SHIPPING MANAGEMENT PLAN

HOPE BAY, NUNAVUT

April 2020

PLAIN LANGUAGE SUMMARY

This Plan describes the shipping management and monitoring practices employed to manage and mitigate potential impacts related to marine shipping activities during mine construction, operations and care and maintenance.

REVISION RECORD

Revision #	Date	Section	Summary of Changes	Author	Approver
0	August 2019	-	New Plan	TMAC	TMAC
1	April 2020	Throughout	Minor updates & new logo	TMAC	TMAC

GLOSSARY AND ACRONYMS

TERM	DEFINITION
CCG	Canadian Coast Guard
CCME	Canadian Council of Ministers of the Environment
CEPA	Canadian Environmental Protection Act
DFO	Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
ECCC-EPS	Environment and Climate Change Canada –Environmental Protection Service
IEAC	Inuit Environmental Advisory Committee
FEIS	Final Environmental Impact Statement
NIRB	Nunavut Impact Review Board
NWB	Nunavut Water Board
OPEP	Oil Pollution Emergency Plan
SOP	Standard Operating Procedure
SOPEP	Shipboard Oil Pollution Emergency Plan
TC	Transport Canada
the Project	The Hope Bay Project
TMAC	TMAC Resources Inc.

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1. INTRODUCTION

This Hope Bay Shipping Management Plan (the Plan) has been prepared by TMAC Resources Inc. (TMAC) in accordance with the Hope Bay Project's Nunavut Impact Review Board (NIRB) Project Certificate No.009. As per the NIRB Project Certificate (No. 009) Conditions #30, 31 and 32, a Shipping Management Plan has been developed to guide mitigation of shipping operations in response to identified sensitive wildlife areas and wildlife observations. The Conditions state the following:

Condition #30: The Proponent shall contract only Transport Canada certified vessels to carry cargo or fuel for the Project, and shall ensure shippers are informed of the Proponent's applicable management plans and commitments designed to address potential adverse ecosystemic effects of shipping activities to the marine environment.

Condition #31: The Proponent shall provide its contracted vessel operators with maps and descriptions of key marine bird habitats as well as information on sensitive marine mammal habitats in the Northwest Passage, updated annually to include newly published information as it becomes available. The guidance package shall specify that, subject to vessel safety requirements, key wildlife habitats shall be avoided by a distance of at least 500 metres, and wildlife are to be given the right of way. The Proponent shall work with Fisheries and Oceans Canada to ensure that marine mammal mitigation measures common for all vessels in the Canadian Arctic are applied to project-contracted vessels as appropriate.

Condition #32: The Proponent shall ensure that shippers retained for project related shipping immediately report any