of attraction to artificial lighting and flaring on the MODU. To monitor potential effects, Suncor proposes for the duration of the drilling program for each well:

- Systematic searches for stranded birds will be carried out daily on the MODU and supply vessels, per Guidance for Developing Systematic Stranded Bird Survey Protocols for Vessels and Platforms. This effort will be documented, by trained personnel according to search protocols designed specifically for each facility as per Standard for Observers Conducting Seabird Surveys at Sea, and for Trainers Providing Instruction on Seabird Survey Methods.
- Retrieval, rehabilitation, release and documentation of stranded birds will be conducted according to Procedures for Handling and Documenting Stranded Birds Encountered on Infrastructure Offshore Atlantic Canada and associated permit conditions under the Migratory Birds Convention Act (MBCA) authorizing the capture and handling of migratory birds.



### 3.7.2 EVALUATION

Suncor has not taken a conservative approach to the assessment of residual effects on the Marine and Migratory Birds VC. No project-specific or LAA-specific surveys have been completed to support the assessment. Potential effects are consistently minimized and/or dismissed without much justification based solely on western science and generalizations that are not based on facts. Both positive and adverse effects have been identified for this VC with respect to the Project Area; however, the supporting sections for forage species and habitat are generalized to the region and are significantly lacking in current information to make accurate predictions of effects for the Project.

Many of the assumptions presented for this VC to justify the effects assessment include behavioural responses of species selected to defined Project Activities. In all cases, the responses are assumed to inherently protect the species from mortality/injury and not assessed further, without rationalization or much justification for the predicted response.

The determination that the project will not likely result in significant adverse effects (not predicted to result in a detectable decline in overall bird abundance or changes in the spatial and temporal distributions of bird populations within the Project Area or LAA), is also flawed, considering the significant data gaps presented. Similarly, a moderate level of confidence associated with the determination of residual effects is inappropriate.

### 3.7.3 RECOMMENDATION

Suncor's inconsistent approach to the assessment and substantial uncertainties relating to the measurable parameters for this VC, represent significant barriers to MTI's acceptance of this report. Suncor must undertake fulsome revisions of Section 10.0 to incorporate, at minimum, more recent data and Indigenous Knowledge. This information will then facilitate a more accurate assessment of potential effects. Specifically, MTI needs to see:

- Pre-mobilization, site-specific surveys (at minimum one year in advance of activities) for selected Marine and Migratory birds, to ensure accurate baseline for all selected species during sensitive timeframes, and better inform future studies for daily systematic surveys and strandings. MTI would like to participate in the planning and implementation of these pre-construction surveys.
- Specific individual effects assessments for all SAR and culturally valued Marine and Migratory birds.
- Re-evaluation of impacts for determining direction, magnitude, duration, and ecological and socio-economic context, significance and confidence.
- Consideration of the interactions between project activities (e.g., sound and light, artificial reefs, etc.).
- Recognition that the Grand Banks is an environmentally sensitive area and already significantly impacted.



## 3.8 SPECIAL AREAS

### 3.8.1 SUMMARY OF EIS CONTENT

Section 12 assesses the effects from the Project to nine special areas within and surrounding the project area. Special areas are those that have been identified or protected based on ecological and biological features that include marine species and habitats. In addition, special areas are identified as being protected by legislation or other processes by agencies that are international, Canadian or from NL. These areas have been selected as a VCs due to their designations as well as their presence within or surrounding the Project area and potential negative effects from the project activities.

Suncor's assessment of routine Project-related effects on special areas is focused on the change in habitat quality. The project interactions included in this assessment are:

- Presence and Operation of a MODU
- Geophysical (including Vertical Seismic Profile (VSP)), Geological, Geotechnical, and Environmental Surveys
- Discharges
- Well Decommissioning, Suspension, and Abandonment
- Supply and Servicing

### 3.8.2 EVALUATION

While it is encouraging to see mitigation measures outlined for the project activities affecting special areas, mitigation measures were not included for Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys. In general, some mitigation measures do not provide enough details to understand how the mitigations will result in the desired outcome. One to note is the mitigation measure for presence and operation of a MODU – screening for the presence of sensitive environmental features. Suncor does not state what mitigation measures or actions will be implemented if a sensitive environmental feature has been located.

Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects does not clearly demonstrate how the mitigation measures outlined by Suncor connect with the characterization of the environmental effect. For example, Suncor states: "With the implementation of appropriate mitigation measures, the overall magnitude of effects of the presence and operation of a drilling installation on marine fish and fish habitat are anticipated to be low." However, Suncor does not further elaborate on how the mitigation measures implemented will result in a low effect to the marine fish and their habitat.

In Section 12.7 Follow-up and Monitoring is gravely lacking the requirements set forth in the CEAA 2012. Suncor ultimately does not provide a follow-up plan or any monitoring activities that is outlined as a requirement in the CEAA 2012. MTI deems this as unacceptable as monitoring is a key



component of assessing the successful implementation of mitigation measures and will ensure they continue to be successful through out the entirety of the project and after.

### 3.8.3 RECOMMENDATION

Mitigation measures outlined in section 12.4.1.1 must be revised to include mitigation measures for Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys, as well as to provide more details about specific measures as outlined in Appendix A Table 1: Comment Tracking Table.

Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects and its subsections must be revised to demonstrate how the mitigation measures will result in the desired outcome. Specifically, they must follow the requirements as outlined in the CEAA 2012, including “Mitigation measures will be written as specific commitments that clearly describe how the proponent intends to implement them and the environmental outcome the mitigation measure is designed to address” (CEAA, 2012). Specific actions are outlined in Appendix A Table 1: Comment Tracking Table.

Section 12.7 Follow-up and Monitoring must be revised to include a Follow-up Program and Monitoring Programs to ensure the mitigation measures will be implemented successfully. Specifically, they must follow the requirements as outlined in CEAA 2012. In regard to the Follow-up Program: “The EIS shall present a preliminary follow-up program and shall include:

- objectives of the follow-up program and the VCs targeted by the program;
- list of elements requiring follow-up
- number of follow-up studies planned as well as their main characteristics (list of parameters to be measured, planned implementation timetable, etc.);
- intervention mechanism used in the event that an unexpected deterioration of the environment is observed;
- mechanism to disseminate follow-up results among the concerned populations;
- accessibility and sharing of data for the general population;
- opportunity for the proponent to include the participation of Indigenous groups and stakeholders on the affected territory, during the development and implementation of the program;
- involvement of local and regional organizations in the design, implementation, and evaluation of the follow-up results as well as any updates, including a communication mechanism between these organizations and the proponent.” (CEAA, 2012)

In regard to monitoring:



“The proponent will prepare an environmental monitoring program for all phases of the project. Specifically, the environmental impact statement shall present an outline of the preliminary environmental monitoring program, including the:

- identification of the interventions that pose risks to one or more of the environmental and/or VCs and the measures and means planned to protect the environment;
- identification of regulatory instruments that include a monitoring program requirement for the VCs;
- description of the characteristics of the monitoring program where foreseeable (e.g. location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, human and financial resources required);
- description of the proponent’s intervention mechanisms in the event of the observation of non-compliance with the legal and environmental requirements or with the obligations imposed on contractors by the environmental provisions of their contracts;
- guidelines for preparing monitoring reports (number, content, frequency, format) that will be sent to the authorities concerned;
- plans to engage Indigenous groups in monitoring, where appropriate” (CEAA, 2012).

## 3.9 INDIGENOUS PEOPLES

### 3.9.1 SUMMARY OF EIS CONTENT

Section 13 of the draft EIS outlines Suncor’s assessment of the potential effects of the Project on Indigenous Peoples, including health and socio-economic conditions, physical and cultural heritage, current use of lands and resources and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. Based on Suncor’s assessment of the Project’s potential interactions with the rights of impacted Indigenous communities, their characterization of potential effects is further focused on potential Project-related effects related to changes in commercial-communal fisheries and change in current Mi’gmaq use of lands and resources.

### 3.9.2 EVALUATION

Despite the requirements set out in the EIS Guidelines for the proponent to include baseline information and predicted effects of the Project *for each Indigenous group* identified in Part 2, Section 5 of the EIS Guidelines, which includes the eight Mi’gmaq First Nations represented by MTI, Suncor has presented generalized information about baseline conditions and potential effects for all Indigenous groups impacted by the Project. This does not support the accurate, informed assessment of effects of the Project on each rights holding First Nation which the Minister requires to come to a conclusion on the EA and does not fulfill the requirements of the EIS Guidelines.



Suncor acknowledges that much of the information related to Indigenous Peoples presented in this section of the draft EIS, including key issues, concerns and potential effects have been informed “through EA processes involving other projects and proponents” (p. 13-2) and that the draft EIS “draws on recent information from previous EA documents for similar exploration drilling projects in Atlantic Canada” (p. 13-8). The use of this information from other contexts specifically related to key issues, concerns and potential effects seems to be based on the assertion that “Indigenous groups have shared with Suncor they have the same concerns generally about all of the proposed offshore exploration drilling projects” (p. 13-2). While there may be some overlapping concerns for some Indigenous communities that apply to other offshore exploration drilling projects, it is MTI’s position that Suncor’s reliance on engagement completed for other projects to identify key issues and concerns and other information related to its own Project is not appropriate and does not accurately characterize the Project’s unique interactions with MTI or other Indigenous communities. To date, engagement specific to this Project with MTI has been insufficient and therefore the statement that concerns raised by MTI for other offshore exploration drilling projects can be considered representative of our concerns for this Project is not accurate.

Further, despite requirements of the EIS Guidelines, several key features of the effects assessment have been developed without adequate consultation and engagement with MTI and without the adequate incorporation of MTI’s Indigenous Knowledge, including Effect Pathways and corresponding Measurable Parameters, spatial boundaries of study areas, significance criteria and mitigation measures.

Finally, Section 7.3.7 of the EIS Guidelines states that as a requirement of the proponent’s assessment of the Project’s effects on Current Mi’gmaq Use of Lands must include the Project’s interactions with “experience by Indigenous Peoples, including changes that affect the spiritual and cultural experiences of the activity or practice, as well as sense of place and well-being, and the applicability and transmission of Indigenous knowledge, laws, customs and traditions.” MTI notes that Suncor’s presentation of Project Pathways in Section 13.3.2.1 and Section 13.3.3.1 only include a consideration of the interaction of the Project’s physical activities and infrastructure with Commercial-Communal Fisheries and Current Use of Mi’gmaq Lands and Resources, and do not consider these important, but perhaps less tangible interactions between the Project and MTI’s rights.

### **3.9.3 RECOMMENDATIONS**

Section 13 must be revised to include a characterization of baseline conditions and assessment of effects for each Indigenous group identified in Part 2, Section 5 of the EIS Guidelines, including the eight Mi’gmaq First Nations represented by MTI.

MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential effects of the Project on MTI’s rights that fulfills the requirements of the EIS Guidelines.



MTI requires that Suncor work with MTI to develop a Consultation Agreement for a meaningful engagement approach for engagement activities throughout each step outlined by the EIS Guidelines prior to any further consultation activities taking place. The agreement should include mutually acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. This agreement will provide the framework for addressing the issues outlined above.

## **3.10 COMMERCIAL FISHERIES AND OTHER OCEAN USERS**

### **3.10.1 SUMMARY OF EIS CONTENT**

Section 14 of the EIS focuses on the assessment of potential effects on commercial fisheries and other ocean users. Commercial fisheries include those engaged in harvesting fish species (including groundfish and shellfish) for commercial purposes. Recreational fishing and aquaculture are also considered under the scope of commercial fisheries. The geographic scope of the assessment includes the waters off of NL, Nova Scotia, and Saint Pierre and Miquelon (France), but implicates all other jurisdictions that fish within the RAA as Northwest Atlantic Fisheries Organization (NAFO) nations.

Suncor in their assessment focuses on the assessment of Project-related effects on commercial fisheries and other ocean users by examining potential change in access or availability of resources. Overall, Suncor reached the conclusion that residual adverse effects from routine Project activities on commercial fisheries are not anticipated to result in local fishers being displaced or unable to be accessed. Additionally, Suncor does not anticipate that other ocean users such as marine transport will experience residual adverse environmental effects. The basis from which they reach this conclusion is as a result of the limited amount of fishing that currently occurs within the Exploration Licence area and the long-standing relationship the offshore oil and gas industry has with the fishing and marine shipping industries.

### **3.10.2 EVALUATION**

Suncor takes a very narrow interpretation of the EIS Guidelines in considering the potential impacts to commercial fisheries and other ocean users by focusing on direct loss of fish resources and access to areas for the purpose of fishing and transport. The Guidelines provide direction for the assessment of the following factors:

#### Section 7.1.8 Indigenous Peoples

- commercial activities (e.g., fishing, trapping, hunting, outfitting);
- any project components and a description of any activities (e.g., exclusion zones) that may affect commercial fisheries or other uses;
- commercial and rights-based fishing activity within the project's potential zone of influence, including licences and maps

#### Section 7.1.9.2 Human Environment



- the current and historical use of waters that may be affected by routine project operations or by accidents and malfunctions, including:
  - current commercial and recreational fishing activity, including licence holders and species fished;
  - other ocean uses (e.g., shipping, research, oil and gas, military, ocean infrastructure [e.g., subsea cable]);

#### Section 7.3.7 Indigenous Peoples - Health and Socio-Economic Conditions

- This assessment of impacts to human health will assess effects of changes to the environment on Indigenous Peoples' socio-economic conditions, including, but not limited to:
  - the use of navigable waters (including any water used for Indigenous transport)
  - commercial fishing, hunting, and trapping activities
  - commercial outfitters
  - recreational use

#### Section 7.3.7 Indigenous Peoples – Current Use of Lands and Resources for Traditional Purposes

- This assessment will characterize the effects (including cumulative effects) on the use or activity (e.g., hunting, fishing, trapping, and cultural practices) as a result of the underlying changes to the environment (i.e., how will the activity change if the project proceeds), using the approach described in the Agency's guide entitled Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012. This assessment should consider changes caused by the Project through changes to the environment, can cause effects to the practice of a current use or activity through the following interactions with:
  - any changes or alterations to access into the areas used for rights-based and commercial fishing, including implementation of exclusion zones;
  - effects on food, social, ceremonial, and commercial fishing;

#### Section 7.3.8.2 Commercial Fisheries

- effects of changes to the environment on commercial fishing activities (e.g., effects on fished species affecting fisheries success, displacement from fishing areas (e.g., exclusion zones), gear loss or damage);
- a discussion of how drilling activities correlates to key commercial fisheries windows, and any potential impacts resulting from overlapping periods;
- effects from subsea infrastructure that could be left in place (e.g., wellheads) following abandonment; and





- changes to habitat of commercial fish species (e.g., noise, water and sediment quality).

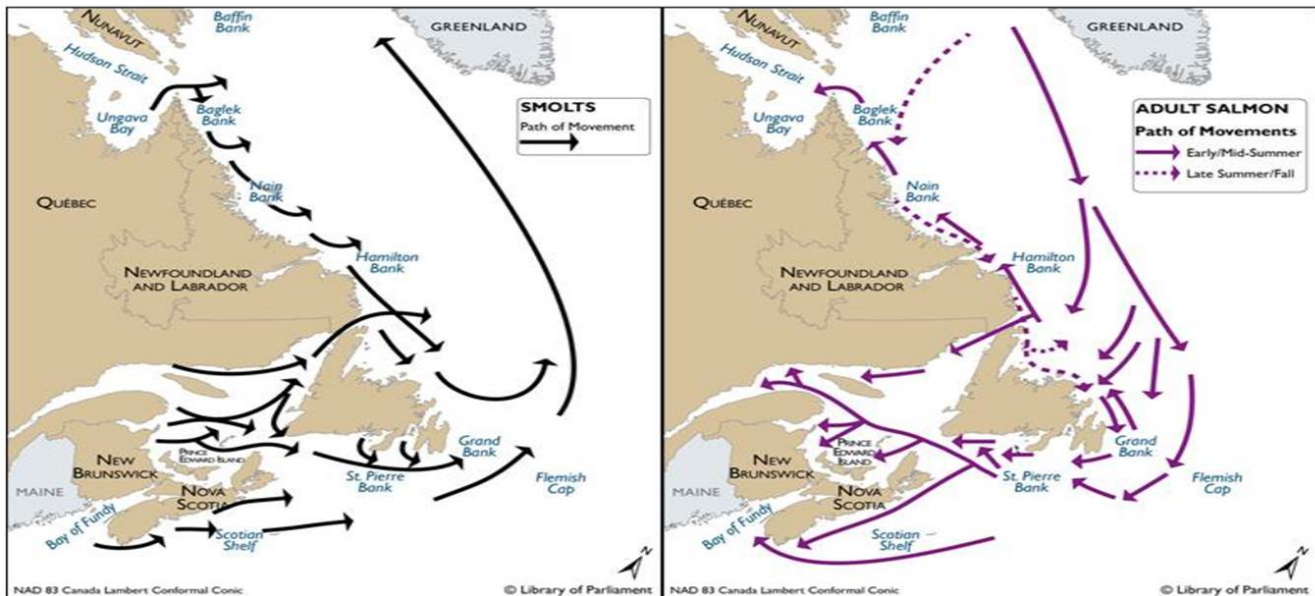


Figure 4. Map of Atlantic salmon migration patterns. Adapted from Library of Parliament, 2016.

These factors when considered together outline the need to assess a wide range of both direct and indirect impacts as a result of routine and exceptional project activities. Of noted concern for potential impacts to MTI communities is the lack of information regarding the potential impacts to commercial and rights-based fishing as a result of disturbance to fish migratory channels. Salmon are of great cultural significance to Mi'gmaq and as a result any activity that may jeopardize the viability of stocks is unacceptable. We recognize Suncor's attempt to ensure a broad geographic area is included within the RAA, however, we don't think the RAA is broadly enough defined.

The main concern we raise is that migratory species such as salmon and other fish species, sea turtles, cetaceans, and sea birds, may traverse through the project area thereby interacting with the project and its activities, but then are not harvested until they are well outside the RAA. Using salmon as an example (**Error! Reference source not found.**4), which are known to travel as smolts (juveniles) from rivers and tributaries draining into the Atlantic waters, eastward past Grand Bank to the Flemish Cap area, then northward towards Greenland. Salmon from the Maritime provinces including New Brunswick, may stay at sea for multiple years before returning via the waters off the eastern coast of Newfoundland to their home waters to spawn (Library of Parliament, 2016). As a result, salmon found off the coast and in connected inland waters of New Brunswick may pass through the project area at least twice during their life cycle. Both direct and indirect effects of this project may be observed on commercial and rights-based fishing throughout the Maritime coastline.

To fully understand impacts to commercial fishing and other ocean users, specifically within the Indigenous context, there needs to be strong consideration given to the potential magnitude of impacts to individuals, and the potential loss of income and livelihood, even if temporarily. Project activities which result in the loss of commercial productivity for even a short term must be considered severe. For example, activities that result in significantly declined productivity (e.g., alterations in seasonality, or abundance of target species), or value of catch, will have direct adverse



economic impacts on individuals. While these impacts are discussed, Suncor fails to consider the personal toll and financial hardship this may have on individuals, which while perhaps temporary and reversible on a population scale, may be permanent.

Finally, while we recognize Suncor's assessment leads to the conclusion that there will be no significant residual environmental effects, we do not share Suncor's confidence based on the scope of the assessment. Further, in reaching this conclusion, and combined with the establishment of a communication plan for commercial fishers, other ocean users, and Indigenous communities, no follow-up monitoring is proposed in association with routine activities.

We are concerned that in the event Suncor's predictions are not realized, Suncor will not be in a position to recognize effects due to a lack of monitoring or appropriate follow-up measures. It is essential that Suncor within the EIS detail specific measures that will be employed to ensure that environmental effects for commercial fisheries and other ocean users be detected and acted upon through an appropriate adaptive management process. While it is important that predictions about potential environment effects and their subsequent impacts be made with confidence, it is essential that appropriate safeguards be put in place to ensure that Suncor can act responsibly in the event these predictions are flawed.

### 3.10.3 RECOMMENDATIONS

To ensure these potential impacts are appropriately assessed and considered, we request that Suncor complete a robust assessment of impact to commercial fisheries and other ocean users, including those engaging in rights-based harvest or use that includes the nearshore and connected inland waters off the coast of Nova Scotia, New Brunswick, Quebec, and Prince Edward Island, in addition to those outlined by Suncor.

We believe in order to appropriately assess the "change in availability of or access to resources," Suncor must also provide additional consideration to factors including but not limited to:

- Timing of arrival for fish in commercial harvest areas
- Fish health as measured by: (a) relative number of tumours, lesions, and malformities per capita, AND (b) contaminant body burden for parameters including metals, and hydrocarbons
- Perceived quality of fish and fish habitat as measured by amount of local fish consumed
- Modification of behaviour by regional Indigenous land/water users with respect to harvest, intergenerational knowledge transfer, and use within the RAA.

Given the potential personal impact that may accompany the loss of a commercial harvest, we request that Suncor outline in detail a fisheries compensation program to fairly compensate commercial fishers and other ocean users in the event of unforeseen environmental effects. Additionally, we request that through the assessment of effects, economic analysis be provided to support the definition of "magnitude" as it relates to potential impacts on commercial fishers and other ocean users. These elements are essential to ensuring that the full impact of potential effects is appropriately characterized.



Suncor must demonstrate how it will work with commercial fishers, other ocean users and Indigenous communities to develop an appropriate communication plan. Additionally, there is a need for Suncor to provide information on the intention and key elements of the plan if it cannot be developed prior to project approval. Finally, we request that Suncor outline an adaptive monitoring and management framework to detect and respond to adverse effects that may arise from routine project activities – demonstrating an appropriate level of care to safeguard the rights and interests of all ocean users who may be affected by this project.

## **3.11 CUMULATIVE EFFECTS**

### **3.11.1 SUMMARY OF EIS CONTENT**

Section 15 of the draft EIS identifies the past, present and future physical activities with residual environmental effects that may potentially interact cumulatively with residual environmental effects from project activities. This section also assesses the significance of potential cumulative effects of the environmental on affected VCs. Suncor’s methods involved selection the applicable VCs, defining spatial and temporal boundaries, and identifying past, present, and future physical activities by other proponents/parties within the project area that may have environmental affects that overlap spatially and temporarily with those of this project. This assessment of cumulative affects was completed by using recent cumulative affect assessments for oil exploration and production projects within Atlantic Canadian waters. Seven VCs were considered for cumulative effects assessment including:

- Atmospheric Environment
- Marine Fish and Fish Habitat
- Marine and Migratory Birds
- Marine Mammals and Sea Turtles
- Special Areas
- Indigenous Peoples
- Commercial Fisheries and Other Ocean Users

### **3.11.2 EVALUATION**

Overall, MTI is concerned about the meaningful evaluation of cumulative effects. Suncor’s assessment of cumulative effects is determined by, as stated, “the implementation of mitigation measures, as well as other mitigation measures being implemented by other proponents”. MTI deems it unacceptable to consider another proponent’s mitigation measures to influence the decision of this Project’s impacts to cumulative effects. MTI is concerned about the quality of other proponents’ mitigation measures as they are unknown to MTI and possibly Suncor. In addition, Suncor does not



demonstrate a clear connection between the mitigation measures that they will be implementing and how the measures will result in the predicted significance of the outcome.

There is a general lack of information provided in the subsections detailing Past and Ongoing Effects (Baseline). Two of major concern are sections 15.3.1 and 15.7.1. Section 15.3.1 addresses the past and ongoing effects of marine fish and their habitat, but mainly focuses on the implications that have resulted from commercial fishing. No other human activities, such as oil drilling, have been addressed in this section which are well known to have occurred and continue to occur and have effects on marine fish and their habitats.

Within section 15.7.1 there are no past and ongoing effects presented in regard to Indigenous Peoples. Suncor explicitly states: “However, given the long and varied history of Indigenous Peoples and different Indigenous communities in the region, it is not practical to attempt in this EIS to identify and describe how past and ongoing development projects and other processes and activities have influenced and otherwise affected Indigenous peoples.” This statement is extremely unacceptable and problematic. Suncor was able to somewhat outline past and ongoing effects for marine and migratory birds, and marine mammals and sea turtles, all species who have been in the region long before the human species came into existence, therefore Suncor can identify past and ongoing effects to Indigenous Peoples.

Within section 15.7.4.3, Suncor determines there to be no significant cumulative environmental affects on Indigenous people. Once again, this is extremely unacceptable as Suncor did not bother to research or outline past and ongoing effects to Indigenous Peoples, and did not include Indigenous knowledge within their assessment, therefore cannot conclude there will be no significant effect.

### **3.11.3 RECOMMENDATION**

In general, section 15 must be revised to reevaluate their assessments without the influence of statements such as “...other mitigation measures being implemented by other proponents...” Or Suncor must provide additional mitigation measures set forth by the other proponents mentioned for MTI’s review. Suncor must also revise this section to demonstrate how the implementation of mitigation measures will result in the predicted significance of the outcome. Specific actions are as outlined in Appendix A Table 1: Comment Tracking Table.

Sections detailing Past and Ongoing Effects, especially sections 15.3.1 and 15.7.1 must be revised to include further information regarding past and ongoing effects impacting marine fish and their habitats, as those impacting Indigenous Peoples. In addition, MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment specific to this Project, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the Project on MTI’s rights that fulfills the requirements of the EIS Guidelines. Specific actions are as outlined in Appendix A Table 1: Comment Tracking Table.

The overall conclusion of residual cumulative environmental effects on Indigenous Peoples having no significant impact must be re-assessed after including more baseline information about the past and



ongoing effects on Indigenous peoples, as well as incorporating Indigenous Knowledge into the assessment.

## **3.12 ACCIDENTAL EFFECTS**

### **3.12.1 SUMMARY OF EIS CONTENT**

Section 16 of the draft EIS outlines the Proponent's assessment of the potential effects of accidental events on the receiving environment. Suncor outlines the potential accidental events scenarios and respective prevention measures. The fate and behaviour of potential spills as determined by a model, is presented. This chapter outlines the modelling approach, scenarios, input data and the results. Suncor presents the result of an analysis of how probable different accidental events of varying volumes. This analysis is based on historic spill data from the Canada-NL Offshore Area. Different aspects of the spill response plan are discussed including a tiered response, contingency planning, relief well drilling, wildlife monitoring and a spill impact mitigation assessment. An environmental effects assessment for accidental events is summarized.

### **3.12.2 EVALUATION**

Overall, Suncor has constructed an adequate spill model to evaluate the impacts of an accidental event. The graphics used to present the model results are helpful and clear. The model is not intended to predict a specific event but rather provide a "big picture" look at general impacts from accidental events. The model has a fair amount of uncertainty due to several limitations.

Petroleum reserves such as the one being targeted in this exploration Project are made up of thousands of chemicals. Each chemical has different physical and chemical properties. These properties determine their fate and transport in the environment. Suncor seems to assume that the petroleum reserves will have the same properties as Tera Nova Crude and marine diesel yet provides not evidence supporting this assumption.

Suncor uses wind and current data from 2006 –2012. This data is over a decade old. Climate change is causing and will continue to cause seasonal patterns to shift and an increase in the frequency and magnitude of extreme weather events. Additionally, it is unclear if extreme weather events were considered in the model at all. Hurricanes and tropical storms are already regular occurrences in the Project area and will likely only become more common in the future. It is important to consider the impacts from worst-case scenarios (i.e., a major blowout occurring during a hurricane). Such an event could have devastating impacts on MTI's rights and interests. It is important to understand the magnitude and scope of all potential impacts.

Suncor fills in gaps in the input data using "professional judgment and experience." Although professional judgment can provide a wealth of information, it would be prudent for Suncor to at least cite reasonable ranges for various coefficients values that were estimated to ensure accuracy.

Finally, the model report was lacking information regarding the model's verification methods. For example, a sensitivity analysis, calibration, or validation methods. It's important to evaluate a model



after its construction to ensure that the results are reasonable, and the results are as representative as possible.

### **3.12.3 RECOMMENDATION**

Suncor should provide scientific evidence to support their assumption that the petroleum reserves in this Project will have similar properties to Tera Nova Crude and marine diesel. Suncor should conduct additional research to ensure that the properties are as representative as possible. The evidence could include data from nearby drilling operations and samples taken within the Project Area. the

Suncor should conduct additional research to find more recent wind and ocean current data. Suncor should incorporate climate change projections and extreme weather events, such as hurricanes and tropical storms, into their model. Currently, the model does not seem to evaluate worst-case scenarios such as a blow out during a hurricane during which spill responses may be impossible.

Input values for the model where Suncor used professional judgment and experience to form estimates should be bolstered by providing ranges cited in literature. For example, Suncor estimates the mixing coefficients. Suncor should provide a reference to confirm that the estimate is within a reasonable range to ensure accuracy.

Suncor should provide information regarding the model's verification methods. For example, a sensitivity analysis, calibration and/or validation methods. It's important to evaluate a model after its construction to ensure that the results are reasonable, and the results are as representative as possible.

## **4.0 SUMMARY AND RECOMMENDATIONS**

Canada's offshore oil and gas industry represents an area of significant potential economic opportunity both for the Maritime region but also on a National scale. In recognizing the opportunities associated with offshore petroleum exploration and production, it is essential that the inherent environmental, health, socio-economic, and cultural risks that are associated with these activities. It is these risks which is why any form of offshore drilling, testing and abandonment is identified by Section 34 of the Physical Activities Regulations under the Impact Assessment Act, 2019, and previously by Section 40 of the Regulations Designated Physical Activities under the Canadian Environmental Assessment Act, 2012 - which governs the assessment of this proposed project.

Under Canadian Environmental Assessment Act, 2012, proposed projects which have been designated for assessment are required to collect information about the existing environment (e.g., baseline conditions), describe project activities and consider potential interactions with the



environment, and then make predictions about potential environmental effects those activities may cause. Based on these predictions, Suncor is expected to propose meaningful mitigation strategies to minimize residual environmental effects and ultimately the impacts this project will have on the world around it. The EIS, which is the subject of this review, is designed to be Suncor's summary of the analysis of potential effects, providing a meaningful characterization of the existing environment - but also demonstrate a sound understanding how Suncor will ensure the effects this project will have are avoided or minimized.

## **ASSESSMENT SCOPE AND METHODS**

In our review of Suncor's EIS, we find that Suncor has failed to meet expectations through all aspects of the assessment process. As outlined by this report, we find that Suncor has failed to meaningfully characterize the existing environment, providing only general overview of baseline conditions that are left largely unsupported by evidence and existing or novel study. By not providing a detailed characterization of the existing environment it is not possible to then make meaningful predictions about how project activities will interact with the existing environment – which has resulted in many instances of Suncor's unsubstantiated conclusions that activities will not result in significant effects. More worrisome is that the assessment of no significant effects in many instances leads to Suncor limiting mitigation measure to only those required by regulation, and no proposed follow-up monitoring.

Based on the flawed approach Suncor has taken in the assessment of this proposed project, we are concerned that there are insufficient safeguards in place to minimize environmental effects, and inadequate monitoring and response measures identified to actively assess predictions and intervene if predictions are false. As stated in the Guiding Principles of the Project Guidelines for the Preparation of the EIS, the Environmental Assessment process is intended to:

- Identify potential adverse environmental effects;
- Propose measures to mitigate adverse environmental effects;
- Predict whether there will be significant adverse environmental effects, after mitigation measures are implemented; and
- Include a follow-up program to verify the accuracy of the EA and the effectiveness of the mitigation measures.

In preparing the EIS, "it is the responsibility of Suncor to provide sufficient data and analysis on potential changes to the environment to ensure a thorough evaluation of the environmental effects of the project by the Agency" and, in documenting the analyses included in the EIS, "Suncor will demonstrate that all aspects of the project have been examined and planned in a careful and precautionary manner in order to avoid significant adverse environmental effects." Our interpretation of this directive from CEAC/IAAC is that while Suncor is not required to establish a framework for mitigating and monitoring every possible effect scenario, it is the responsibility to demonstrate, using a conservative approach, a robust understanding of the existing environment and potential project interactions to reach a conclusion about reasonably plausible effects as a result of



the proposed project. Suncor has not met that standard, and as a result, we remain concerned about the potential for impacts to the environment, and the rights, interests, and values of the Mi'gmaq and the Mi'gmaq First Nations represented by MTI.

## **ENGAGEMENT AND CONSULTATION**

Beyond the consideration of technical elements of this project and the potential adverse environmental effects that may stem from project activities, it is clear that Suncor has not made a meaningful attempt in engaging MTI, the Mi'gmaq First Nations it represents, or Indigenous communities as a whole. This is directly evidenced by Suncor's engagement record with MTI, which although includes a total of eight meetings with MTI, including a public workshop held at the beginning of the project, focused much of their effort on engagement before EIS activities were paused in 2020. Additionally, only three meetings have been held between Suncor and MTI since December 2020. While there is room to criticize several aspects of Suncor's engagement with MTI, perhaps the biggest failing throughout the Environmental Assessment is the lack of direct engagement with Mi'gmaq members to hear direct concerns from individuals affected by the project. This is made evident in Section 3.3 of the EIS that outlines specific Indigenous Concerns and Interests, combining the concerns from each community and Nation into a consolidated table rather than representing them as concerns that represent the communities from which they were raised. This pan-Indigenous approach to identifying concerns demonstrates a lack of understanding of the unique perspectives, values, and concerns offered by each community. Beyond, simply identifying concerns raised in a pan-Indigenous fashion, Suncor fails to provide meaningful detail as to how they will fully address these concerns in a manner that brings closure to the topic. Suncor has failed to provide MTI with:

- Opportunities to learn about the project including providing information about the proposed project (including but not limited to project design, location, potential effects, mitigation measures and follow-up and monitoring programs); and
- Opportunities to provide input on the overall project; effects of changes to the environment on Aboriginal peoples pursuant to paragraph 5 (1)(c) of CEEA, 2012 and potential adverse impacts of the project on potential or established Aboriginal or Treaty rights.

Additionally, we find that Suncor has failed to meet the direction set out by the EIS Guidelines in the establishment of an agreed upon engagement approach. While we do not deny that engagement has occurred, we do not believe that has been fruitful, nor has established a pathway for MTI to understand the potential impacts of the project on rights and interests of Mi'gmaq members and participate appropriately in the assessment process.

## **INCORPORATION OF INDIGENOUS KNOWLEDGE**

In the EIS Guidelines, Suncor was directed to "make reasonable efforts to integrate Indigenous knowledge into the assessment of environmental effects". We cannot point to a single example where Suncor engaged MTI to understand Indigenous Knowledge relevant to this project. Further, and perhaps more troubling, is that while we understand that several species have been identified of "Indigenous concern," but no information is provided about which communities these are a concern





for, how these communities value or interact with the species, or how this information was used to influence the EIS.

A lack of consideration for Indigenous Knowledge is found throughout the EIS, with the term “Indigenous Knowledge” only being found in two Chapters, - Chapter 7 Existing Socio-economic Environment and Chapter 9 Marine Fish and Fish Habitat, where Suncor note the “inclusion of Indigenous Knowledge, both traditional and ecological knowledge in the environmental assessment” however, do not provide any description of how it was used. This suggests to us that Suncor has not approached the inclusion of Indigenous Knowledge in the environmental assessment from a good faith position. Rather, we see this merely as an attempt to present a façade to IAAC that they have followed the EIS Guideline directive without substantiating their efforts.

Through the limited opportunities MTI has had to engage with Suncor, MTI has repeatedly stated the need for an Indigenous Knowledge Study to be completed specific to this project and specific to MTI. Suncor did not provide opportunity for this information to be collected, but rather opted to utilize information collected through other projects to attempt to piece together an understanding of current land use by the Mi’gmaq of New Brunswick. This includes using Indigenous Knowledge studies conducted in 2016 and 2017 conducted by SVS in 2017, as part of the BP Scotian Basin Exploration Drilling Project. While such reports can be useful in developing a foundation of knowledge, we are appalled that Suncor would opt to use an unrelated study to frame Indigenous Knowledge and land use for the Mi’gmaq of New Brunswick. Indigenous Knowledge and land use occupancy studies are snapshots of Indigenous relationships to the land and cannot be considered transferable between projects as they are often tightly scoped.

While the reuse of Indigenous Knowledge and land use occupancy studies was once considered a common practice by both industry and the Crown, it is no longer acceptable as these reports must be appropriately contextualized and nuanced to the project and the specific area of study. By reusing MTI’s Indigenous Knowledge study for a project that is nearly 1,000 km from the Tilt Cove project, rather than supporting MTI in collecting new relevant information, it demonstrates that Suncor does not understand how to properly engage Indigenous communities, and as a result has failed in its requirements to include Indigenous Knowledge in this assessment.

We call on IAAC to recognize this failing and require Suncor to meaningfully engage MTI to work to filling this critical information gap.

## **CHARACTERIZATION OF THE ENVIRONMENT**

Much of the assessment of this project focuses on understanding and appropriately characterizing the existing environment and the potential interaction with project activities. As a result, it is paramount to ground this discussion in a sound understanding of baseline conditions, using a combination of established literature, targeted novel studies and collection efforts, and Indigenous, and local knowledge. Where information gaps remain, the onus is on the proponent (Suncor) to collect additional information through targeted study. In order for the conclusions of the assessment to be supported with confidence, there must be a high degree of confidence in understanding the existing conditions.



In our review of Suncor's EIS, we find the deficiencies in the baseline evidence to be considerable. In many instances Suncor points to unknowns in the population, diversity, and behaviour of marine organisms as well as their interactions with the physical environment. In other instances, Suncor utilizes studies that are in many cases decades old or were collected in areas significant distances from the Project area. As a result, we have low confidence in the overall characterization of the existing environment.

Stemming from the inadequate baseline is a snowballing effect of uncertainty regarding the project's potential effects. While we agree with some of the VCs and measurable indicators selected to predict project effects, in many instances these only examine a small portion of effect or includes parameters which do not have sufficient baseline to examine quantitative change -resulting in unsupported predictions of negligible effects.

Finally, in forming conclusions about the quality of the assessment and significance of residual effects, Suncor concludes that they maintain strong confidence in their predictions and that those predictions indicate minimal effects and resultant impacts. The outcome of this assessment is that few follow-up monitoring efforts and specific mitigations are proposed. This is a matter we fundamentally disagree on. We see Suncor glossing over flawed data and analyses to reach unfounded conclusions. Further, and perhaps more troubling is that without meaningful proposed follow-up monitoring and adaptive management measures in place – Suncor will not be able to detect or appropriately respond if effects are realized. This is unacceptable and fails to demonstrate a reasonably conservative and responsible approach.

## **DRAFT GUIDANCE FOR BEST-IN-CLASS GHG EMISSIONS PERFORMANCE BY OIL AND GAS PROJECTS**

On April 6, 2022, the federal Ministry of Environment and Climate Change announced that new oil and gas projects that are subject to a federal impact assessment under the *Impact Assessment Act* should meet the standard for “best-in-class” greenhouse gas emissions performance throughout their lifetime. This establishes that new projects will achieve the lowest level of emissions intensity possible and includes offshore production. The draft guidance continues to outline through the Impact Statement a proponent should:

- Identify the relevant best-in-class emissions performance by reference to the best emissions performance of leading projects globally within the same activity as the proposed project.
- Demonstrate how and when (if needed, accounting for the timeline to implement key technologies) the project will achieve that best-in-class emissions performance; OR explain what the emissions intensity of the project will be and what circumstances or factors prevent it from achieving best-in-class emissions performance.
- Describe (through the BAT/BEP Determination process and the net-zero plan) how they will strive to ensure that the project will remain best-in-class over its lifetime.



- Demonstrate how the project is consistent with the overall economic transition to a low-carbon economy and how the project will remain competitive across a global low-carbon transition and net-zero scenario.

While as of the issuance of the EIS by Suncor, the Government of Canada has yet to release the final version of the guidelines, it is our expectation that Suncor must be in a position to comply with these guidelines as an applicable best practice and demonstrate that they would be prepared to meet a federal condition of “best-in-class” if this project is to be approved.

Although Suncor has been aware of this draft guidance for more than a year prior to issuance of their EIS, no reference to this draft guideline is made in the EIS, nor is there a demonstration that a meaningful effort has been made to consider this standard in the project approach.

## 4.1 INFORMATION REQUESTS

Through this assessment we have identified several gaps in knowledge and understanding both in relation to the prescribed EIS Guidelines produced by the IAAC, as well as in considering the potential interactions of this project on the rights, interests, and values of Mi’gmaq as represented by MTI. To begin the process of remedying this knowledge gap and further creating understanding of the potential effects and resulting impacts of this project, we have identified the following specific information requests. It is our expectations that Suncor will meaningfully address these information requests and provide evidence as appropriate to support responses and assertions.

### 4.1.1 INTRODUCTION

**MTI-IR-001:** It is requested that Suncor provide an outline of its workplan including a description of its decision tree that will influence how it will determine the ultimate number of wells to be drilled, the location of those wells, and any other information relevant to assessing the environmental impacts of drilling.

**MTI-IR-002:** Given the additional potential environmental effects caused by “side-tracking” wells, it is requested that Suncor provide analysis on the additive or interactive effects associated with side tracking as well as a description of who these additional effects may influence residual environmental effects and/or the overall impact of this project.

### 4.1.2 PROJECT DESCRIPTION

**MTI-IR-003:** It is requested that Suncor provide a detailed outline of its abandonment program including appropriate confirmation and follow-up measures as well as an adaptive management plan for wells which are found to not meet the standards outlined in Section 56 and 58 of the Newfoundland Offshore Petroleum Drilling and Production Regulations.

**MTI-IR-004:** It is requested that Suncor provide a draft Environmental Protection Plan (EPP) outlining the specific chemicals to be used as part of water-based mud (WBM) and SBM, how they will be handled, and how they will be treated once they are considered a waste product. Additionally, we



request specific analysis on the environmental impacts of the WBM chemicals that will be discharged including information about their toxicological properties.

**MTI-IR-005** It is requested that Suncor provide additional information regarding anticipated grain size for sedimentary deposition associated with the discharge of waste materials.

**MTI-IR-006:** It is requested that Suncor detail the schedule of the proposed environmental surveys in advance of drill rig placement, to clarify Section 2.4.2.2. Please further clarify if all surveys will be undertaken at all proposed locations or throughout the EL 1161 boundaries in advance of each drilling operation.

**MIT-IR-007:** It is requested that Suncor provide a detailed outline of its abandonment program including appropriate confirmation and follow-up measures as well as an adaptive management plan for wells which are found to not meet the standards outlined in Section 56 and 58 of the Newfoundland Offshore Petroleum Drilling and Production Regulations.

### **4.1.3 ENGAGEMENT AND CONSULTATION**

**MTI-IR-008:** As per Section 5 of the EIS Guidelines, it is requested that Suncor provide a concern tracking table specific to concerns they have heard when engaging with MTI and the Mi'gmaq that MTI represents. Specifically, we request this table include the date of the engagement, the media or method in which the concern was raised, and Suncor's response.

**MTI-IR-009:** As per Section 7.1.8 of the EIS Guidelines, we request that Suncor provide a detailed description of how Suncor collected and incorporated Indigenous Knowledge and land use occupancy into the EIS. Specifically, we request that Suncor outline the information that was collected, the method in which it was collected, how it was considered and incorporated into the EIS and specific instances where this information was used to influence the EIS.

### **4.1.4 PHYSICAL ENVIRONMENT**

**MTI-IR-010:** Suncor acknowledges the limitation of available data for pH and turbidity in the Project Area, and the potential for seasonal variability associated with biogenic fallout. Fine particles (e.g., such as those that would fill interstitial spaces required for marine biota) that could contribute to turbidity were also not adequately addressed for MODU placement and operations. The knowledge gaps present a concern for an adequate characterization of baseline conditions of the marine environment. It is requested that Suncor provide additional project area-specific data to justify adequate characterization of the baseline conditions.

### **4.1.5 BIOLOGICAL ENVIRONMENT**

**MTI-IR-011:** Based on the sections below, it appears Suncor has nearly entirely relied upon Canadian RV survey data to characterize the marine biota in EL1161. Based on mapping, coverage of these surveys is extremely limited in EL1161, creating substantial uncertainty in the estimate of baseline presence/absence near the Project. It is requested that site-specific surveys be undertaken to sufficiently characterize marine biota in the Project area.



**MTI-IR-012:** There are numerous invertebrates important to Mi'gmaq peoples – why were these not considered? It is requested that Suncor revise Section 6 to recognize and highlight invertebrate species of harvesting and cultural importance to Mi'gmaq peoples.

#### **4.1.6 ATMOSPHERIC ENVIRONMENT AND GREENHOUSE GAS VC**

**MTI-IR-013:** It is requested that Suncor provide further detail on how quantitative measures relative to baseline will be achieved for GHGs to determine with reasonable certainty if the residual effects will be “positive”, “adverse”, or “neutral”. Additionally, we request that Suncor provide further detail on how other GHGs (listed but not assessed for the Project per the EIS Guidelines prepared for the Project), or project activities not defined to emit GHGs, are incorporated into the CO<sub>2</sub>e/year approximate emissions assessed herein. If the addition of these other measurable parameters or project activities have not been incorporated, please update the entire assessment to include or justify exclusion.

#### **4.1.7 MARINE FISH AND FISH HABITAT VC**

**MTI-IR-014:** It is requested that Suncor provide evidence showing that short-term, localized sounds and discharges do not pose a risk to fish in the Project Area.

**MTI-IR-015:** Suncor has described how damaging sound could be from the VSP, and notes that low-mobility organisms will be exposed numerous times at a consistently damaging level of sound during VSP surveys for the life of the project. Suncor provides no mitigation other than “maybe they won't detect it.” This is an insufficient amount of effort applied to characterize the effects on this important area. It is requested that at a minimum, the potential mortality due to VSP surveys be evaluated for the multitude of low-mobility species found in the project area.

**MTI-IR-016:** It is requested that detailed post-drilling survey methods be provided for review and comment to MTI prior to undertaking Project activities.

#### **4.1.8 MARINE AND MIGRATORY BIRDS VC**

**MTI-IR-017:** It is requested that Suncor update baseline information for sensitive species (SAR and SOCC) to allow for an appropriate characterization of effects.

#### **4.1.9 MARINE MAMMALS AND SEA TURTLES VC**

**MTI-IR-018:** It is requested that Suncor provide a thorough and fulsome discussion outlining Indigenous Knowledge and potential impacts to the rights, values, and interests of the Mi'gmaq. Included in this discussion should be a description of how MTI will be engaged in follow-up programs for marine mammals and sea turtles that are considered culturally significant.

**MTI-IR-019:** Anticipating avoidance responses in Marine Mammals and Sea Turtles due to lighting and sound are not well understood. Baleen whales are known to be more vulnerable to collisions with vessels than odontocetes and pinnipeds. All species of mysticetes that may occur in the Project Area



have been reported as being struck by ships. It is requested that the effects assessment for marine mammals and sea turtles to include scientific justification for avoidance responses proposed, and similarly reduce the confidence associated with the assessment due to documented lack of data. As the assessment takes a conservative approach, please clarify if updated Canadian criteria will be used once available (anticipated within the Project timeframe). If so, please clarify if any substantive differences are demonstrated between Canadian (once available) and US criteria will be retroactively corrected during the lifespan of the project through mitigative actions or plans.

#### **4.1.10 COMMERCIAL FISHERIES AND OTHER OCEAN USERS VC**

**MTI-IR-020:** With respect to the potential adverse impacts on commercial fisheries and other ocean users and Suncor's ability to consider the "change in availability of or access to resources", it is requested that Suncor also provide additional information and assess the following measurable parameters:

- Timing of arrival for fish in commercial harvest areas
- Fish health as measured by: (a) relative number of tumours, lesions, and malformities per capita, AND (b) contaminant body burden for parameters including metals, and hydrocarbons.
- Perceived quality of fish and fish habitat as measured by the amount (total harvest) of local fish consumed.
- Modification of behaviour by regional Indigenous land/water users with respect to harvest, intergenerational knowledge transfer, and use within the RAA.

**MTI-IR-021:** It is requested that Suncor provide an outline of how it will work with Commercial Fishers, other ocean users, and Indigenous communities to develop this communication plan. This plan should include a framework outlining overall goals and objectives of the plan, a proposed work plan for engagement with external parties, capacity support, and ongoing commitments to ensure effective communication through implementation.

#### **4.1.11 CUMULATIVE EFFECTS**

**MTI-IR-022:** It is requested that Suncor provide more information to support how small batch spills will unlikely contribute to a cumulative effect.

#### **4.1.12 ACCIDENTAL EVENTS**

**MTI-IR-023:** Please provide the data and analysis that were used to determine the characterization of the petroleum resources properties for modelling purposes.

**MTI-IR-024:** Please provide scientific evidence confirming model results are reasonable and as accurate as possible. Evidence could include comparison to actual measured concentrations of petroleum products following accidental releases in the area. Other evidence should include model



verification methods such as a sensitivity analysis, calibration and validation methods. Please provide references from literature or previous spill models that produced high quality results by comparing modelled values to actual measured results.

## 5.0 REFERENCES

- CEAA. (2012). *Canadian Environmental Assessment Act*. Ottawa: Government of Canada.
- C-NLOPB and CNSOPB. (2017). *Canada-Newfoundland and Labrador Offshore Petroleum Board and Canada-Nova Scotia Offshore Petroleum Board*. Retrieved from Drilling and Production Guidelines: [http://www.cnlopb.ca/pdfs/guidelines/drill\\_prod\\_guide.pdf?lbisphpreq=1](http://www.cnlopb.ca/pdfs/guidelines/drill_prod_guide.pdf?lbisphpreq=1)
- M'igamawe'l Tplu'taqnn Incorporated. (2020). *Mi'gmaq Rights Impact Assessment Framework*. Retrieved from M'igamawe'l Tplu'taqnn Incorporated: <https://migmawel.org/migmaq-rights-impact-assessment-framework/>
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- NEB. (2010). *Canada-Newfoundland and Labrador Offshore Petroleum Board and Canada-Nova Scotia Offshore Petroleum Board. Offshore Waste Treatment Guidelines*. vi + 28 pp. National Energy Board.
- Parliament, L. o. (2016). *Committee Report No. 5 - FOPO (42 - 1)*. Retrieved from House of Commons: <https://www.ourcommons.ca/DocumentViewer/en/42-1/FOPO/report-5/page-78>
- Stantec Consulting Ltd. (2023, April). *Impact Assessment Agency of Canada*. Retrieved from Environmental Impact Statement for the Tilt Cove Exploration Drilling Project: <https://iaac-aeic.gc.ca/050/evaluations/document/147580?culture=en-CA>



# APPENDIX A: COMMENT TRACKING TABLE

Table 1: Comment Tracking Table

COMMENT #	ESR SECTION REFERENCE	ISSUE	RECOMMENDATION
PROJECT DESCRIPTION			
001	Section 1.1 Project Overview	Suncor propose up to 12 to 16 total wells but also state that “additional wells will be considered based on the results of the first well. This ambiguity presents a challenge to reviewers attempting understand and consider the environmental impacts of this project.	It is requested that Suncor provide an outline of its workplan including a description of a conceptual decision tree that will be used to determine the ultimate number of wells to be drilled, the location of those wells, and any other information relevant to assessing the environmental impacts of drilling.
002	Section 2.1 Rationale and Need for the Project	Suncor provide an outline of the exploration rights they hold with respect to Exploration Licence 1161 which has a term extending from January 15, 2019, until January 15, 2028, with the period within which the work expenditure bid is committed for spending ending January 15, 2025. We note that in review of the project overview, Suncor outline a tentative plan which will see exploration activities commencing in Q2 of 2024, with each well requiring up to 120 days to complete. We are concerned that these timelines do not line up and as a result we call into question the validity of Suncor’s work plan, and whether or not they will be in a position to fulfill the terms of their work expenditure bid as outlined in exploration licence 1161.	We request that Suncor provide additional information and clarity regarding how it plans to fulfill obligations of its exploration licence (specifically Condition 4 of Licence 1161 Terms and Condition), while respecting the timelines associated with the CEAA 2012 Environmental Assessment process.
003	Section 2.4.1 MODU Mobilization and Drilling	Suncor provides a description of contingency plans for “unplanned or planned” side-track drilling in order to meet objectives. In this event a secondary wellbore will be “kicked-off” from the original wellbore, with the original wellbore being abandoned. The environmental effects of side-track drilling become effectively doubled for a well, as in essence Suncor will require	As the potential additive impacts of side-tracking have not been considered within the scope of this assessment, we request that Suncor quantify the additional impacts to environment as a result of side-tracking activities. Without this be appropriately captured and assessed within this EIS, it cannot be considered a permissible activity.





		restarting a new wellbore from the seafloor and connecting the new wellbore to the side-track.	
004	Section 2.4.2.2 Environmental Survey	<p>Suncor states that environmental surveys will occur prior to the placement of the drill rig and typically take 5 to 20 days to complete. These surveys are proposed to occur throughout the project life at any time of year and may include oceanography, meteorology, ice/iceberg surveys, and ROV-video or drop camera surveys, as well as collection of biota, water and sediment samples.</p> <p>The wording for this Section is confounding to the reader, considering certain surveys can only take place during certain seasons (e.g., ice/iceberg surveys), or project phases (e.g., collection of biota [stranded birds]). It is unclear if all proposed surveys will be undertaken in one drill location or at all proposed drilling locations within the EL 1161 boundaries in advance of drilling operations.</p>	We request that Suncor detail the schedule of the proposed environmental surveys in advance of drill rig placement, to clarify Section 2.4.2.2. Please further clarify if all surveys will be undertaken at all proposed locations or throughout the EL 1161 boundaries in advance of each drilling operation.
005	Section 2.4.3 Well Evaluation and Testing	<p>Suncor states they will “carefully consider” the need for well flow testing that requires flaring to safely dispose of gases or other hydrocarbons. The Suncor “preferred methods” also include wireline techniques of modular dynamic testing (MDT) and flow testing while tripping (FTWT).</p> <p>No further methods have been discussed in the EIS.</p>	We request that Suncor provide alternatives outside of “preferred methods” (e.g., Interval Pressure Transient Testing) or justify why alternative methods beyond those discussed are insufficient for the project design.
006	Section 2.4.4 Well Suspension, Abandonment and Decommissioning	<p>Suncor states that abandonment activities are intended to be permanent, therefore there is no requirement for ongoing monitoring on the Newfoundland Offshore Petroleum Drilling and Production Regulations. While these regulations don’t explicitly require monitoring to be conducted as part of Abandonment, Section 56 does require the operator to “ensure that every well that is suspended or abandoned</p>	We request that Suncor provide a detailed outline of its abandonment program including appropriate confirmation and follow-up measures as well as an adaptive management plan for wells which are found to not meet the standards outlined in Section 56 and 58 of the Newfoundland Offshore Petroleum Drilling and Production Regulations.



can be readily located and lift in a condition that (a) provides for isolation of all hydrocarbon bearing zones and discrete pressure zones; and (b) prevents any formation fluid from flowing through or escaping for the well-bore". Further Section 58 requires the operator to ensure that on the abandonment of a well, the seafloor is cleared of any material or equipment that might interfere with other commercial uses of the sea" which we interpret to include fluid materials released from the well and both localized and far field impacts to fisheries. Therefore, while ongoing monitoring is not required, assurance must be provided that abandonment results in continued integrity and pollution prevention.

007	Section 2.5 Well Control and Blowout Prevention	Suncor state that pressure testing for the Blowout Prevention system will be tested at a minimum every 14 working days, or more frequently following maintenance or in advance of a flow test. If conditions or hazards preclude pressure testing within the 14-day timeframe the test may be delayed by up to 7 days. It is plausible that a scenario may occur where the additional 7 days to perform pressure testing is insufficient to complete the test, as a result it is necessary to explore the risks, mitigations, and contingencies to minimize the potential for adverse effects.	We request that Suncor provide additional information regarding a proposed contingency plan if pressure tests of the Blowout Prevention system cannot be conducted within the maximum 21-day timeframe. Included in this information should be information about decisions for shutdown, alternative testing, a risk assessment of potential failure points, and subsequent risk abatement measures that Suncor will implement if testing cannot occur.
008	Section 2.9 Emissions, Discharges and Waste Management	Suncor state that waste management plans and procedures will be developed as part of the EPP for the project. However, we note that Suncor also clearly anticipates the discharge of waste to the environment as part of project activities. This waste will include but is not limited to WBM and SBM used as drilling fluid, cement, and drill fluids. Suncor continue to state that "the majority of WBM is classified as "Poses Little to no Risk (PLONOR) to the environment under the United Kingdom Offshore Chemical	We request that Suncor provide a draft EPP outlining the specific chemicals to be used as part of WBM and SBM, how they will be handled, and how they will be treated once they are considered a waste product. Additionally, we request specific analysis on the environmental impacts of the WBM chemicals that will be discharged including information about their toxicological properties.



Notification Scheme”. As discharge of WBM cuttings at the seabed is expected to occur and as Suncor states “is accepted as industry standard practice” there is no clear evidence to suggest what WBM chemicals will be utilized in this project, nor whether they will actually have potentially adverse effects on the environment. If these waste streams discharged to the environment poses harmful qualities, they may result in adverse effects to benthic and marine organisms.

009	Section 2.9.1 Drilling Waste Discharges	Based on the modelling conducted on the discharge of well cuttings and other wastes, as well as the work conducted by Smit et al. 2008, Suncor concludes that the risk associated with burial due to localized sedimentation is negligible. Suncor’s conclusion however fails to take into account more than depositional thickness as a factor in determining adverse impacts to benthic life. Specifically overlooked and noted by Smit et al. (2008) is the importance of grain size which is a significant driver of species occurrence. As a result, while at face value the deposition thickness would suggest a lack of adverse impacts, insufficient evidence is presented to reach that conclusion, as well cuttings may fundamentally alter the physical grain structure in the depositional zone.	We request that Suncor provide additional information regarding anticipated grain size for sedimentary deposition associated with the discharge of waste materials.
010	Section 2.9.2 Liquid Discharges	Table 2.8 Potential Project-Related Liquid Discharges  Suncor states, “Deck drainage and bilge water will be discharged according to the OWTG which state that deck drainage and bilge water can only be discharged if the residual oil	Please provide information regarding monitoring locations and frequency that will be implemented to ensure the standard is met before discharge.



concentration of the water does not exceed 15 mg/L.”

It's unclear how this will be monitored to ensure that the oil concentration is not surpassed.

011	Section 2.10.3 Chemical Management	Suncor state that “the details of chemicals to be used in the Project have not yet been confirmed and potential alternatives have not yet been identified.” Given the potential environmental effects that may be associated with an uncontrolled release of chemical products to the environment, it is concerning that Suncor has failed to provide detailed information about the chemicals to be used and how they will be managed. Without this information, it is not possible to evaluate potential impacts on the environment and in turn the potential impacts on rights and interests of MTI.	It is requested that Suncor provide a draft Environment Protection Plan that outlines the chemicals that will be used to support project activities as well as the measures that will be used to control them and mitigate potential environmental effects.
012	Section 2.11.1 Suncor’s Operational Excellence Management System	Suncor states one of the programs implemented include simultaneous operations procedures to ensure identification of Terra Nova Field control and coordination of vessels working in and around the Field.	Please clarify what simultaneous operations procedures have been implemented with Terra Nova in advance of the project.

ENGAGEMENT AND CONSULTATION

013	Section 3.3 Indigenous Concerns and Interests	Suncor take an approach of consolidating Indigenous concerns and interests in a series of key themes. While this approach is useful in understanding commonalities among communities, this one-size-fits-all approach it fails to consider the unique needs, values, and concerns for each Nation. As a result, proposed actions and response measures are generic and therefore is impossible to determine whether or not they address the need at a community level.	We request that Suncor provide a log of all concerns that were raised on a community level. Including in this should be specific information about commitments or mitigations and how they will address or consider the specific concern.
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014	Section 3.6 Other Public Stakeholder Groups	Suncor does not define who is considered an “other public stakeholder group” and therefore while Suncor commits to monitoring activities and communications generated by these groups, it is not clear what this will entail, the extent of this monitoring, or whether commitments will be made to engage in appropriate follow-up activities.	We request that Suncor provide analysis of engagement with “other public stakeholder groups,” the identity of those groups, and how engagement with these stakeholders has and will influence the EIS and project.
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MARINE PHYSICAL ENVIRONMENT

015	Section 5.2 Atmospheric Environment	The EIS iterates this area is among the harshest and most variable environmental operating areas in the world. The preferred timeframes defined by the project for drilling operations are May-June and October-November (Section 2.9.1). “Cold outbreaks” and large Maritime storms in winter, late summer tropical storms, and heavy fog through spring/summer are likely in the region and Project Area. As written, the EIS does not describe conditions where MODU drilling operations need to be suspended, if VSP operations will be affected, or what impacts are associated with the ship-to-shore disturbances from inclement weather.	Based on the expected operating conditions in the area, it is recommended that Suncor provide further detail about the level of confidence associated with the proposed schedule/timing of project activities (all phases). Please provide further information on if supply and support operations atmospheric environment effects have been considered for grounding/non-operation and or additional flight time/takeoff and landing due to inclement weather conditions. Please also provide further information if VSP or drilling operations have criteria associated with suspending operations during the onset of inclement weather.
016	Section 5.2.2 Air and Sea Surface Temperature	Suncor states the air and sea surface temperatures exhibit strong seasonal variations. Based on the project description provided for the MODU (Section 2.3.1.1), the MODU is <i>expected to be winterized</i> , and a certification of fitness is required for the vessel.	Please provide further information on if the certification of fitness required for the MODU includes an assessment for winterization.
017	Section 5.3.7 Temperature, Salinity, pH and Turbidity	Suncor acknowledges the limitation of available data for pH and turbidity in the Project Area, and the potential for seasonal variability associated with biogenic fallout. Fine particles (e.g., such as those that would fill interstitial spaces required for marine biota) that could contribute to turbidity were also not adequately addressed for MODU placement	Please provide additional project area-specific data to justify adequate characterization of the baseline conditions.



and operations. The knowledge gaps present a concern for an adequate characterization of baseline conditions of the marine environment.

018	Section 5.4.2 Icebergs, Table 5.16, and Figure 5-38	<p>Table 5.16 data shows for 2021, no icebergs were recorded; whereas the text in Section 5.4.2 describes this year as having the most icebergs within the last decade on record.</p> <p>Figure 5-38 data shows all iceberg sightings (including re-sightings), which is misleading when compared to the historical mean, as interpreted data removes/ignores the re-sightings and a given iceberg is counted once (even though it may have multiple sightings in the project area).</p>	Please clarify this conflicting data.
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019	Section 5.5 Air Quality	<p>Suncor states there is no site-specific ambient air quality data for the Project Area, but that it can be generally categorized as “good” (not defined), with occasional point source human exposure to exhaust contaminants from existing offshore oil production facilities, supply ships, and other vessels in the area; long-range contaminants from the industrial mid-west and northeastern United States seaboard also impact the region. Air quality monitoring on similar installations indicates it is below exposure limits, but no justification is provided.</p>	Please define what criteria represents “good” ambient air quality for the Project Area. Please provide air quality exposure limits and data from similar installations.
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MARINE BIOLOGICAL ENVIRONMENT

020	Section 6 Marine Biological Environment	<p>Notably missing from data sources listed in the EIS is the Department of Fisheries and Oceans (DFO) Atlas of Human Activities (Grand Banks of Newfoundland), which identifies potential vessel and helicopter transit routes as part of the LAA. Identifying potential vessel and helicopter transit routes is essential for identifying baseline conditions and potential effects to the marine environment and is a</p>	Section 6 of the EIS should be amended to include barriers to the project execution, including potential derivation from planned activities (e.g., the transportation route into the Project needs to be modified due to presence of underwater cables.
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requirement under the Section 7.1.2 of the EIS Guidelines for the Project.

021

Section 6 Marine  
Biological  
Environment

The EIS iterates “It is virtually certain that ocean depths from 0-700 m warmed since the 1970s,” a potential increase in sea surface temperatures in the short term is likely. As there is limited data on waves, wave projections have less confidence. Uncertainty in models also limits the ability to determine significant changes to major currents in and around the project area. Sea level rise may increase beyond present day trends due to uncertainty driven by accelerated melting of ice sheets globally associated with rising temperatures. (See Section 5.7.2)

Based on available data in Section 6, Oceanic variations due to major events caused by climate change, directly impact marine food webs (e.g., intensity of phytoplankton blooms located along upwelling/mixing and thermal fronts of currents in the area). The recent decline of zooplankton abundance discussed in the EIS is thought to be largely driven by climate change. Many fish species time spawning so larval forms are present in surface waters during the height of plankton blooms; however due to the stock collapses in the early 1990s, it is likely that different assemblages exist now than previously existed. Bird species in the region (select globally, continentally, and nationally significant populations of birds, SAR, and SOCC, among others) use these pelagic zone upwellings as primary forage areas, important stopover areas during migration or moulting, and overwintering habitat. Marine mammals (seals and whales) and sea turtles will also use the region, offering important foraging and migration opportunities.

Data presented for both Marine and Migratory Birds (Section 6.2), and Marine Mammals and

Sections 7.1.4 and 7.1.5 of the EIS Guidelines for the Project identify “The existing data must be supplemented by surveys, if required”. As many uncertainties and lower confidence is associated with the Marine and Biological Environment, and some data can only be used to assess presence of species within the study areas, further Project-specific baseline information is recommended to adequately characterize the Project Area year-round for the abundant sensitive marine biota identified within the RAA, including species of cultural importance to MTI.



Sea Turtles (Section 6.3) cannot reliably predict habitat use, distribution or abundance of *all* species in the Project Area, listed in the EIS.

022	Section 6 Marine Biological Environment	Suncor uses the acronym “‘LAA’ in this Chapter, the term is not defined in the chapter and is confusing to the reader.	Please revise Chapter 6 to provide some context and a definition when referencing the LAA (throughout this chapter). This term is not defined until subsequent chapters and differs between VCs.
023	Section 6 Marine Biological Environment	General use of vague terms to describe habitat use, distribution and abundance of species in the Project Area using limited data to justify/rationalize confidence (e.g., “likely to be uncommon,” “on rare occasions,” “likely to occur,” “relatively high,” etc.).	We request that firmer language be used to ensure protection of sensitive environments and species. Sections 7.1.4 and 7.1.5 of the EIS Guidelines for the Project identify “The existing data must be supplemented by surveys, if required”. As many uncertainties and lower confidence is associated with the Marine and Biological Environment, further Project-specific baseline information is recommended to adequately characterize the Project Area year-round for the abundant sensitive marine biota identified within the RAA, including species of cultural importance to MTI.
024	Section 6 General comment	This section is difficult to understand, with poorly constructed and/or seemingly incomplete sentences. MTI is concerned that this may suggest ineffective senior oversight which reflects Suncor’s overall effort and diligence with respect to this assessment.	Please conduct a thorough quality control review of this document and revise accordingly for grammar and clarity.
025	Section 6.1 Marine Fish and Fish Habitat Presence/absence figures	These figures appear to show a conspicuous absence of many species from the area around EL1161, where other projects already exist (Hebron, Terra Nova, Hibernia, White Rose). Thus, this “baseline” is likely comparing to a heavily impacted area and is not accurately assessing potential project effects against the marine communities that should be present.	<p>We request that “baseline” be changed to “current conditions” or “existing conditions” throughout the document.</p> <p>We request that the document be updated to reflect impacts to the natural environment rather than a heavily impacted environment.</p> <p>We request that the current environmental conditions if indeed significantly degraded from background be considered to its full extent within the cumulative effects section.</p>





026	Section 6.1 Marine Fish and Fish Habitat  Presence/absence figures	Figures indicate a data collection range of 2004-2021 for RV data, and 2006-2013 for European Union RV data. However, nowhere are there indications of which points are from which years.	To ensure an accurate evaluation of recent data, we request that Suncor update these figures to show historical surveys (>5 years) and recent surveys (within the last 5 years).
027	Section 6.1 Marine Fish and Fish Habitat  Datasets bullet	Based on the sections below, it appears Suncor has nearly entirely relied upon Canadian RV survey data to characterize the marine biota in EL1161. Based on mapping, coverage of these surveys is extremely limited in EL1161, creating substantial uncertainty in the estimate of baseline presence/absence near the Project.	We request that site-specific surveys be undertaken to sufficiently characterize marine biota in the Project area.
028	Section 6.1 Marine Fish and Fish Habitat  Datasets bullet	This bullet point states Canadian RV data from 2016-2020 are used yet figures clearly indicate data are 2004-2021.	Please update this bullet point to reflect the true date range for Canadian RV data.
029	Section 6.1.1.3 Zooplankton	"The density and distribution of zooplankton mirrors that of their prey, the phytoplankton."	Please provide evidence (with citations) that this is true for the Grand Banks and Project area.
030	Section 6.1.1.4 Ichthyoplankton	Age of ichthyoplankton data	Using data that are almost 30 years old to characterize the ichthyoplankton in the Project area is unacceptable. Updated baseline for these crucial life stages of important fish must be collected.
031	Section 6.1.2 Corals and Sponges  Paragraph 2, final sentence	"...among other factors." such as impacts from oil and gas extraction.	We request that Suncor recognize the role that industry plays in impacting the distribution of corals and sponges in the Project Area.
032	Section 6.1.2 Corals and Sponges  Paragraph 3	Data collection range from 2004-2021	Which years, specifically, did surveys occur within the boundaries of EL1161, and how many surveys in each year?



033	Section 6.1.3.1 Demersal Finfish	Canadian RV surveys	Were 133 surveys completed in the RAA, or specifically within EL1161?  Please update this section to reflect the coverage and dates of surveys within EL1161.
034	Section 6.1.3.1 Demersal Finfish	Data sources are limited to Canadian RV surveys and nearby EEM programs.	Why is Indigenous Knowledge not considered for Demersal fish?  Please update this section to reflect Indigenous Knowledge.
035	Section 6.1.3.1.2 Demersal Finfish	EEM program data are limited to 2015 and are nearly 10 years old.	Please update this section to include more recently collected data, at a bare minimum within the last 5 years.
036	Section 6.1.3.2 Pelagic Finfish	Suncor relied entirely upon trawl data to characterize pelagic fish, which means data are very limited. Suncor appears to have made no effort to find supplemental data sources for pelagic fish and instead relies upon assumptions without citations.	Please update this section with recent (<5 years) studies on the pelagic fish populations within the RAA, LAA, and EL1161.
037	Section 6.1.3.2 Pelagic Finfish	Data sources are limited to Canadian RV surveys	Why is Indigenous Knowledge not considered for Pelagic fish?  Please update this section to reflect Indigenous Knowledge.
038	Section 6.1.3.3.1 Invertebrates	Age and coverage of Canadian RV surveys	Please update this section to reflect the coverage and dates of surveys within EL1161.
039	Section 6.1.3.3.2 Invertebrates	EEM program data are limited to 2015 and are nearly 10 years old. Relevant data are only available from Hebron surveys, because Terra Nova surveys are limited to sediment cores.	Please update this section to include more recently collected data with significantly better coverage of EL1161, at a bare minimum within the last 5 years.
040	Section 6.1.3.4 Project Area Species Information	“Invertebrate species were chosen based on their commercial importance...”	There are numerous invertebrates important to Mi’gmaq Peoples – why were these not considered?



			We request that Suncor revise Section 6 to recognize and highlight invertebrate species of harvesting and cultural importance to Mi'gmaq Peoples .
041	Section 6.1.3.4.1 Small Benthivores	“Trawl data on small benthivore species within the Project Area and LAA were not available.”  This represents a substantial data gap, and rather than being recognized and addressed, it is explained away, and generalized guesses are used.	We request that Suncor collect site-specific small benthivore data for the Project Area and LAA to fill this data gap.
042	Section 6.1.3.4.2 Medium Benthivores  Figure 6-11	Average relative density of medium benthivores from 1985- 2017.  The 30-year average range may not reflect current conditions, as data are >5 years old and may show bias from old catch records.	Please update these data with more recent surveys, and shorten the averaging period, potentially to the last 10 years.
043	Section 6.1.3.4.1 Large Benthivores  Figure 6-15	Average relative density of large benthivores from 1985- 2017.  The 30-year average range may not reflect current conditions, as data are >5 years old and may show bias from old catch records.	Please update these data with more recent surveys, and shorten the averaging period, potentially to the last 10 years.
044	Section 6.1.3.4 Project Area Species Information	Many of these species are considered important to Mi'gmaq Peoples , but there is little-to-no mention of this in the text.	Please revise Section 6.1.3.4 to include reference to species of importance to Mi'gmaq Peoples .
045	Section 6.1.3.4.2 Medium Benthivores	Two bottom-dwelling piscivores are discussed in this section, because the only data used to characterize the piscivorous fish community are trawl data.  This is a notable data gap and may result in an incomplete characterization and assessment. This is especially concerning due to the presence and potential presence of listed species of piscivores.	Please update the section with additional new data from targeted surveys (or similar) that are not restricted to sampling bottom-dwelling fish.



046	Section 6.1.3.4.2 Piscivores	Average relative density of piscivores from 1985- 2017.	Please update these data with more recent surveys, and shorten the averaging period, potentially to the last 10 years.
	Figure 6-21	The 30-year average range may not reflect current conditions, as data are >5 years old and may show bias from old catch records.	
047	Section 6.1.3.4.3 Plank-piscivores	Redfish are discussed in this section, but the only data used to characterize the plank-piscivorous fish community are trawl data which will bias toward bottom-dwelling species.	Please update the section with additional new data from targeted surveys (or similar) that are not restricted to sampling bottom-dwelling fish.
		This is a notable data gap and may result in an incomplete characterization and assessment. This is especially concerning due to the presence and potential presence of listed species.	
048	Section 6.1.3.4.3 Plank-piscivores	Average relative density of plank-piscivores from 1985- 2017.	Please update these data with more recent surveys, and shorten the averaging period, potentially to the last 10 years.
	Figure 6-24	The 30-year average range may not reflect current conditions, as data are >5 years old and may show bias from old catch records.	
049	Section 6.1.3.4.4 Planktivores	Two planktivorous species are discussed in this section, but the only data used to characterize the planktivorous fish community are trawl data which will bias toward bottom-dwelling species. Suncor themselves state that "...trawl surveys are not as effective as other methods (i.e., acoustic surveys) for detection of planktivorous species..."	Please update the section with additional new data from targeted surveys (or similar) that are not restricted to sampling bottom-dwelling fish.
		This is a notable data gap and may result in an incomplete characterization and assessment. This is especially concerning due to the important role many planktivorous species play as forage fish. Planktivorous species are also harvested by Mi'gmaq Peoples .	



050	Section 6.1.3.4.4 Planktivores	Average relative density of planktivores from 1985-2017.	Please update these data with more recent surveys, and shorten the averaging period, potentially to the last 10 years.
	Figure 6-26	The 30-year average range may not reflect current conditions, as data are >5 years old and may show bias from old catch records.	
051	Section 6.1.3.4.5 Invertebrates	This figure is supposed to display presence/absence of short-fin squid, but based on the legend it is displaying an Atlantic Cod layer.	Please update this figure to display the correct data and confirm that all other figures within this section also display the correct data.
	Figure 6-35	This error should have been caught with sufficient oversight. See earlier comment, above, regarding concerns about Suncor's effort and diligence.	
052	Section 6.1.3.5 Fish Species at Risk and Species of Conservation Concern	22 species listed under SARA or by COSEWIC are identified in this table, yet only 4 are discussed. All of these species are important to Mi'gmaq.	Please revise the report to ensure that the presence/absence of each species is carefully evaluated using recent and/or newly collected data, and that the potential effects of the Project on all listed species are assessed.
	Table 6.6		
053	Section 6.1.3.5.2 White Shark	"These highly mobile species likely swim through the LAA, though they are not areas where white shark congregate based on available telemetry studies."	Please provide citations for these studies.
054	Section 6.1.3.6 Species of Indigenous Importance	We acknowledge the separate section to discuss species of importance to Indigenous Peoples.	MTI has a comprehensive list of species that should be integrated throughout this section to adequately recognize Mi'gmaq rights, values, and interests.
055	Section 6.1.3.6 Atlantic Salmon	Salmon of are critical importance to Mi'gmaq and must be protected. We do not agree with relying on commercial fishing data to estimate populations or habitat use of Atlantic Salmon. As noted by Suncor, there are very little data	Please revise this document to reflect assumptions that post-smolt and adult salmon are present and actively using habitat throughout the Project area at all times of the year.



available for salmon within the area, thus very high uncertainty.

The effects assessment (Section 9) must also be revised to reflect these assumptions.

To ensure adequate protection of critically valuable Atlantic Salmon, extremely conservative assumptions must be made regarding the distribution of Salmon within the Project area.

056	Section 6.1.3.6 Species of Indigenous Importance	Swordfish are important to Mi'gmaq Peoples and must be assumed to migrate through and/or use the Project area.	Please revise the document to reflect the assumption that swordfish will use the Project area to carry out their life cycle.
057	Section 6.1.3.6 Species of Indigenous Importance	Tuna are important to Mi'gmaq Peoples and must be assumed to migrate through and/or use the Project area.	Please revise the document to reflect the assumption that tuna will use the Project area to carry out their life cycle.
058	Section 6.1.3.6.1 Tunas (Albacore, Bigeye, Atlantic Bluefin) Figure 6-42	Use of old data.	Please update this figure to include data collected within the last 5 years and assign variable symbology such that sightings during different time periods can be evaluated.
059	Section 6.1.3.6.1 Tunas (Albacore, Bigeye, Atlantic Bluefin) Figure 6-43	Use of old data.	Please update this figure to include data collected within the last 5 years and assign variable symbology such that sightings during different time periods can be evaluated.
060	Section 6.3.5 - Phocids (Seals)	"All species of seals are harvested by Indigenous groups in Newfoundland and Labrador"	MTI has a comprehensive list of species that should be integrated throughout this assessment, to adequately recognize Mi'gmaq rights, values, and interests.
061	Section 6.3.7 - Species at Risk	Many species' Action Plans include mitigating anthropogenic threats and reduce potential mortality/injury from habitat degradation, vessel collisions, whale watching, noise pollution, fishing gear entanglement, chemical pollution, and changes in prey abundance. The	Concentrations of marine mammals and sea turtles in certain areas at certain times may be an artifact of the survey effort that has taken place in these locations. Similarly, low sightings in other regions may be attributable to reduced survey effort. Please provide further information on what Suncor intends



region is considered a high priority area for many species listed in the EIS, with candidate critical habitat designations expected in the near future (e.g., Leatherback Sea Turtle). Suncor has not iterated how the expected critical habitat designations may impact execution/operation during the lifespan of the Project.

to do with anticipated critical habitat designations expected within the timeframe of the Project, especially for species with limited data available for the Project Area.

062	Section 6.4.1.2 Vulnerable Marine Ecosystems	"...portions of Vulnerable Marine Ecosystems (VMEs) may be closed to bottom fishing activities (Section 6-#)"	Please provide the appropriate section reference as VME area descriptions are not publicly available.
063	Section 6.4.1.4 Important Bird Areas and Table 6.23	Within the RAA, Suncor identifies 32 Important Bird Areas (IBAs) in Section 6.4.1.4. The corresponding Table 6.23 only lists 31 IBAs.	Please clarify this inconsistency for the reader.
064	Section 6.4.2.1 Ecologically and Biologically Significant Areas and Table 6.24	Within the RAA, Suncor identifies 37 Ecologically and Biologically Significant Areas (EBSAs) in Section 6.4.2.1. The corresponding Table 6.24 only lists 32 EBSAs.	Please clarify this inconsistency for the reader.
065	Section 6.4.2.3 Marine Protected Areas and Table 6.26	Within the EIS, Suncor directs readers to Table 6.25 (Representative Marine Areas in the RAA), instead of Table 6.26 (Marine Protected Areas in the RAA).	Please correct table references for the reader's clarification.
066	Section 6.4.2.4 Marine Refuges and Table 6.27	Within the EIS, Suncor directs readers to Table 6.26 (Marine Protected Areas in the RAA) instead of Table 6.27 (Marine Refuges in the RAA).	Please correct table references for the reader's clarification.
067	Section 6.4.2.5 National Marine Conservation Areas and Table 6.25	Within the EIS, Suncor directs readers to Table 6.27 (Marine Refuges in the RAA), instead of Table 6.25 (Representative Marine Areas in the RAA).	Please correct table references for the reader's clarification.
068	Section 6.4.3.1 Ecological Reserves and Figure 6-53	As described in Section 6.4.3.1, Ecological Reserves (ER) with marine biomes are presented in Figure 6-63. Figure 6-63 does not	Please provide an updated Figure 6-63, indicating marine limits of each ER within the RAA.



show marine limits/extents for each ER within the RAA.

## SOCIO-ECONOMIC ENVIRONMENT

069

Section 7  
General

Section 7.1.8 of the EIS Guidelines for the Project state that Suncor is required to “gather and document baseline information in the EIS for each Indigenous group identified in Part 2, Section 5 of these guidelines” which are subsequently required to “describe and characterize the elements in paragraph 5(1)(c) of CEAA 2012” and “be sufficient to provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples.”

Despite this requirement, Section 7.3.1 states that the contents of the draft EIS were primarily based on “publicly available reports and studies, such as recent EAs (e.g. Newfoundland Orphan Basin Exploration Drilling Program, Flemish Pass Exploration Drilling Project, etc.)” and that “where limited information was available on aspects of individual Indigenous communities, such as community health or land and resource use, more general information has been provided at the regional or provincial level” (p. 7-59). The information that follows, specifically in Section 7.3.3.3 related to the eight Mi’gmaq First Nations represented by MTI is cursory in nature and does not meet the requirement of the EIS Guidelines to provide a sufficient level of detail to provide a comprehensive understanding of the current state of each VC. The lack of readily available information in EA documents completed by proponents of other offshore exploration drilling projects does not excuse Suncor from ensuring sufficiently detailed information is documented and included in the EIS for its own Project.

Section 7 of the EIS, and specifically Section 7.3.3.3 related to the eight Mi’gmaq First Nations represented by MTI, must be amended to provide a sufficient level of detail to provide a comprehensive characterization of socio-economic baseline conditions.

MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the project on MTI’s rights that fulfills the requirements of the EIS Guidelines.





070

Section 7  
General

The EIS Guidelines for the Project state that Suncor is required to “gather and document baseline information in the EIS for each Indigenous group identified in Part 2, Section 5 of these guidelines” which are subsequently required to “describe and characterize the elements in paragraph 5(1)(c) of CEEA 2012” and “be sufficient to provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples.”

We note that Table 7.38 provides an insufficiently detailed overview of each MTI member community’s socio-economic conditions that does not meet the requirements of the EIS Guidelines. For example, under the heading “Current Use of Lands for Traditional Purposes” the same statement is repeated for each of the eight Mi’gmaq First Nations represented by MTI, which has been extrapolated from a 2017 TKLU Report written for the purposes of another Project (BP’s Scotia Basin Drilling Project). Summarizing findings from one study, completed 7 years ago and intended for a completely different Project into one conclusive statement in reference to MTI members’ land and resource use for this Project is disrespectful to the unique exercise of Aboriginal and Treaty rights of each of our member First Nations and does not fulfill the requirements or intent of the EIS Guidelines.

Section 7 of the EIS, and specifically Section 7.3.3.3 related to the eight Mi’gmaq First Nations represented by MTI, must be amended to provide a sufficient level of detail to provide a comprehensive characterization of socio-economic baseline conditions.

MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment specific to this Project, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the Project on MTI’s rights that fulfills the requirements of the EIS Guidelines.

## ATMOSPHERIC ENVIRONMENT

071

Section 8  
Atmospheric  
Environment

Criteria for operations estimated and compared with data from the National Pollutant Release Inventory for producing assets in the area. Air contaminants discussed include: CO, SO<sub>x</sub>, NO<sub>x</sub>, PM, VOCs; while GHGs include: CO<sub>2</sub>, CH<sub>4</sub>,

Please justify the exclusion of other defined GHGs for the Project within the assessment.



N2O. Per Section 7.11 of the EIS Guidelines developed for the Project, existing GHG emissions by individual pollutant includes: CO2, CH4, N2O, PFC, HFC, SF6 and NF3.

072

Section 8  
Atmospheric  
Environment

“Due to the remote nature and marine setting of the proposed Project, the Project is not anticipated to cause a substantive change in air contaminants, sound emissions or lighting as it relates to human receptors. As a result, potential changes in the air contaminants, acoustic environment and lighting are not considered further in this chapter.”

Section 2.9.5 of the EIS describes the project resulting in increased night-time light levels (assumed dark sky site).

In Section 5.6, Suncor states the acoustic environment is a combination of natural and anthropogenic sources, with a recent study in the area (ESRF 2017) indicating the main soundscape features were fin whale vocalizations, offshore supply vessel traffic and continuous machinery from the nearest operational platform; seismic noise and survey sounds were also detected.

In Section 5.7.1, Suncor indicates there is limited information available for wind (low confidence) but IPCC indicates potential decrease in wind speeds (1% short term). Daily mean, minimum and maximum temperatures are expected to increase in the region over the short term with the largest changes expected to occur in winter at northern latitudes away from the coastlines. Precipitation is most impactful when considering intense/multi-day events, which most models are predicting the increase in extreme precipitation in the short term. An increase in tropical storms that are more

With the noted uncertainties and data deficiencies posed by the “remote nature and marine setting” of the Project, in addition to the stated changes anticipated from the Project (e.g., lighting), please further describe how a “substantiative change” in air contaminants will be perceived and measured by the project, especially given the knowledge gap on guidance to determine if measured concentrations exceed Canadian Ambient Air Quality Standards (CAAQS) as it relates to industrial fence line concentrations. If effects are predicted after project decommissioning, this should be taken into consideration in defining boundaries, per the EIS Guidelines prepared for the Project. Community knowledge and Indigenous Knowledge should factor into decisions around defining temporal boundaries.



		<p>intense (higher winds, precipitation and storm surges) when they do occur is also predicted.</p> <p>In Section 5.7.3, Suncor describes the timing of freeze-up, melting, and variability of sea ice season is expected to change with increased temperatures, increasingly mobile Arctic pack ice may increase ice hazards in areas where multi-year ice from the high Arctic has not been typically encountered. There are noted limitations and uncertainty in long-term trends of iceberg fluxes because of changes in detection technology, search effort, and reporting.</p>	
073	Section 8.1 Potentially Project Air Quality Emissions	With no well suspension and abandonment program available, the potential effects to Air Quality emissions cannot be effectively evaluated.	We request that the program be provided for review and incorporated into this assessment.
074	Section 8.1.4 Well Testing and Flaring Emissions	“The activity within this period will vary and it is likely that flaring will be required intermittently.” As written, Suncor implies the requirement for flaring, when stated in the Project description that this method is less preferred over other methods of well testing.	We request that Suncor update this assessment Chapter to include alternative preferred methods identified in the Project description.
075	Section 8.1.4 Well Testing and Flaring Emissions	Emissions were estimated using volume of fuel and emission factors/guidance from the Australian Government National Pollutant Inventory (NPI) yet compared to CAAQS. No criteria are listed for SO <sub>2</sub> comparison. Drilling mud degassing emissions have been overlooked in the assessment.	Please provide justification for use of the Australian NPI, and how these criteria differ from that of CAAQS. Please provide additional information for, or justification on, the lack of SO <sub>2</sub> criteria. Please provide further information on, or justification for, not including drilling mud degassing emissions within the assessment. All emissions are important in determining whether and how our national GHG targets can be reached.
076	Section 8.1.5.2 Helicopters and Tables 8.4 and 8.5	Table 8.4 shows emission factors for helicopters listed in “g/landing and takeoff’ and “kg/hr (transit)’.	<p>Please update Table 8.4 to show consistent units of measurement for ease of reference (e.g., in g, or in kg).</p> <p>Please update Table 8.5 to include annual VSP emissions.</p>



		Table 8.5 does not account for emissions from VSP operation and profiling (maximum 1/year with similar emission factors to supply/standby vessels).	
077	Section 8.2.1 Regulatory and Policy Setting	“Depending on the annual quantity GHG emissions released to the atmosphere, the Project may be required to report annual GHG emissions to the provincial government.”	Please provide further information relating to the quantities and individual pollutants for emissions reporting to the Provincial government.
078	Section 8.2.2 Influence of Consultation and Engagement on the Assessment	“There has been ongoing consultation and engagement on exploration drilling offshore eastern Newfoundland. This has been occurring either through Suncor directly, or through EA processes involving other projects and proponents. Key issues and concerns related to the GHGs and potential environmental effects have been identified through consultation and engagement. The conversations were general and around climate change (both its effects on operational considerations (e.g., ice management) and as well as in relation to cumulative effects).”  Project-specific consultation with MTI was not included/cited in this Chapter.	We request that Suncor undertake a thorough and fulsome update to this assessment that includes Indigenous Knowledge and recognizes the rights, values, and interests of the Mi’gmaq.
079	Section 8.2.4.2 Temporal Boundaries	“Well testing (if required, dependent on drilling results) could also occur at any time during the temporal scope of this EIS on a maximum of four wells”. Elsewhere in the EIS, the referred maximum number of well tests proposed using flaring was three.	Please clarify throughout the assessment if a maximum of 3 or 4 wells will be tested (requiring the use of flaring) during the Project timeframe (Q2 2024 to end of 2029).
080	Section 8.2.5 Residual Effects Characterization and Table 8.8	Direction Characterization, as described in Table 8.8 compares quantitative measurable parameters relative to baseline. As discussed in previous comments, characterizing residual effects on GHGs relative to a baseline is difficult considering the lack of baseline project-specific information.  Similarly, Significance definitions as described in Table 8.3 considers “low,” “medium	Please provide further detail on how quantitative measures relative to baseline will be achieved for GHGs to determine with reasonable certainty if the residual effects will be “positive’, “adverse’, or “neutral.”  Please provide further detail on how other GHGs (listed but not assessed for the Project per the EIS Guidelines prepared for the Project), or project activities not defined to emit GHGs, are incorporated



		(moderate)” and “high” ratings based on approximate emissions reported in CO <sub>2</sub> e/year; however, all constituents listed in the EIS Guidelines prepared for the Project have not been assessed for GHGs (e.g., PFC, HFC, SF <sub>6</sub> and NF <sub>3</sub> ), and certain project activities that degas have not been included/defined in the assessment (e.g., drilling mud degassing).	into the CO <sub>2</sub> e/year approximate emissions assessed herein. If the addition of these other measurable parameters or project activities have not been incorporated, please update the entire assessment to include or justify exclusion.
090	Section 8.3 Project Interactions with GHGs	The justification for the Project having no atmospheric emissions effect for discharges (i.e., liquids), is flawed. The United States Environmental Protection Agency has been assessing drilling mud degassing for use in incorporating the data into GHG assessments for offshore oil and gas projects since 1990 (USEPA, 2020). Waste food and sewage will be macerated and discharged overboard after treatment, which also emits gases.	Please update the EIS to include GHG and atmospheric emissions relating to liquid discharges (e.g., drilling mud degassing effects from liquid discharges generated by offshore oil and gas) or justify rationale for exclusion in the approximate emissions assessment.
091	Section 8.4.2.1 - Mitigation	“Well testing, if required, will be subject to Suncor’s well test assurance process, which is designed to promote safe and efficient well test operations”	Please provide MTI with the Suncor well test assurance process for review and include a summary within the assessment to identify project-specific mitigations for flaring associated with the process.
092	Section 8.4.2.6 Summary and Table 8.15	The total GHG presented in Table 8.15 considers only the MODU operation for comparison to provincial and federal estimates. Resulting GHG emissions from the Project are reported to be 0 – 63 kt CO <sub>2</sub> e/year (44 from MODU operation, remainder from vessels, helicopters and flaring), indicating a “medium (moderate)” effect based on characterizations presented in Table 8.8. Per CEAA guidance, where a “medium” or “high” emissions category is assigned, a GHG Management Plan must be prepared. The EIS does not present a timeline or details of the GHG Management Plan required.	Please include all operations (support and supply vessels, helicopters, VSP operations, etc.) into Table 8.15 for comparison to provincial and federal estimates of CO <sub>2</sub> e/year or rationalize with justification for exclusion.  Please provide further information detailing the GHG Management Plan and approximate schedule. MTI would like to engage in preparation of the management plan to ensure Indigenous Rights, values and interests are considered.
093	Section 8.4.3 Summary of Project Residual	For GHGs, Suncor states residual effects are short- to medium-term in duration. Based on the characterization for “Duration” in Table 8.8,	As the total GHG presented in Table 8.15 considers the annual GHG emissions in the “medium (moderate)” category and considered irreversible (for



	Environmental Effects	this would relate to impacts for the duration or weeks/months beyond the duration of the activity, or for the duration of an exceedance or accidental event.	at least 100 years), the temporal scale for GHG presented in the assessment is not adequate for review. At minimum, the effects described would warrant a Duration rating of long-term due to the irreversible effects expected for at least 100 years.
094	Section 8.7 Follow-up and Monitoring	"...no specific follow up or monitoring related to the atmospheric environment is considered necessary in relation to the project."	Per the EIS, monitoring will be required to assess environmental effects from the Project as described. Adequate baseline information will be required for the Project Area, and monitoring for Direction will be required to determine effects relative to baseline (positive, adverse, or neutral).
<b>MARINE FISH AND FISH HABITAT</b>			
095	Section 9.1.2 Influence of Consultation and Engagement on the Assessment	<p>"...no food, social and ceremonial licences..."</p> <p>"The other point of note was inclusion of Indigenous knowledge...in the environmental assessment."</p> <p>It is clear that Suncor conducted little-to-no engagement with MTI, referencing licences rather than Indigenous Knowledge.</p> <p>There is no evidence throughout Section 9.0 that Suncor has included Indigenous Knowledge in the assessment. Instead, cherry-picked western science is used to make broad assumptions and dismiss the potential impacts of the Project.</p>	We request that Suncor undertake a thorough and fulsome update to this assessment that includes Indigenous Knowledge and recognizes the rights, values, and interests of the Mi'gmaq.
096	Section 9.1.2 Influence of Consultation and Engagement on the Assessment	"These species included Atlantic salmon and other culturally important species like American eel, swordfish, tuna, groundfish, lobster, crab, and sharks."	MTI has a comprehensive list of species that should be integrated throughout this assessment, to adequately recognize Mi'gmaq rights, values, and interests.
097	Section 9.1.2 Influence of Consultation and	Measurable parameters and units of measurement.	Suncor must commit to more fulsome evaluation of the potential environmental effect, adding injury and fish health as measurable parameters.



Engagement on the Assessment

Table 9.1

Mortality is not the only measurable parameter that applies to the stated potential environmental effect: “Change in risk of mortality, injury or health” – in fact there are two other measurable parameters stated right there.

Suncor must provide a detailed, evidence-based justification for dismissing the measurement of fish injury and fish health to characterize effects of the Project.

098

Section 9.2 Project Interactions with Marine Fish and Fish Habitat

Species missing from assessment of effects.

Numerous marine species found to occur within the Project area based on the characterization of the biological environment (Section 6) are not addressed in the assessment of effects.

For example, sea urchins are not mentioned at all throughout Section 9, despite being found in high abundance in the area and an important harvested species to Mi’gmaq Peoples .

Suncor must update the effects assessment to reflect all species present in the Project area, especially those identified by MTI as culturally important or harvested.

099

Section 9.2, Project Interactions with Marine Fish and Fish Habitat

With no well suspension and abandonment program available, the potential effects to fish / fish habitat cannot be accurately evaluated.

We request that the program be provided for review and incorporated into this assessment.

100

Section 9.2, Project Interactions with Marine Fish and Fish Habitat

The short-term and localized nature of sound and discharges has very little bearing on the potential mortality or harm to fish. It does not take a long time for an effect to result in mortality if the effect is strong enough.

We request that Suncor provide evidence showing that short-term, localized sounds and discharges do not pose a risk to fish in the Project Area.

101

Section 9.3 Assessment of Residual Environmental Effects on Marine Fish and Fish Habitat

This section references following guidance, guidelines, and requirements provided in regulatory documents. However, these documents were either written prior to requirements for, or don't contain, consideration of Aboriginal rights, values, and interests. Thus, adhering only to these documents risks infringing on the rights, values, and interests of Mi’gmaq Peoples .

We request that revisions be made throughout 9.3 to ensure that the rights, values, and interests of Mi’gmaq Peoples are appropriately recognized and considered.



102	Section 9.3.1.2 - Presence and Operation of a MODU	"if any aggregations of habitat forming corals or sponges...are identified, Suncor will change the location of the anchor(s) or well...or redirect drill cuttings..." This language is too vague to provide a commitment sufficient for protecting these sensitive habitats.	Please revise to "...Suncor will change the location of the anchor(s) and/or well on the seafloor AND redirect drill cuttings..."
103	Section 9.3.1.2 - Presence and Operation of a MODU	"... (unless not technically feasible)..."	Please elaborate on how "technical feasibility" will be determined. It is unacceptable for environmentally sensitive features to not be protected during this drilling program.
104	Section 9.3.1.2 - Geophysical (including VSP), Environmental and Geotechnical Surveys - bullet 2	"VSP activities will be planned...known spawning areas and... known migration corridors"	Please elaborate on what is meant by "will be planned" - is this a specific schedule of activities? any scheduling of VSP activities must take into account migration, feeding, and overwintering of Atlantic salmon.  According to Reddin (1985) Atlantic Salmon utilize the area of the Grand Banks around the Project for extensive feeding, due to favourable water temperatures, and it likely represents a key migration corridor from rearing areas adjacent to Greenland to spawning streams along Canada's east coast.
105	Section 9.3.1.2 - Discharges	"...where technically feasible." / "...in consideration of..." / "...where feasible." The language in this bullet is not strong enough to sufficiently reduce the risk of harm to fish and fish habitat, given the Project's location.	We request that firmer language be used to ensure protection of sensitive environments and species. For example: "Lower toxicity drilling muds will be used unless explicitly permitted for specific non-sensitive areas." / "Drilling mud and cement components will be selected based on environmentally friendly properties, such as biodegradability. These properties will be prioritized at any well sites where environmentally sensitive features (e.g., habitat-forming corals or sponges) are encountered during pre-drilling surveys." / "Chemical components rated as being least hazardous...will be used at all sites."





106	Section 9.3.1.2 - Discharges  Bullet 2	Discharge to water.	MTI asserts that all waste discharges should be transferred to shore for disposal due to the Project's location in a sensitive fish habitat area.
107	Section 9.3.1.2 - Discharges  Bullet 3	According to OWTG, "Where there is technical justification (e.g., requirements for enhanced lubricity or for gas hydrate mitigation), operators may use SBM..." but "Where it is technically reasonable, water-based mud (WBM) should be used in the drilling of wells and well sections."  Suncor provides no justification for the use of SBM, rather appears to have simply assumed it will be necessary.	Please elaborate on the decisions and specific justification for using SBM rather than WBM.
108	Section 9.3.1.3.1 Presence and Operation of a MODU	"the small spatial footprint of anchors indicates...effects would be limited to individuals..."	(1) What about the other physical components of the MODU that also interact with the sea bottom? (2) Sessile/immobile species are often much more limited in range compared to mobile species. please provide citations for the assertion that there will be no population-level effects due to individual mortality.
109	Section 9.3.1.3.1 Presence and Operation of a MODU	"any potential effects would be recoverable due to the dissipation and short-term nature of turbidity and suspended sediment effects."  while placement of the anchors is short-term, operation of the MODU and the associated increased sediment suspension / turbidity is distinctly not short-term.	This section should be revised to adequately assess the effects of suspended sediments/turbidity over the entire operational period of the MODU.
110	Section 9.3.1.3.1 Presence and Operation of a MODU	"Potential effects from turbidity and suspended sediment would also be low..."  While surface sediments may be gravel and sand, that says nothing of finer particles trapped within interstitial spaces and/or deeper layers that would be disturbed by MODU placement and operation.	This section should be revised to consider potential effects to be moderate-to-high, recognizing the true timeline of the effects and likelihood of fine particles.



111	Section 9.3.1.3.1 Presence and Operation of a MODU	Effects due to underwater sound.	The species referenced in the example literature (Popper et al, 2014) are not representative of the marine species found in the project area. This section should be revised to evaluate effects based on studies on the species found in the project area.
112	Section 9.3.1.3.1 Presence and Operation of a MODU	With regards to underwater sound modelling, the fish used in the cited studies were exposed to "158 db re 1 uPa rms" for as little as 12 hours, and then required up to 14 days recovery. If we trust Suncor's models, damaging decibels may occur as far as 607 m from the MODU.  So, with the MODU unit operating for multiple months rather than hours, sensitive marine fish with swim bladders, of which there are many, will be subjected to damaging decibels within 600 m of the MODU with no recovery period.  It is clear that Suncor's evaluation of noise effects is not at all conservative, and simply brushes aside the effects (including mortality within 134 m) because "mobile fish would potentially respond at lower thresholds and move away before injury could occur"	"maybe they will move before they get injured or die" is a completely inadequate evaluation of the potential effects to important fish species in this area. This is a clear dismissal by Suncor of Mi'gmaq rights, values, and interests.
113	Section 9.3.1.3.1 Presence and Operation of a MODU	Chronic effects from sound exposure.	Please define "long time periods" with respect to chronic effects of sound exposure on marine fish.
114	Section 9.3.1.3.1 Presence and Operation of a MODU	Chronic effects from sound exposure.  potential effects are dismissed due to the project being "short term," with no definition of "long term" or "short term" provided.	Please provide clear definitions, and citations where applicable, that prove the project falls within the "short term" with respect to chronic effects of underwater noise."
115	Section 9.3.1.3.1 Presence and Operation of a MODU	Regarding chronic effects requiring further study	Given Suncor's own words and citations indicate that there remains a lot of uncertainty and further study is required to understand the chronic effects of noise on sensitive marine species and given the sensitive/precarious position of fish populations on



			the Grand Banks, MTI asserts that Suncor should pursue this required research prior to any Project activities. The risk to sensitive and important fish populations is too high.
116	Section 9.3.1.3.1 Presence and Operation of a MODU	Regarding artificial lighting, fish species also undergo behavioural changes, including being attracted to artificial lighting, which would draw them closer to the MODU and subject them to greater risk of impacts.	We request that the assessment for light, sound, and sediment/turbidity be revised to reflect this, especially considering the effects may reach out to 1.5 km.
117	Section 9.3.1.3.1 Presence and Operation of a MODU	Regarding invasive species  The transport of invasive species is a risk to Mi'gmaq rights, values, and interests.	Please provide additional details regarding standard mitigations for spreading invasive species. MTI requests that at minimum, a separate section be included that details Suncor's approach to ensuring the MODU(s) cleanliness, and detailed contingency planning in case these measures are not successful.
118	Section 9.3.1.3.1 Presence and Operation of a MODU	For the reasons outlined in the above comments, we fundamentally disagree with the assertions in this paragraph. Suncor's attempt to minimize and/or misrepresent the potential effects due to the MODU(s) impacts Mi'gmaq rights, values, and interests.	Suncor must provide a detailed re-evaluation of the potential impacts of the MODU on the environment and in turn on Mi'gmaq rights, values and interests.
119	Section 9.3.1.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	"VSP sound levels received by mobile fishes and invertebrates are unlikely to cause mortality...given their capability of moving..."	Please provide citations demonstrating the success of ramping in the marine environment near oil exploration projects to confirm that sensitive fish species will move away from the VSP.
120	Section 9.3.1.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	"mortality can occur up to 63m in both seasons from a Sound Exposure Level (SEL) of 207dB..."	Why is the radius for mortality due to VSP sound less than 50% of that noted above for MODU sound (134 m) at the same decibels?
121	Section 9.3.1.3.2 Geophysical (including VSP),	Suncor has described how damaging sound could be from the VSP, and notes that low-mobility organisms will be exposed numerous	We request that at a minimum, the potential mortality due to VSP surveys be evaluated for the



	Environmental and Geotechnical Surveys	times at a consistently damaging level of sound during VSP surveys for the life of the project. Suncor provides no mitigation other than "maybe they won't detect it." This is an insufficient amount of effort applied to characterize the effects on this important area.	multitude of low-mobility species found in the project area.
122	Section 9.3.1.3 Characterization of Residual Project-related Environmental Effects	In Appendix D, JASCO modelling suggests that the project would result in a 24h SEL >190 dB for 10s of kilometres around the project (Figure 26 and 27, Appendix D). this is above the TTS (186 dB). Suncor has asserted that the risk of injury only extends to a maximum of ~600 m.	(1) Why are these so drastically different? (2) How will mobile species sufficiently escape sound effects if they are subjected to 24h SEL of >190 dB for multiple kilometres? (3) why were the cumulative sound impacts of (i) the VSP and MODU, and (ii) the Project and surrounding projects, not considered during the effects assessment?
123	Section 9.3.1.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	Similar to above, we disagree with this assessment. not only are the risks dismissed with loosely supported assumptions, but mortality is not a low- magnitude effect.	Suncor must provide a detailed re-evaluation of the potential Residual Project-related Environmental Effects and in turn on Mi'gmaq rights, values and interests.
124	Section 9.3.1.3.3 Discharges	"unlikely to...transfer organic particulate matter...to benthic areas."	Please provide a citation and/or detailed justification for why particulates would not settle through the water column onto the bottom.
125	Section 9.3.1.3.3 Discharges	Suncor cites studies finding that adverse effects occur in <i>Geodia</i> sponges over 14 days, and effects to scallops and mussels were provided with no timeline. further, effects on scallops and mussels were observed due to WBM discharge but no reference to SBM cuttings. Suncor then goes on to state that effects are considered short-term in an effort to dismiss them.	(1) What is the definition of "short term"? The Project is expected to continue for considerably longer than 14 days.  (2) What is the timescale for the observed effects on scallops and mussels in the cited studies?  (3) As elsewhere, this is a complete mischaracterization of the impacts to sessile invertebrates due to drill cuttings, based almost entirely on hand-waving.



126	Section 9.3.1.3.3 Discharges	"...no analyte was greater than two standard deviations from the background concentration within 1,000m of any other well."	What about compared to sediment chemistry guidelines?
127	Section 9.3.1.3.3 Discharges	"However, the Grand Banks infauna community is dominated by polychaete species."	(1) Why was a study from 2001, which is over 20 years ago, used to define the species composition rather than more recent studies (e.g., the EEM studies that have been "ongoing over the past two decades"?  (2) Why are infauna used to evaluate effects due to deposition rather than benthic fauna?  (3) Why was the infauna community generalized over the entire Grand Banks rather than within the Project area / LAA when discussing potential effects?
128	Section 9.3.1.3.3 Discharges	10mm recoverable threshold for burial	Why were the more conservative and protective thresholds described above (6.5 mm and 1.5 mm) not considered as the recoverable threshold?
129	Section 9.3.1.3.3 Discharges	Reference to the Terra Nova EEM  "Results from the first ten years of EEM at the adjacent Terra Nova field..."	(1) What about results from the more recent, and more applicable, second ten years?  (2) What about results from the other surrounding project EEM programs?  (3) Why is Suncor using decade-old results to define current potential effects?
130	Section 9.3.1.3.3 Discharges	As elsewhere, Suncor has demonstrated a consistent cherry-picking of data, often using old data (e.g., >10 yrs), and a generalization of the area (i.e., the "grand banks" rather than the specific project area) to dismiss and minimize potential project effects.  This is completely unacceptable and violates Mi'gmaq rights, values, and interests.	Please provide discussion on why the cumulative effects of drill cuttings, noise, etc. been considered during this assessment?
131	Section 9.3.2	Given that the well suspension and abandonment program has yet to be defined,	To ensure these potential effects are mitigated, we request that Suncor revise the text in Section 9.3.2.2



	Change in Habitat Availability, Quality, and Use	maximum potential impacts from those activities must be assumed to accurately characterize project effects.	to read "...will be carried out as per best practices and in compliance with any and all relevant regulatory requirements in place and/or anticipated to be in place at the time of suspension and abandonment."
132	Section 9.3.2.2 Mitigation	"The activities will adhere to..."	Well suspension and abandonment should also adhere to any and all current and future applicable requirements from other regulators (e.g., DFO).  Please revise the section to reflect this.
133	Section 9.3.2.3.1 Presence and Operation of a MODU	Regarding the MODU, Suncor claims that subsea infrastructure is associated with elevated marine fish diversity and abundance, but above they claim that fish will vacate the area so as not to be impacted due to sound. Similarly, they claim the anchors provide hard surfaces for invertebrate colonization, yet these invertebrates would be subjected to the most significant effects due to other project activities.	Please revise this section to remove the pre-emptive dismissal of effects on fish habitat due to the implied creation of fish habitat. The creation of damaging/deleterious habitat cannot mitigate the removal of existing, usable habitat.
134	Section 9.3.2.3.1 Presence and Operation of a MODU	Regarding the effects of sound:  (1) Suncor references a decade-old study (Popper et al 2014)  (2) the JASCO noise modelling report, Appendix D, suggests that 24h SEL >190 dB will spread for multiple kilometres from the MODU in both seasons.	(1) Why was the Popper et al. (2014) study referenced rather than Suncor's own noise modelling Appendix to characterize the potential effects on fish? (2) Why is that so different from the <1 km distance stated here for behavioural changes?
135	Section 9.3.2.3.1 Presence and Operation of a MODU	Regarding the effects of light:  Suncor states that the effects of artificial lighting may occur up to 1.5 km from the source, and that marine fish exhibit behavioural responses to light detection. However, no detail is provided regarding these responses prior to dismissing the effects of light.	Please provide detail regarding the behavioural changes associated with artificial light in marine fishes, notably those species occurring in the Project area.  The section and effects assessment should then be updated to refer to those behavioural changes.



136	Section 9.3.2.3.1 Presence and Operation of a MODU	<p>Regarding the effects of light</p> <p>"Drilling could occur at any time of the year and the sound and light generated would be continuous during the drilling of each well (approximately 120 days per well)."</p> <p>120 days is assessed as 'medium-term' in this section but goes unmentioned and appeared to be assessed as 'short-term' in the above sections relating to sound and mortality/injury.</p> <p>This inconsistency, combined with the dismissive approach taken above by Suncor, may suggest that Suncor is attempting to obscure the true effects of sound and light on fish mortality/injury.</p>	<p>We request that the entirety of both sections be revised and updated to consistently reflect actual magnitudes and durations based on the project activities.</p>
137	Section 9.3.2.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	<p>The potential effects of the VSP on fish behaviour may reach up to 19.2 km, but these are then dismissed because VSP activities are anticipated to occur for &lt;1 day.</p>	<p>(1) Please provide clarification whether all VSP activities will be limited to &lt;1 day and occur concurrently, or whether VSP activities lasting &lt;1 day will occur regularly throughout the Project. Based on MTI's review of earlier sections, the latter is correct.</p> <p>(2) If this is the case, the assertion that effects are short-term is entirely false as the effects will occur throughout the project. Please revise this section to more accurately reflect the behavioural effects due to VSP activities.</p> <p>(3) Please provide detailed examples, including citations, of fish habituating to the noise effects of VSP operation.</p> <p>(4) "Fishes have habituated to similar received levels that far reaching behavioural effects on fishes are not anticipated." The final paragraph appears incomplete and/or nonsensical - please revise.</p>



138	Section 9.3.2.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	Behavioural responses of fishes to VSP noise	<p>(1) Please provide considerably more detail regarding the "variety of behavioural responses" that mobile fishes could exhibit when exposed to the VSP. Each of these responses should be considered within the effects assessment with respect to the fish species present.</p> <p>(2) please provide additional detail regarding the differences between the VSP airgun and the sources used for 2D and 3D seismic surveys, and how these differences affect the more detailed assessment of behavioural changes that arises from item (1).</p>
139	Section 9.3.2.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	Summary of residual effects	Our comments regarding the paragraph summarizing residual effects are identical to the other sections - fundamental disagreement due to an entirely insufficient characterization of the potential effects and their mitigations.
140	Section 9.3.2.3.2 Geophysical (including VSP), Environmental and Geotechnical Surveys	Collection of seabed samples	Please describe in detail the methods planned for collecting seabed samples as part of geotechnical surveys. without detailed methodology it is impossible to accurately assess the potential impacts of this sample collection.
141	Section 9.3.2.3.3 Discharges	Suncor notes that it can take years for recovery due to effects from drill cuttings yet provides no detail regarding what "recovery" looks like.	Please clarify how "recovery" is defined with respect to the effects of drill cuttings on fish habitat.
142	Section 9.3.2.3.3 Discharges	As elsewhere, MTI fundamentally disagrees with the assessment of residual effects.	For the effects of drill cuttings on fish habitat to be considered "reversible" by MTI, the habitat must recover to as good or better than what was there prior to the Project. Based on the information provided by Suncor, we have no faith that this will occur. We request that the final paragraph be amended to read "...occur more than once at irregular intervals, and permanent."





143	Section 9.3.2.3.5 Supply and Servicing Operations	"Changes to habitat availability, quality and use from supply vessel traffic is predicted to represent a small increment over similar effects from existing levels of marine traffic in the RAA."	(1) Why was this not assessed for the LAA? Please revise this section to characterize effects due to supply vessels within the LAA. (2) We consider existing levels of marine traffic to be already deleterious to fish habitat quality. An increase, even if it "represent[s] a small increment" is unacceptable without fulsome and accurate representations of the specific and cumulative effects of this increase, which has not yet been provided by Suncor.
144	Section 9.3.3 Species at Risk: Overview of Potential Effects and Key Mitigation	Effect on wolffish	MTI values Species at Risk and any effect, even those dismissed by Suncor as "localized and short-term" is unacceptable."
145	Section 9.3.3 Species at Risk: Overview of Potential Effects and Key Mitigation  Table 9.4	Potential Interactions column	Please clarify the difference between "Potential exists for project effects, but reduced by Project mitigation measures and species mobility" vs "Limited potential for Project interactions (mobile species, Project mitigation measures, no critical habitat)"  These statements appear to be essentially identical, with the exception of presence/absence of critical habitat. We note that the presence/absence of critical habitat should not affect the potential for interactions. Please revise this table for clarity.
146	Section 9.3.3 Species at Risk: Overview of Potential Effects and Key Mitigation	"Health effects of toxins [have] not been well studied in sharks..."	We request that Suncor clarify whether health effects are not well understood, or, as the remainder of this paragraph intends to imply, they are well-understood. If effects are not understood, then for conservative purposes they cannot be dismissed.
147	Section 9.3.3 Species at Risk: Overview of	Insufficient discussion of effects to SAR	Please provide detailed discussions regarding the potential project interactions for all SAR/SOCC listed in Table 9.4.



	Potential Effects and Key Mitigation	Despite at least 6 SAR/SOCC (pending clarification of Table 9.4) interacting with the project, only wolffish and White Shark are discussed in any detail this section.	
148	Section 9.3.3 Species at Risk: Overview of Potential Effects and Key Mitigation	Swordfish, bluefin tuna, Atlantic salmon, and American eel...	While these fish species are important to Mi'gmaq peoples, they cannot be lumped into the Indigenous Peoples VC and must be assessed separately as part of the Marine Fish and Fish Habitat VC.
149	Section 9.3.4 Summary of Project Residual Environmental Effects	As discussed elsewhere, Suncor has not sufficiently characterized the magnitude, duration, or reversibility of potential project effects throughout this report. There are inconsistencies throughout and an overall lack of detail provided. Effects are hand-waved away with little evidence.	We request a fulsome revision of section 9.3 with considerably greater due diligence.
150	Section 9.4 Determination of Significance	As noted above, we consider Suncor's characterization of effects to be inadequate, which snowballs to the determination of significance. Additionally, Suncor has demonstrated no consideration of Indigenous rights, values, and interests in their determination of significance.	We request a fulsome revision of section 9.4 following from the revision of section 9.3."
151	Section 9.5 Prediction Confidence	Suncor has highlighted the considerable degree of uncertainty associated with their own effects assessment, and then states they have a moderate level of confidence in the predictions - this is unacceptable. They have provided few details and based their assessment largely on generalizations.  The level of uncertainty associated with the assessment, and the level of information provided within this and other project documents, is entirely insufficient for us to accept this assessment.	Please revise this document for a more fulsome evaluation of project effects.



152	Section 9.6 Follow-up and Monitoring	This section is completely unacceptable, lacking any details or discussion of monitoring during Project activities to ensure the predictions are accurate. Given that Suncor was only "moderate[ly]" confident in their predictions, and we are less confident, monitoring during all project activities must occur to ensure impacts to fish and the marine environment are minimized.	Please update Section 9.6 to include substantive details regarding monitoring during project activities and evaluating the accuracies of predictions.
153	Section 9.6 Follow-up and Monitoring	Follow-up monitoring, pre-drilling surveys, and provision of results	Throughout this assessment, Suncor has failed to demonstrate a commitment to environmental responsibility. Thus, we request that:  (1) at least one member be present for the surveys, and (2) that the results must be provided to MTI for review and comment prior to posting on the internet.
154	Section 9.7 Summary of Commitments	Provision of pre-drilling survey plan	We request that a detailed plan for the pre-drilling survey be provided for review and comment at least 60 days prior to the survey commencing.
155	Section 9.7 Summary of Commitments  Discharges subheading, bullet 1	As noted above, no details regarding how "technically feasible" is decided are provided by Suncor. we consider the use of SBM to be unacceptable, and Suncor has not provided sufficient evidence to rule out the use of WBM.	(1) We request additional details regarding how "technical feasibility" will be evaluated. (2) We request that this sentence be revised to "Low-toxicity WBM will be used throughout."
156	Section 9.7 Discharges subheading, final bullet	Post-drilling surveys	We request that detailed post-drilling survey methods be provided for review and comment prior to undertaking Project activities.

#### MARINE AND MIGRATORY BIRDS

157	Section 10 Assessment of Potential Effects on Marine and Migratory Birds; Section 10.1.2 Influence of	"Marine and migratory birds were chosen as a VC because of their role in pelagic and coastal ecosystems, the cultural and economic importance of subsistence and recreational hunts, predisposition to attraction to artificial lighting at night, the adverse effects of oil,	We request that Suncor undertake a thorough and fulsome update to this assessment that includes Indigenous Knowledge and recognizes the rights, values, and interests of the Mi'gmaq. MTI would like to engage in follow-up programs for marine birds considered culturally significant.
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	Consultation and Engagement on the Assessment	regulatory considerations, and requirements in the EIS Guidelines.” “Indigenous groups wanted to see monitoring and follow-up programs, including research and data collection related to impacts on Indigenous groups, marine birds.”	
158	Section 10.1.3 Potential Effects, Pathways and Measurable Parameters	As described, the EIS fails to recognize the direct/indirect changes of all species selected to forage opportunities (not just predator species) as a result of the Project. Previous sections of the EIS describe complex food web interactions in the marine biological environment and the expected short-term effects of climate change as a result.	Please update this Chapter to include the potential direct/indirect effects to all Marine and Migratory Birds selected to foraging opportunities resulting from the Project, as this may relate to changes in habitat quality or use (measurable parameter).
159	Section 10.1.4 Boundaries	The LAA, as described in the EIS for Marine and Migratory Birds, consists of the Project area and transit route, within a 10km buffer.	Please justify the 10 km buffer and rationalize how the environmental effects in this area can be predicted or measured with a reasonable degree of accuracy and confidence.
160	Section 10.1.6 Significance Definition and Section 10 (general)	“For the purposes of this effects assessment, a significant adverse residual environmental effect on marine and migratory birds is defined as a Project-related environmental effect that: <ul style="list-style-type: none"> <li>• Causes a detectable decline in abundance or change in the spatial and temporal distribution of marine and migratory birds within the overall RAA, such that natural recruitment may not re-establish the population(s) to its original level within one generation.</li> <li>• Jeopardizes the achievement of self-sustaining population objectives or recovery goals for listed (SAR) species such that the overall abundance, distribution and health of that species and its eventual recovery within the RAA is adversely affected; or,</li> <li>• Results in permanent and irreversible loss of critical habitat as defined in a recovery plan or an action strategy for a listed (SAR) species such that the overall abundance, distribution and</li> </ul>	Please provide project-specific baseline information for comparison within the LAA; and with a reasonable degree of confidence, explain how these changes will be measured.



health of that species and its eventual recovery within the RAA is adversely affected.”

Data presented for Marine and Migratory Birds cannot reliably predict habitat use, distribution or abundance of all species in the Project Area, listed in the EIS.

161	Section 10.2 Project Interactions with Marine and Migratory Birds	“A justification for no effect is provided following Table 10.3”. No justification is provided	Please clarify this section for the reader or remove redundancies associated with copy/pasting errors.
162	Section 10.3.1.2 and 10.3.2.2 Mitigation	Suncor states a commitment to develop protocols with Environment and Climate Change Canada’s Canadian Wildlife Service (ECCC-CWS), for daily searches for stranded shorebirds, requiring an annual Seabird Handling Permit. Training will be provided by Suncor. No further details regarding if the Permit will be for all associated vessels pertaining to the Project is mentioned.	Please clarify this section regarding the Seabird Handling Permit locations and expected requirements. Please confirm Suncor has an avian biologist trained in completing marine surveys on hand for training personnel at the Project. Please clarify if the commitment extends to Seabird monitoring within the Project Area during routine work, to better understand and inform the baseline marine biological environment.
163	Section 10.3.1.3.1 Presence and Operation of MODU	<p>“Experts on North Atlantic seabirds rank light pollution as the human activity with the third highest risk of negative impacts on seabirds in Atlantic Canada waters, following fisheries by-catch and oiling (Lieske et al. 2019).”</p> <p>"The effectiveness of mitigation measures on offshore platforms is unknown because of the lack of systematic searches for stranded birds and the lack of complete documentation of dead and stranded individuals (Gjerdrum et al. 2021)."</p> <p>“Overall magnitude of the effect of the presence and operation of a MODU on marine and migratory birds is anticipated to be low. There may be a slight increase in mortality / injury levels due to collisions, disorientation, and potential predation, although, based on</p>	Anticipating effects on Marine and Migratory Birds to be low in magnitude or short-term in duration with respect to MODU operation is inherently flawed due to the inherent risks identified and admitted lack of available baseline data for the Project Area/LAA. The residual effects assessment should be updated to take into account the annual “medium-term’ duration of MODU operation as discussed and re-evaluated for confidence.



		<p>previous monitoring, the mortality rate is anticipated to be low as most stranded birds encountered on platforms and vessels are found alive and released successfully.”</p> <p>Drilling activities were determined to take up to 120 days per well (therefore project lighting), which is assessed as 'medium-term' in this section but goes unmentioned and appeared to be assessed as 'short-term' in the above sections relating to lighting and mortality/injury.</p>	
164	Section 10.3.1.3.2 Geophysical (including VSP), Geological, Geotechnical and Environmental Surveys	<p>“Permanent physiological damage, i.e., hearing loss (permanent acoustic threshold shift), is unlikely to result from a VSP survey.”</p> <p>“In air, sounds from a submerged air source array are reduced to a level below that which causes injury or mortality.”</p> <p>“The various bird species that occupy the Project Area will not likely be affected by geological, geotechnical and environmental surveys due to their transitory nature and thus, their short-term presence at any one location, and because it is generally consistent with the overall marine traffic that has occurred throughout the region for years.”</p>	<p>(1) Please provide clarification whether all VSP activities will be limited to &lt;1 day and occur concurrently, or whether VSP activities lasting &lt;1 day will occur regularly throughout the Project. Based on MTI's review of earlier sections, the latter is correct.</p> <p>(2) If this is the case, the assertion that effects are short-term is entirely false as the effects will occur throughout the project. Please revise this section to more accurately reflect the behavioural effects due to VSP activities.</p> <p>(3) The effect of loud sounds on seabird hearing is poorly known. Sound levels that cause injury to marine birds have not been tested. Please cite scientific evidence for the second and third quotes to justify the validity of these statements.</p>
165	Section 10.3.1.3.3 Discharges	Discharges to water	We assert that all waste discharges should be transferred to shore for disposal due to the Project's location in a sensitive marine environment.
166	Section 10.3.1.3.4 - Well Testing and Flaring	Bird attraction to flaring activities noted within 15 km of the MODU. Flaring may result in produced water that may be discharged after treatment from the MODU (per OWTG – Suncor preferred method), and account for the	We assert that all waste discharges should be transferred to shore for disposal due to the Project's location in a sensitive marine environment.



largest volume of waste from offshore oil and gas facilities. This treated, produced water may produce an oily sheen or minor concentrations of contaminants once released from the MODU. Many species listed in the EIS are sensitive to the effects of oily sheen and contamination.

167	10.3.2.3.1 Presence and Operation of MODU	<p>Positive and negative effects identified for Marine and Migratory Birds VC.</p> <p>Expected "short-term" duration is not consistent with MODU operations lasting up to 120 days in one location. Overall magnitude and effects are anticipated to be low.</p> <p>"...one to two drilling installations operating at any one time..."</p> <p>"habitat displacement on marine-associated birds is likely to be minor due to its small footprint."</p>	<p>Anticipating effects on Marine and Migratory Birds to be low in magnitude/effects or short-term in duration with respect to MODU operation is flawed due to the inherent risks identified and admitted lack of available baseline data for the Project Area/LAA. The residual effects assessment should be updated to take into account the annual "medium-term" duration of MODU operation as discussed and re-evaluated for confidence. The impacts for both positive and negative effects for Change in Habitat Quality and Use due to presence/operation of the MODU were lumped into the same overall "adverse" direction without further justification. Please update the residual effects characterization to reflect these effects appropriately or separate them based on Direction to ensure an appropriate overall Characterization.</p>
168	10.3.2.3.3 Discharges	"...short-term in duration..."	<p>Please clarify if operating drilling installations in the RAA are coordinated between proponents or by regulating bodies to validate the first quote.</p> <p>Habitat displacement sensitivity varies by species of marine-associated bird. This region is home to internationally, continentally, and nationally significant populations of birds, and supports numerous SAR/SOCC, in addition to numerous migrants and stopovers, year-round. Dismissing overall impacts with respect to displacement of bird species as "minor" with respect to the Project is not adequate, especially considering culturally significant species important to MTI.</p> <p>Discharges from MODU operation (up to 120 days) are anticipated to occur during the medium-term</p>



duration as defined in the EIS for Marine and Migratory Birds. Please update the EIS to reflect the residual effect duration and re-evaluate for confidence. We assert that all waste discharges should be transferred to shore for disposal due to the Project's location in a sensitive marine environment.

169	10.3.3 Species at Risk: Overview of Potential Effects and Key Mitigations	Suncor states there is a low potential for SAR or SOCC to interact with the Project due to these species' low densities in the Project Area, LAA, and RAA (except Leach's storm-petrel and black-legged kittiwake). Methods described in Section 6.2.1 indicate limited survey coverage in the southern portion of the Project Area (April to July and August to November), and a vast majority of published information and literature gathered to describe SAR is nearly 20 years old.	Using data that are almost 20 years old to characterize the SAR and SOCC in the Project area is not ideal. Updated baseline for these sensitive species is required for characterizing effects, and identified as scientific and research objectives of many species' Action Plans
170	10.3.4 Summary of Project Residual Environmental Effects and Table 10.5	Geological, Geotechnical and Environmental Surveys are not assessed in residual environmental effects characterization for either change in risk of mortality/physical injury and Change in Habitat Quality and Use. As Suncor has stated as part of the mitigations for Marine and Migratory Birds VC, follow-up surveys and monitoring are proposed for operations.	Please revisit the surveys assessment in this Chapter for both measurable parameters, justify and characterize the residual environmental effects for each, as the proposed mitigation surveys will occur throughout the lifespan of the Project and be used to quantify measurable changes.

**MARINE MAMMALS AND SEA TURTLES**

171	<p>Section 11 Assessment of Potential Effects on Marine Mammals and Sea Turtles;</p> <p>Section 11.1.2 Influence of Consultation and Engagement on the Assessment</p>	<p>"Marine Mammals and Sea Turtles was selected as a VC in recognition of the important habitat for these species in NL waters, their potential vulnerability to effects from Project components and activities (particularly underwater sound emissions), and the cultural and recreational value they hold for Indigenous groups and the general public."</p> <p>"Several Indigenous communities indicated concerns about potential Project-related effects on marine mammals in particular SARA-</p>	<p>We request that Suncor undertake a thorough and fulsome update to this assessment that includes Indigenous Knowledge and recognizes the rights, values, and interests of the Mi'gmaq. MTI would like to engage in follow-up programs for marine mammals and sea turtles that are considered culturally significant.</p>
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listed species including the blue and North Atlantic right whales. Sea turtles and marine mammals are among the culturally important species of concern to Indigenous groups.”

172	Section 11.1.4 Boundaries	<p>“Local Assessment Area (LAA): The LAA (Figure 11-1) is the maximum area within which environmental effects from routine Project activities and components can be predicted or measured with a reasonable degree of accuracy and confidence. It consists of the Project Area and adjacent areas where Project-related environmental effects are reasonably expected to occur based on available information, including effects thresholds, predictive modelling, and professional judgment. The LAA also includes transit routes (vessel and aircraft) to and from the Project Area. The main Project-related environmental interactions that potentially affect marine mammals and sea turtles and their prey include underwater sound that will be generated by the MODU, supply vessels, and VSP surveys. The LAA for marine mammals and sea turtles is based on modelling results for distances to sound threshold criteria for behavioural change as well as scientific literature and is defined as a <i>conservative 50-km buffer around the Project Area</i> to encompass the maximum threshold distances for all activities. The LAA <i>also includes a 10 km area around the associated vessel and aircraft traffic route to the Project Area.</i>”</p>	<p>Please justify the 10 km and 50 km buffers for the associated LAA and rationalize how the environmental effects in this area can be predicted or measured with a reasonable degree of accuracy and confidence with limited project-specific baseline data.</p>
173	Section 11.1.6 Significance Definition	<p>The thresholds established by Suncor to identify significant adverse residual environmental effects include: jeopardizing achievement of self-sustaining population objectives and recovery goals for listed species, resulting in permanent and irreversible loss of critical habitat, or causes a detectable decline in abundance or change in spatial/temporal</p>	<p>Please provide further information into the significance definition and clarify species-specific mitigations for Marine Mammals and Sea Turtles VC for species that are vulnerable to detectable declines. Please provide further information on what Project Activities will be modified with expected upcoming critical habitat designations within the Project timeframe.</p>



distribution within the RAA (such that recruitment may not re-establish populations to original level within one generation).

The populations for several SAR/SOCC under the Marine Mammals and Sea Turtles VC are such that a single Project-related mortality/injury may cause detectable declines within the RAA (e.g., blue whale, North Atlantic right whale), and therefore jeopardize objectives for the select listed species. In addition, Suncor iterated that upcoming critical habitat designations for leatherback sea turtle within the RAA are expected within the Project timeframe.

174	Section 11.2 Project Interactions with Marine Mammals and Sea Turtles	<p>No effects are expected for well testing/flaring activities. Habitat quality and use are expected to change only for discharges and well decommissioning, suspension and abandonment activities.</p> <p>As previously mentioned, well testing/flaring may result in produced water that may be discharged after treatment from the MODU (per OWTG – Suncor preferred method), and account for the largest volume of waste from offshore oil and gas facilities. This treated, produced water may produce an oily sheen or minor concentrations of contaminants once released from the MODU. Many species listed in the EIS are sensitive to the effects of oily sheen and contamination.</p> <p>Well decommissioning, suspension and abandonment activities are not yet defined, and may still pose a mortality or injury risk to the Marine Mammals and Sea Turtles VC.</p>	<p>We assert that all waste discharges should be transferred to shore for disposal due to the Project's location in a sensitive marine environment.</p> <p>Please update this chapter using a more conservative approach to the assessment, that would account for potential mortality or injury risk to these species from activities that are still in the process of being defined and planned.</p>
175	Section 11.3 Assessment of Residual Environmental Effects on Marine	<p>“...the EIS incorporates information from recent EA documents for exploration drilling projects by EMCP (2017), Statoil (2017), BP (2018), Chevron (2020), and BHP (2020) in the Flemish Pass and Orphan basins, including comments</p>	<p>Please revise this chapter to include project-specific information, including Indigenous and stakeholder comments.</p>



Mammals and Sea Turtles

received during Indigenous and stakeholder review processes, with updates incorporated as applicable.” No project-specific baseline information was compiled, including Indigenous and stakeholder comments.

176

Section 11.3.1.3  
Characterization of Residual Project-Related Environmental Effects

“Thus, the avoidance responses of the animals themselves will reduce the possibility of hearing impairment.”  
“Overall, the risk for marine mammals and sea turtles incurring hearing impairment (injury) is considered low. This risk is even lower for SAR given the rare occurrence of these species, with the exception of fin whales (Schedule 1, special concern), which are common in the Project Area (PA)”  
US National Marine Fisheries Service guidance for PTS/TTS thresholds for Marine Mammals and Sea Turtles VC are only a small part of a suite of elements collectively applied to characterize the full range of impacts of noise on marine mammals; however, there are substantive differences in the legal definitions to which these thresholds may be applied. Similar generalized PTS/TTS thresholds in Canada are under development (Ocean Noise Strategy).

Anticipating avoidance responses in Marine Mammals and Sea Turtles due to lighting and sound are not well understood. Baleen whales are known to be more vulnerable to collisions with vessels than odontocetes and pinnipeds. All species of mysticetes that may occur in the Project Area have been reported as being struck by ships. Please rephrase the effects assessment to include scientific justification for avoidance responses proposed, and similarly reduce the confidence associated with the assessment due to documented lack of data.

As the assessment takes a conservative approach, please clarify if updated Canadian criteria will be used once available (anticipated within the Project timeframe). If so, please clarify if any substantive differences are demonstrated between Canadian (once available) and US criteria will be retroactively corrected during the lifespan of the project through mitigative actions or plans.

177

Section 11.3.2.3  
Characterization of Residual Project-Related Environmental Effects

“Behavioural responses of marine mammals to sound are difficult to predict and depend on species, state of maturity, experience, current activity, reproductive state, time of day, and numerous other factors. if a sound source displaces marine mammals from an important feeding or breeding area for an extended period of time, impacts on individuals and populations could be serious.”  
“... marine mammal behavioural reactions to sound are difficult to predict in the absence of site- and context-specific data, and numerous

Based on the uncertainty associated with knowledge and information gaps for the Marine Mammal and Sea Turtle VC, please clarify how the residual effects characterization for behavioural changes (habitat quality and use) as a result of the Project justifies an overall determination of moderate confidence.



data gaps remain regarding the consequences of those responses...”

178	<p>Section 11.3. Species at Risk: Overview of Potential Effects and Key Mitigations</p> <p>Table 11.5 - Marine Mammal and Sea Turtle Species at Risk and of Conservation Concern with Potential to Occur in the Project Area and RAA and Potential to Interact with Project Activities</p>	<p>Suncor lists the SAR/SOCC based on season most likely to be encountered within the PA and RAA.</p> <p>One of the footnotes reads: “Recent genetic analyses of northern bottlenose whale tissues collected near the Project Area suggest that this region may be an area of mixing between the two known populations (i.e., Scotian Shelf and Davis Strait-Baffin Bay-Labrador Sea), and other unknown populations, or possibly represent a new population (Feyrer et al. 2019).” This was not discussed in the EIS.</p>	<p>Seasons (if specified) should be inclusive of targeted months that species are likely to occur near, and/or interact with, the Project; which would also be more consistent (e.g., sea turtles).</p> <p>Please provide further information regarding the potential new population of northern bottlenose whales near the project area. Discovering a new SAR population, let alone near the Project Area, is significant and should be reviewed thoroughly for an effective assessment.</p>
179	<p>Section 11.3.4 Summary of Project Residual Environmental Effects</p>	<p>Suncor stated mitigation measures including requiring supply vessels to reduce speed to a maximum of seven knots when a marine mammal or sea turtle is observed or reported within 400m of the supply vessel.</p>	<p>Please confirm if a qualified observer will be dedicated to supply vessels and/or MODU to monitor marine mammals and sea turtles to fulfill this commitment.</p>
180	<p>Section 11.4 Determination of Significance</p>	<p>“With mitigation and environmental protection measures, the residual environmental effects on marine mammals and sea turtles (including SAR) are predicted to be not significant”</p>	<p>With the uncertainties and high levels of variability documented for marine mammal and sea turtle responses in the baseline, please clarify how a prediction of residual effects is “not significant” with moderate confidence.</p>
181	<p>Section 11.5 Prediction Confidence</p>	<p>Suncor has highlighted the considerable degree of uncertainty associated with their own effects assessment, and then states they have a moderate level of confidence in the predictions. They have provided few details and based their assessment largely on generalizations. The level of uncertainty associated with the assessment,</p>	<p>Please revise this document for a more fulsome evaluation of project effects.</p>



and the level of information provided within this, and other project documents is insufficient.

182	Section 11.6 Environmental Monitoring and Monitoring	We acknowledge Suncor’s willingness to implement a Marine Mammal and Sea Turtle Monitoring Program during VSP surveys and undergo shutdown and ramp-up procedures to mitigate potential impacts to the Marine Mammals and Sea Turtles VC.	It is recommended, due to significant lack of baseline data available in the Project Area and LAA for these species, further project-specific data collection is pursued at a minimum of one year in advance of mobilization activities to ensure all species in the VC are adequately assessed during their active season to inform the development of the Monitoring Program (during VSP surveys) and shutdown/ramp-up procedures. MTI would like to participate in developing the Monitoring Program for Marine Mammals and Sea Turtles, as several species are considered culturally significant.
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SPECIAL AREAS

183	Section 12.4.1.1 Mitigation  General Comment	We appreciate the outlined mitigation measures for each physical activity proposed within special areas. However, mitigations were not provided for Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys. As outlined in the CEAA 2012, “The EIS will then describe mitigation measures that are specific to each environmental effect identified.” These physical activities were identified by Suncor as creating a change in habitat quality.	Section 12.4.1.1 must be revised to include mitigation measures for Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys.
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184	Section 12.4.1.1 Mitigation - Presence and Operation of a MODU	While we appreciate that Suncor will check for the presence of sensitive environmental features prior to drilling, it is unclear what Suncor will be doing if sensitive environmental features are present. As outlined in the CEAA 2012, “Mitigation measures will be written as specific commitments that clearly describe how Suncor intends to implement them and the environmental outcome the mitigation measure is designed to address.” Suncor does not indicate the outcome if sensitive environmental areas are present during seabed surveys.	Suncor must revise this section “Presence and Operation of a MODU’ within 12.4.1.1 to include what specific mitigation actions will be taken if sensitive environmental features are confirmed to be present during pre-drilling seabed surveys. We expect Suncor to address this with criteria set forth by the CEAA 2012, where “Measures will be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.”
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185	Section 12.4.1.1 Mitigation - Discharges	Suncor states: "Where feasible, muds and cements will be chosen for lower toxicity, biodegradability, and environmentally friendly properties." It is unclear what is meant by "feasible." It is unclear what Suncor will do if it is not "feasible" to acquire products that have a low toxicity and are environmentally friendly.	Please indicate what determines the "feasibility" of acquiring muds, cements, and drilling fluids that are lower in toxicity, less hazardous and more environmentally friendly. Please indicate what Suncor will do if it is not feasible to acquire these products.
186	Section 12.4.1.1 Mitigation - Discharges	Suncor states: "Food waste generated on the MODU and supply vessels will be disposed according to OWTG and MARPOL requirements. Kitchen waste will be macerated in accordance with MARPOL and the OWTG. No macerated food waste will be discharged within three nautical miles (nm) of land." We are concerned with the discharge of food wastes into the ocean and the potential impact it may have on aquatic species. Food discharge may be an attractant to aquatic species, attracting them closer to the Project area and putting them at higher risk of harm.	We request that Suncor develop an appropriate plan to transport all waste to an appropriate waste management facility for disposal.
187	Section 12.4.1.1 Mitigation - Well Decommissioning, Suspension and Abandonment	Suncor states: "Well decommissioning, suspension and abandonment will be conducted in accordance with Suncor's Well Integrity Standard, as well as applicable industry practice and in compliance with relevant regulatory requirements." This is the only mitigation measure outlined in this section and does not meet the standards outlined in CEAA 2012 regarding mitigation measures. The CEAA 2012 states: "Mitigation measures will be written as specific commitments that clearly describe how Suncor intends to implement them and the environmental outcome the mitigation measure is designed to address."	Section 12.4.1.1 Well Decommissioning, Suspension and Abandonment must be revised to provide detailed mitigation measures that describes exactly how Suncor will implement them, and the environmental outcome the mitigation measure addresses.
188	Section 12.4.1.2 Characterization of Residual Project- related Environmental	Throughout the entirety of this section, including subsections Presence and Operation of a MODU, Geophysical (including VSP), Geological, Geotechnical and Environmental Surveys, Discharges, Well Decommissioning,	Within section 12.4.1.2 and its subsections, please update statements such as "With the implementation of appropriate mitigation measures..." or similar to include a reference to the specific mitigation measure that is proposed to be used.



Effects – General Comment

Suspension and Abandonment, and Supply and Servicing, Suncor repeatedly states: “With the implementation of appropriate mitigation measures...” or “with the application of mitigation measures...”. It is unclear what mitigation measures Suncor is referring to; either the mitigation measures outline in Section 12.4.1.1 or the measures outlined in Chapter 9 section 9.3.2.

189	Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects – General Comment	Throughout the entirety of this section, including subsections Presence and Operation of a MODU, Geophysical (including VSP), Geological, Geotechnical and Environmental Surveys, Discharges, Well Decommissioning, Suspension and Abandonment, and Supply and Servicing, it is not clear how Suncor concluded the significance of residual effects. For example, the Suncor states: “With the implementation of appropriate mitigation measures, the overall magnitude of effects of the presence and operation of a drilling installation on marine fish and fish habitat are anticipated to be low”. Suncor does not demonstrate a clear connection between the mitigation measures that will be implemented and how they will result in the significance of the respective environmental effect.	Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects must be revised to demonstrate how the implementation of mitigation measures will result in the significance of the characterized residual effect for the respective project activity.
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190	Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects – Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys	Suncor states: “ <b>Most</b> of these planned and potential marine survey activities <b>will not result in physical contact with the seabed</b> and will therefore not directly interact with or disturb benthic animals or their habitats.” However, further in this section Suncor states: “Geological and geotechnical surveys <b>may involve collecting seabed samples</b> .” It is unclear if Suncor will or will not be collecting seabed samples and physically contacting the seabed. In the event that seabed samples must be taken, Suncor does not outline mitigation measures to	Suncor must revise this section to clarify if and when seabed sampling will occur. Suncor must also incorporate outlined mitigation measures to demonstrate how they will result in the proposed activities to have a low environmental effect.
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reduce the potential impact to the seabed and benthic organisms.

In addition, Suncor states: “With the implementation of appropriate mitigation measures, the overall magnitude of effects of VSP on marine fish and fish habitat are anticipated to be low.” However, as mentioned in previous comment, Suncor does not provide mitigation measures for Geophysical (including VSP), Geological, Geotechnical, and Environmental Surveys in section 12.4.1.1.

191	Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects – Discharges	Suncor states: “Drilling mud and cuttings discharges may result in a temporary increase in suspended particulate matter and turbidity in the water column.” Although Suncor does indicate changes may last from minutes to days and will eventually return to background levels, they do not indicate how this may impact fish and their habitat. Suspended particulate matter and turbidity in the water column may impact the visibility of fish and predation.	Please provide more information about the potential negative impacts associated with the temporary increase in suspended particulate matter and turbidity in the water column to fish and their habitat.
192	Section 12.4.1.2 Characterization of Residual Project-related Environmental Effects – Supply and Servicing, paragraph 6	Suncor states: “The various bird species that occupy the Project Area and transit route <b>will not likely be affected by helicopter activity</b> due to its transitory nature and thus, its short-term presence at any one location, and because of mitigation measures in place.” However, at the beginning of this paragraph Suncor details the negative effects helicopters have on sea birds, specifically stating: “One of the most <b>conspicuous behavioural effects of helicopter atmospheric sound on birds</b> is flushing of breeding birds from their nests, which can have <b>immediate negative effects</b> such as predation of eggs or nestlings, and reduced time spent incubating eggs or brooding nestlings...”. These are contradicting statements provided by Suncor. Given the immediate nature of the negative effects, the short-term presence of	Suncor must clarify within this section that various bird species are at risk of being negatively impacted by helicopter activities. Suncor must make a clear connection between their proposed mitigation measures to the likelihood of the impact.





helicopters could still result in this negative effect.

193	Section 12.4.1.3 Summary of Project Residual Environmental Effects	Suncor states: “The residual environmental effects of a change in habitat quality on special areas <b>are considered reversible</b> ”. There is no indication or explanation within this chapter on how the environmental effects are considered reversible.	Suncor must provide more information, with scientific evidence, to indicate how the outlined residual environmental effects are reversible.
194	Section 12.7 Follow-up and Monitoring	Suncor states: “If sensitive environmental features are found during the pre-drill survey, a <b>follow-up program</b> will be determined in consultation with the C-NLOPB and DFO.” This is not the purpose of a follow-up program. As stated in the CEEA 2012, section 9.1 Follow-up program: “The EIS shall present a preliminary follow-up program and shall include: <ul style="list-style-type: none"><li>• objectives of the follow-up program and the VCs targeted by the program;</li><li>• list of elements requiring follow-up;</li><li>• number of follow-up studies planned as well as their main characteristics (list of parameters to be measured, planned implementation timetable, etc.);</li><li>• intervention mechanism used in the event that an unexpected deterioration of the environment is observed;</li><li>• mechanism to disseminate follow-up results among the concerned populations;</li><li>• accessibility and sharing of data for the general population;</li><li>• opportunity for Suncor to include the participation of Indigenous groups and stakeholders on the affected territory, during the development and implementation of the program; and</li><li>• involvement of local and regional organizations in the design, implementation and evaluation of the</li></ul>	Suncor must revise this section to follow the requirements as outlined in Section 9.2 Follow-up Program in the CEEA 2012.



follow-up results as well as any updates, including a communication mechanism between these organizations and Suncor.”

It is unacceptable that Suncor has not included this in their EIS.

195

Section 12.7  
Follow-up and  
Monitoring

Suncor does not discuss any monitoring programs within Chapter 12 and section 12.7. As required by the CEAA 2012: “The proponent will prepare an environmental monitoring program for all phases of the project. Specifically, the EIS shall present an outline of the preliminary environmental monitoring program, including the:

- identification of the interventions that pose risks to one or more of the environmental and/or VCs and the measures and means planned to protect the environment;
- identification of regulatory instruments that include a monitoring program requirement for the VCs;
- description of the characteristics of the monitoring program where foreseeable (e.g., location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, human and financial resources required);
- description of the proponent’s intervention mechanisms in the event of the observation of non-compliance with the legal and environmental requirements or with the obligations imposed on contractors by the environmental provisions of their contracts;
- guidelines for preparing monitoring reports (number, content, frequency,

Suncor must revise this section to follow the requirements as outlined in Section 9.3 Monitoring in the CEAA 2012. MTI must be engaged with to create and complete monitoring.



- format) that will be sent to the authorities concerned; and
- plans to engage Indigenous groups in monitoring, where appropriate”.

It is unacceptable that Suncor has not included monitoring in this section.

## INDIGENOUS PEOPLES

196

Section 13  
General

Section 7.1.8 of the EIS Guidelines for the Project state that the proponent is required to “gather and document baseline information in the EIS for each Indigenous group identified in Part 2, Section 5 of these guidelines” which are subsequently required to “describe and characterize the elements in paragraph 5(1)(c) of CEAA 2012” and “be sufficient to provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples.” Later in the EIS Guidelines, Section 7.3.7 states that the Proponent’s assessment of predicted effects of the Project on Indigenous peoples must include “a description and analysis, for each Indigenous group, of how changes to the environment caused by the Project will affect the health and socio-economic conditions, physical cultural heritage including any structure, site or thing of historical, archaeological or paleontological importance, and current use of lands and resources for traditional purposes.”

MTI notes that throughout Section 13, Suncor has presented generalized information about baseline conditions and potential effects for Indigenous groups in general, which does not support the accurate, informed assessment of effects of the Project on each rights holding First Nation which the Minister requires to come to a conclusion on the EA and does not

Section 13 must be revised to include a characterization of baseline conditions and assessment of effects for each Indigenous group identified in Part 2, Section 5 of the EIS Guidelines, including the eight Mi’gmaq First Nations represented by MTI. The revised contents must include a sufficient level of detail to provide a comprehensive characterization of baseline conditions as required by the EIS Guidelines (p. 28), including:

- Location of Mi’gmaq territory (including maps where available)
- Location of reserves and communities
- Commercial and rights-based fishing activity within the project’s potential zone of influence, including licences and maps
- Fish, wildlife, birds, plants or other natural resources and their habitats of importance for cultural use
- Places where fish, wildlife, birds, plants or other natural resources are harvested, including places that are preferred
- Access and travel routes for conducting cultural practices
- Frequency, duration and timing of cultural practices
- Cultural values associated with the area affected by the project and cultural uses identified
- Other current uses identified by Indigenous groups, and any other baseline information



		<p>fulfill the requirements of the EIS Guidelines noted above. It is also MTI's position that information presented elsewhere in the EIS, for example in Section 7, should not be considered sufficient to fulfill the detailed requirements of specific aspects of baseline information that must be considered which are set out on p. 28 of the EIS Guidelines.</p>	<p>that supports the analysis of predicted effects on Indigenous groups</p> <p>MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the project on MTI's rights that fulfills these requirements of the EIS Guidelines.</p>
197	Section 13 General	<p>Section 13 includes several generalized statements about the interests of Indigenous groups, including: "several migratory species have been identified as being culturally or commercially significant to the Indigenous communities, including Atlantic salmon, Atlantic eel, Atlantic bluefin tuna, swordfish, blue whale, North Atlantic right whale" (p. 13-2) and, "to date, no Indigenous community has indicated that they actively fish in the Project Area or LAA" (p. 13-3).</p> <p>MTI notes that wholly insufficient consultation and engagement has taken place with MTI for these conclusions to be considered accurate, and that the information provided throughout this section of the draft EIS should not be considered representative of MTI's rights and interests related to the Project.</p>	<p>MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment. The study will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the project on MTI's rights. The EIS should be amended to incorporate the results of MTI's IKLUOS and Impact Assessment, and MTI should be provided an opportunity to validate the incorporation of results prior to Suncor submitting the EIS to CEAA.</p>
198	Section 13 General	<p>Section 13.12 states that the information related to Indigenous peoples presented in this section of the draft EIS, including key issues, concerns and potential effects have been informed by consultation that occurred through Suncor directly, "or through EA processes involving other projects and proponents" (p. 13-2). The proponent also states that "Indigenous groups shared with Suncor that they have the same concerns generally about all of the</p>	<p>Section 13 must be revised to include the results of consultation and engagement completed by the proponent for this specific Project, and that clearly delineates where Suncor's own consultation and engagement has been used to support information and conclusions presented in the EIS, and where conclusions have been based on consultation and engagement completed by other proponents for other projects.</p> <p>MTI requires that Suncor work with MTI to develop a Consultation Agreement for a meaningful</p>



proposed offshore exploration drilling projects” (p. 13-3).

While there may be some overlapping concerns for some Indigenous communities that apply to other offshore exploration drilling projects, it is MTI’s position that the proponent’s reliance on engagement completed for other projects to identify key issues and concerns and other information related to its own Project is not appropriate and does not accurately characterize the Project’s interactions with MTI or other Indigenous communities. The Project’s location, scope and timing are unique and therefore while there may be similarities, the Project’s interaction with the environment and with the rights of Indigenous peoples will be unique and must be the subject of consultation and engagement completed specific to the Project. To date, such engagement specific to this Project with MTI has been insufficient and therefore the statement that concerns raised by MTI for other offshore exploration drilling projects can be considered representative of our concerns for this Project is not accurate.

engagement approach for engagement activities throughout each step outlined by the EIS Guidelines prior to any further consultation activities taking place. The agreement should include mutually acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. This agreement will provide the framework for addressing the issues outlined above.

199

Section 13.1.3  
Potential Effects,  
Pathways, and  
Measurable  
Parameters

Section 13.1.3 of the draft EIS states “to date, no Indigenous community has indicated that they actively fish in the Project Area or LAA, although this does not mean they will not do so in the future” (p. 13-3).

As identified in previous issues raised, Suncor has not adequately consulted and engaged with impacted Indigenous communities to collect the necessary information required to assess interactions between planned Project activities and commercial fishing activity, including communal-commercial fishing by Indigenous groups in or near the Project Area or LAA. This statement should therefore not be considered to be supported by sufficient evidence.

MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment. The study will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the project on commercial fishing activity, including communal-commercial fishing in or near the Project Area or LAA. The EIS should be amended to incorporate the results of MTI’s IKLUOS and Impact Assessment and should also include a more detailed consideration of MTI’s potential future desired uses of the Project Area or LAA the Project may disrupt, rather than an open-ended statement about their unknown possibility. MTI should be provided an



200	Section 13.1.3 Potential Effects, Pathways, and Measurable Parameters	Table 13.1 sets out Potential Effects, Effect Pathways and corresponding Measurable parameters. MTI notes that these features of Suncor’s effects assessment were identified without adequate consultation and engagement with MTI and should not be considered a comprehensive representation of potential effects, effect pathways and measurable parameters appropriate to assess the Project’s effects on MTI’s rights.	opportunity to validate the incorporation of results prior to Suncor submitting the EIS to CEAA.  The determination of potential environmental effects, effect pathways and measurable parameters must be the subject of further engagement with MTI. We require that Suncor work with MTI to develop a Consultation Agreement for a meaningful engagement approach that will include the co-development of such features of the EIS. The agreement should include mutually acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. This agreement will provide the framework for addressing the issues outlined above.
201	Section 13.1.4.1 Spatial Boundaries	Section 13.1.4.1 describes the spatial boundaries of the assessment areas used for this VC, which are intended to reflect “the varying ways and scales in which Project related activities may Indigenous peoples” (p. 13-4). MTI notes that Section 3.2.3 of the EIS Guidelines requires spatial boundaries to be defined taking into account “community knowledge and Aboriginal traditional knowledge, current or traditional land and resource use by Indigenous groups, ecological, technical, social and cultural considerations.” The spatial boundaries presented in Section 13.1.4.1 were identified without adequate consultation and engagement with MTI and without the adequate incorporation of our Indigenous Knowledge and should therefore not yet be considered to accurately reflect the varying ways the Project-related activities may affect MTI’s rights and interests.	The determination of spatial boundaries of the assessment areas for this VC must be the subject of further engagement with MTI. We require that Suncor work with MTI to develop a Consultation Agreement for a meaningful engagement approach that will include the co-development of such features of the EIS. The agreement should include mutually acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. This agreement will provide the framework for addressing the issues outlined above.
202	Section 13.1.6 Significance Definition	Section 13.1.6 of the draft EIS sets out the thresholds established to define a significant adverse residual environmental effect on Indigenous Peoples, which includes:	The determination of significance criteria must be the subject of further engagement with MTI. MTI requires that Suncor work with MTI to develop a Consultation Agreement for a meaningful engagement approach that will include the co-



- Loss of access to areas relied upon for cultural use practices, or the loss of cultural use areas within a large portion of the LAA and RAA for a season.
- Adverse effects on socio-economic conditions of affected Indigenous communities, such that there are associated detectable and sustained decreases in the quality of life of a community.
- A decrease in the established employment and business activity in commercial-communal fisheries (e.g., due to changes in fish mortality and/or dispersion of stocks) such that there is a detectable adverse effect on the economy of the affected Indigenous community.
- A reduction in the quality of ambient air, water, fish, wildlife, or other resources at concentrations predicted to result in unacceptable human health risks, with an associated detectable increase in the incidence of health issues.
- Unmitigated damage to fishing gear.

development of such features of the EIS. The agreement should include mutually acceptable protocols, plans and timelines, as well as the overall objectives and scope of engagement activities. This agreement will provide the framework for addressing the issues outlined above.

We note that Section 4.2.2 of the EIS Guidelines requires that the proponent to collaboratively integrate Indigenous Knowledge into all aspects of its assessment, including the definition of significance criteria.

The significance criteria presented in Section 13.1.6 were identified without adequate consultation and engagement with MTI and without the adequate incorporation of our Indigenous Knowledge, and should therefore not be considered representative of what



		constitutes a significant adverse residual environmental effect on our rights, and should not be considered to fulfill the requirements of the EIS Guidelines	
203	Section 13.3.2 Change in Commercial- Communal Fisheries	<p>Section 7.3.7 states that as a requirement of the proponent' assessment of the Project's effects on Current Use of Lands for Traditional Purposes must include the Project's interactions with "experience by Indigenous Peoples, including changes that affect the spiritual and cultural experiences of the activity or practice, as well as sense of place and well-being, and the applicability and transmission of Indigenous knowledge, laws, customs and traditions."</p> <p>We note that Suncor's presentation of Project Pathways in Section 13.3.2.1 and Section 13.3.3.1 only include a consideration of the interaction of the Project's physical activities and infrastructure with Commercial-Communal Fisheries and Current Use of Lands and Resources for Traditional Purposes, and do not consider these important, but perhaps less tangible interactions between the Project and MTI's rights.</p>	<p>Section 13 must be revised to include a consideration of the Project's interactions with MTI's spiritual and cultural experiences of commercial-communal fisheries and cultural use of lands and resources, the sense of place and well-being and the applicability and transmission of Indigenous knowledge, laws, customs and traditions.</p> <p>MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment. The study will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the project on commercial fishing activity, including these features of Suncor's effects assessment required in the EIS Guidelines. MTI should be provided an opportunity to validate the incorporation of results prior to Suncor submitting the EIS to CEEA.</p>
204	Section 13.3.2.2 Mitigation	<p>In Section 13.3.2.2, a proposed mitigation measures to help avoid or reduce potential environmental effects on Indigenous Peoples, Suncor proposes to "continue to engage with Indigenous communities to share Project details and facilitate information sharing...through the development and implementation of a Fisheries Communication Plan."</p> <p>Updates and notifications through the proposed Communities Fisheries Communication Plan are positive as this demonstrates a basic form of community</p>	<p>Suncor must be required to provide a commitment to implementing an Indigenous advisory committee and Indigenous Guardian program whereby Indigenous communities, including MTI can be involved in monitoring oversight in addition to emergency response readiness. Such a commitment must include provisions for training and capacity funding.</p>





outreach through information sharing. However, this is not enough. Updates and notifications are reflective of an intention for one-way communication however does not indicate a commitment for meaningful involvement through processes and systems that engage an “information in” approach that meaningfully incorporates Indigenous knowledge and experience.

## COMMERCIAL FISHERIES AND OTHER OCEAN USERS

205	Section 14.1.3 Potential Effects, Pathways and Measurable Parameters	While the potential environmental effect used to consider potential effects “Change in availability of or access to resources” is very broad, the specific measurable parameters are exceedingly narrow. This is especially true for potential impacts to commercial and rights-based fishers.	<p>We believe in order to appropriately assess the “change in availability of or access to resources,” Suncor must also provide additional consideration to factors including but not limited to:</p> <ul style="list-style-type: none"> <li>• Timing of arrival for fish in commercial harvest areas</li> <li>• Fish health as measured by: (a) relative number of tumours, lesions, and malformities per capita, AND (b) contaminant body burden for parameters including metals, and hydrocarbons</li> <li>• Perceived quality of fish and fish habitat as measured by amount of local fish consumed</li> <li>• Modification of behaviour by regional Indigenous land/water users with respect to harvest, intergenerational knowledge transfer, and use within the RAA.</li> </ul>
206	Section 14.1.4.1 Spatial Boundaries	We recognize Suncor’s attempt to ensure a broad geographic area is included within the RAA, however, we don’t think the RAA is broadly enough defined. The main concern we raise is that migratory species such as salmon and other fish species, sea turtles, cetaceans, and sea birds, may traverse through the project area thereby interacting with the project and its activities, but then are not harvested until they are well outside the RAA. Using salmon as an example, which are known to travel as smolts (juveniles) from rivers and tributaries draining into the Atlantic waters, eastward past Grand	To ensure these potential impacts are appropriately assessed and considered, we request that Suncor complete a robust assessment of impact to commercial fisheries and other ocean users, including those engaging in rights-based harvest or use that includes the nearshore and connected inland waters off the coast of Nova Scotia, New Brunswick, Quebec, and Prince Edward Island, in addition to those outlined by Suncor.



Bank to the Flemish Cap area, then northward towards Greenland. Salmon from the Maritime provinces including New Brunswick, may stay at sea for multiple years before returning via the waters off the eastern coast of Newfoundland to their home waters to spawn (Library of Parliament, 2016). As a result, salmon found off the coast and in connected inland waters of New Brunswick may pass through the project area at least twice during their life cycle. As a result, both direct and indirect effects of this project may be observed on commercial and rights-based fishing throughout the Maritime coastline.

207	Section 14.1.6 Significance Determination	We agree that one of the key factors in determining significance as it relates to commercial fisheries and other ocean users is “local fishers being displaced or unable to use substantial portions of the currently fished area for all or most of a fishing season”. However, where we find the assessment lacking is in being able to consider behavioural modification as a result of the project. As currently assessed, only direct factors impacting a fishing area, such as change in access, loss of fish catch, and mortality of commercially important species are considered. However, displacement and changes in use must consider those driven by behavioural modifications, including aversion of use do to real and/or perceived impacts to an area or resource – which is especially the case of rights-based harvest.	We request that as part of the significance determination, changes in use of an area stemming from project activities or unmitigated effects be included as a factor which determines significant adverse residual environmental effects.
208	Section 14.3.1.3.1 Presence and Operation of a MODU	Suncor conclude that the impacts of an exclusion zone around the MODU on commercial fisheries will be low in magnitude due to the lack of commercial fishing that currently takes place within the Project Area/LAA. This does not consider the fishing rights and licencing that is held, which does	We find this approach inappropriate as it overlooks the potential for future use. Rather we view the Presence and Operation of the MODU to have moderate to significant effects through the project life as it will serve both as a physical limit to access, as well as a psychological barrier to use throughout the Project Area/LAA, and therefore potentially greatly



permit fishing within the Project Area/LAA. Therefore, rather than considering future effects, Suncor limits their assessment of potential effects to a static existing environment.

limiting on the ability for rights-holder to access and use this area.

209

Chapter 14.1.5  
Residual Effects  
Characterization

In consideration of what constitutes the magnitude and reversibility of an effect, consideration must be given to what the ultimate impact will be. So, while there is a focus on understanding the magnitude and reversibility of an effect on the physical environment, this analysis fails to consider the impacts on the human environment. Within the Guidelines for the Preparation of the EIS, Suncor was required to consider: “This assessment of impacts to human health will assess effects of changes to the environment on Indigenous Peoples’ socio-economic conditions, including, but not limited to:

- the use of navigable waters (including any water used for Indigenous transport)
- commercial fishing, hunting, and trapping activities
- commercial outfitters
- recreational use
- food security
- income inequity
- changes at the community level that affect socio-economic conditions for Indigenous P
- eoples as result of increased population, economic activity, cost of living, among other factors
- non-commercial / trade economy”

Therefore, factor such as loss of income and/or livelihood as a result of effects that impact commercial fisheries or other ocean users must be considered as part of the magnitude and reversibility assessment. For further clarity, the loss of a single season may result in significant financial hardship to a commercial fisher, which may not be recoverable over a short period of time. Therefore, Suncor must consider these as essential factors when considering the effects.

210

Section 14.5  
Prediction  
Confidence

Suncor states that they have a high level of confidence in predictions based on the current knowledge of the offshore environment and interactions between oil and gas and other

We request that Suncor provide an outline of how it will work with Commercial Fishers, other ocean users, and Indigenous communities to develop this communication plan. This plan should include a



industries offshore (including existing One Ocean protocols and the to be developed Fisheries Communication Plan). As the Fisheries Communication Plan is identified as a key mitigation measure in ensuring effective communication about potential hazards and effects, we are concerned by the level of reliance placed on this as yet incomplete document.

framework outlining overall goals and objectives of the plan, a proposed work plan for engagement with external parties, capacity support, and ongoing commitments to ensure effective communication through implementation. Until Suncor is able to provide a draft plan discussing specific measures for communication with commercial fisheries and other ocean users (including Indigenous communities), we are unable to support Suncor’s assertion about the effectiveness of mitigations and confidence in predictions.

211	Section 14.6 Follow-up and Monitoring	Suncor states: “given the high level of confidence of a prediction of no significant adverse environmental effects on commercial fisheries and other ocean users, and the implementation of standard mitigation...no follow-up and monitoring are proposed for routine Project activities”. We do not concur with this statement and are concerned that residual effects will not be detected as a result of a lack of monitoring program rather than a lack of effects.	We request that Suncor outline an adaptive management framework for the detection and response to adverse effects that may arise from Project activities.
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CUMULATIVE EFFECTS

212	Section 15 Cumulative Effects – General Comment	Throughout section 15 Cumulative Effects regarding residual cumulative effects impacts, Suncor repeatedly states: “With the implementation of mitigation measures, as well as <b>other mitigation measures being implemented by other proponents...</b> ” when determining the respective environmental effect will have little or no impact. We do not agree with the statement “...as well as other mitigation measures being implemented by other proponents...”. Suncor cannot assume other proponents within the surrounding Project area will implement mitigation measures, especially if Suncor is not aware of what these exact mitigation measures are. It is unacceptable to consider another proponent’s	Suncor must revise Section 15 where statements “...as other mitigation measures being implemented by other proponents...” are made to adjust their assessment of the respective environmental effects impact to cumulative effects accordingly. Or Suncor can provide the additional mitigation measures set forth by the other proponents mentioned for MTI’s review. Suncor must also revise this section to demonstrate how the implementation of mitigation measures will result in the predicted significance of the outcome.
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mitigation measures to influence the decision of this Projects impacts to cumulative effects. If another proponent's mitigation measures are being used to influence Suncor's decision, we require these documents to review to ensure appropriate and sufficient measures will be implemented.

Any contribution Suncor makes to environmental detriment is either additive or synergistic -which depends on factors external to the project including the natural environment and the actions of others. However, regardless of those factors Suncor must act responsibly and conservatively when implementing measures to minimize their contributions to cumulative effects.

In addition, Suncor does not demonstrate a clear connection between the mitigation measures that they will be implementing and how the measures will result in the predicted significance of the outcome.

213

15.1.2 Assessing Cumulative Effects on the Valued Component

Suncor states: "In the event that a **small batch spill** did occur from the Project, it would be **unlikely to interact with the residual environmental effects of discharges** from other exploration and/or production projects, fisheries, or other ocean uses in such a way that causes a cumulative environmental effect given the implementation of a 500-m radius safety (exclusion) zone surrounding the MODU and anchors and rapid dilution and/or evaporation of discharges." We do not support this statement given the lack of explanation or evidence to support this claim.

In addition, Suncor states: "Therefore, **cumulative effects from accidents and**

We request that Suncor provide more information to support how small batch spills will unlikely contribute to a cumulative effect.

We request Suncor to revise this section and include an assessment of cumulative effects that may result from accidents and malfunctions.



**malfunctions** are considered **unlikely to happen** and are not assessed further in the cumulative effects assessment.” We do not support this statement given that there is no certainty to say accidents and malfunctions are unlikely to happen. Accident is defined by the Merriam-Webster Dictionary as “an unforeseen and unplanned event or circumstance”. It is unacceptable for Suncor to deem accidents as an unlikely event as they are never planned or foreseen.

214	Section 15.2.2 Past and Ongoing Effects (Baseline)	Suncor states: “The existing air quality within the LAA, located offshore approximately 230 km east of St. John’s, can be generally categorized as good based on the dispersion modelling studies conducted by other offshore operators in the LAA; the results from these studies indicate that the regulatory criteria were always met at receptor locations”. It is unclear what data Suncor is referring to categorize air quality as “good./ It is also unclear what categorizes air quality as “good,”	Please indicate what data was used to determine air quality to be good. If this is not the data that is in Table 15.2, please revise the section to include it. In addition, please include the parameters of what determines air quality to be categorized as “good’.
215	Section 15.3.1 Past and Ongoing Effects (Baseline)	Suncor states: “Human activities have interacted with marine fish and fish habitat generally through mortality of fish and/or changes in fish habitat caused by commercial fishing activities”. While commercial fishing activities have had a negative impact to marine fish and their habitat, it is not the only human activity to have caused or continue to cause negative impacts. For example, oil spills from drilling explorations and projects can have a long-lasting impact to marine fish and their habitat, especially those classified as disastrous. Suncor has not addressed past and ongoing impacts related to other human activities such	Suncor must revise section 15.3.1 Past and Ongoing Effects (Baseline) to further elaborate on past and ongoing effects that is not only commercial fishing. Commercial fishing is not the only negative impact to contribute to cumulative effects.



as oil drilling and instead has only accounted for negative impacts caused by commercial fishing.

216	Section 15.3.4.1 Cumulative Change in Risk of Mortality of Physical Injury	Suncor states: "Although the underwater sound emissions from the Project will be relatively short-term and <b>reversible</b> ...". It is unclear how the impact of sound emissions are reversible.	Please indicate how the impact of sound emissions is reservable with scientific evidence to support your claim.
217	Section 15.3.4.1 Cumulative Change in Risk of Mortality of Physical Injury	Suncor states: "It is expected that most species will avoid underwater sound at levels lower than those at which injury or mortality might occur." We believe it is unacceptable for Suncor to make such an assumption without evidence to support their claim.	Please update this statement to include scientific evidence that proves species will avoid underwater sound levels at which injury or mortality will not occur.
218	Section 15.7.1 Past and Ongoing Effects (Baseline)	Suncor states: "However, given the long and varied history of Indigenous Peoples and different Indigenous communities in the region, it is not practical to attempt in this EIS to identify and describe how past and ongoing development projects and other processes and activities have influenced and otherwise affected Indigenous peoples." We deem this statement as extremely unacceptable. If Suncor is able to identify past and ongoing effects for marine and migratory birds, and marine mammals and sea turtles, all species who have been in the region long before the human species came into existence, Suncor can identify past and ongoing effects to Indigenous Peoples. As per requirements outlined in CEA 2012, Suncor must "assess the cumulative effects on each VC selected by comparing the future scenario with the project and without the project. <b>Effects of past activities (activities that have been carried out) will be used to contextualize the current state of the VC.</b> "	Suncor must revise section 15.7.1 to include the past and ongoing effects impacting Indigenous Peoples as this baseline information is as necessary as the baseline information for marine birds, mammals and seas turtles. It is also required by the CEEA 2012 under section 7.6.3. We deem this as a highly inappropriate statement and this EIS review will not be accepted by MTI until this section is revised. MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment specific to this Project, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the Project on MTI's rights that fulfills the requirements of the EIS Guidelines.
219	Section 15.7.4.1 Cumulative Change	Suncor states: "Ongoing <b>communication</b> will be required to avoid adverse effects on	It is important to MTI that Suncor creates a communication plan to engage with their community



in Commercial-  
communal Fisheries

commercial-communal fisheries that may occur in the RAA and associated health and socio-economic conditions in Indigenous communities.” Suncor does not state how they will be communicating with Indigenous communities.

and other Indigenous communities to raise awareness of the implantation and/or changing of safety (exclusion) zones as they occur since Suncor has not yet determined the location and timing of the well drillings.

220

Section 15.7.4.1  
Cumulative Change  
in Commercial-  
communal Fisheries

Suncor states: “Suncor will engage with Indigenous communities to share Project details and facilitate information sharing. This will be accomplished through development and implementation of a Fisheries Communication Plan.” Suncor does not provide any further information about this communication plan. We are concerned as this plan has not been created yet.

Please update this section to provide more details about the Fisheries Communication Plan. MTI would like to be involved with the development of this plan to ensure they will be engaged with in a meaningful manner and will have opportunities to share their comments and concerns, knowing that they will be addressed by Suncor.

221

Section 15.7.4.3  
Cumulative Effects  
Summary and  
Evaluation

Suncor states: “With the implementation of mitigation measures (Section 13.3), as well as other mitigation measures being implemented by other proponents, **the residual cumulative environmental effects on Indigenous Peoples are predicted to be not significant**”. We disagree with this statement as implementing mitigation measures is not enough to predict cumulative environmental effects will be not significant to Indigenous Peoples, especially as Indigenous Knowledge was not factored into this conclusion.

The assessment of cumulative environmental effects on Indigenous Peoples needs to be revised to include Indigenous Knowledge. Suncor cannot determine the effect based off proposed mitigation measures. MTI must be provided the opportunity and the necessary resources to carry out an independent and comprehensive IKLUOS and Impact Assessment specific to this Project, which will contribute to the adequate characterization of baseline conditions and the assessment of the potential adverse impacts of the Project on MTI’s rights that fulfills the requirements of the EIS Guidelines.

## ACCIDENTAL EVENTS

222

Section 16.3.1  
Overall Modelling  
Approach

Table 16.1 Thresholds Used to Define Areas and Volumes Exposed above Levels of Concern – In Water Concentration.

It’s unclear how the 1.0 ppb (µg/L) of dissolved Polycyclic aromatic hydrocarbons (PAHs) threshold is applied. Is this an average concentration for the entire height of the water column? Or is this threshold considered to be surpassed if any point (or grid cell) in the water

Please clarify if the 1.0 ppb (µg/L) of dissolved PAHs threshold is being evaluated as an average concentration for the entire height of the water column or at a singular point (or grid cell). Please also confirm what time scale is being used for all thresholds in Table 16.1.





column is above 1.0 ppb ( $\mu\text{g/L}$ ) of dissolved PAHs. Furthermore, it is unclear what time scale is being used for all of the thresholds. For example, are the concentrations being averaged over 10 minutes?

223

Section 16.3.3  
Model Input Data

Suncor uses wind and current data from the period between January 2006 and December 2012, stating that it was the most recent available long-term re-evaluated dataset. While it is encouraging that Suncor used the most recent available data set, it is over a decade old. Newer data along with climate change projections are needed to create a representative model. Climate change is causing seasonal patterns to shift and increasing the frequency and magnitude of extreme weather events.

Additionally, it is unclear if extreme weather events were considered in the model at all. Hurricanes and tropical storms will likely only become more common in the future. It is important to consider the impacts from worst-case scenarios (i.e., a major blowout occurring during a hurricane). Such an event could have devastating impacts on MTI. It is important to understand the magnitude and scope of all potential impacts.

Please improve the oil spill model by using a more recent data set and climate change projections. If there is truly not more recent data available, please investigate alternatives for pairing wind with current data. Please expand the scope of the model to include extreme weather events such as hurricanes.

224

Section 16.3.3  
Model Input Data

It is unclear how the makeup of the petroleum resources was determined. Suncor states that "Terra Nova crude oil and marine diesel composition and properties used in the models are provided in Table 16.3." Suncor doesn't provide data or a scientific rationale to support the assumption that Terra Nova crude oil and marine diesel and the corresponding properties are representative. For example, was this determined through sampling or based data from nearby drilling operations?

Please provide the data and analysis that were used to determine the characterization of the petroleum resources for modelling purposes.



The fate and transport of the petroleum chemicals such as the dynamics of the jet and buoyant-plume phases of a subsurface blowout could be mischaracterized if this assumption is incorrect.

Later in this chapter, in section 16.3.5 Model Uncertainty and Validation, Suncor states that “Oil contains thousands of chemicals with differing physical and chemical properties that determine their fate in the environment. The model must, out of necessity, treat the oil as a mixture of a limited number of components, grouping chemicals by physical and chemical properties.” Yet, no methods to narrow down the expected properties of this petroleum reserve are provided.

225	Section 16.5.1 Oil Spill Response Plan	<p>One of the triggers that would cause ECCC to convene and chair a Science Table is if an “Environmental emergency is significant and/or complex/severe.”</p> <p>This trigger is subjective. Please provide an objective, measurable trigger such as spill volume or compounding factors such as extreme weather. MTI is concerned that without an objective threshold, opportunities for a Science Table could be delayed or even missed.</p>	Please provide an objective, measurable trigger such as spill volume or compounding factors such as extreme weather.
226	Appendix C - Suncor Drill Cuttings Dispersion Model – General Comment	There appears to be no mention of model verification methods such as a sensitivity analysis, calibration tools or validation techniques.	Please provide scientific evidence confirming model results are reasonable and as accurate as possible. Evidence could include comparison to actual measured concentrations of petroleum products following accidental releases in the area. Other evidence should include model verification methods.



227

Appendix C -  
Suncor Drill  
Cuttings Dispersion  
Model

Suncor provides values for mixing coefficients and state that, "These values were selected, based upon professional judgment and previous experience, to represent typical conditions of the deep marine environment."

Mixing coefficients can have significant influence on model results. Scientific evidence is needed to confirm these values are reasonable and representative.

Please provide references from literature or previous spill models that produced high quality results by comparing modelled values to actual measured results.

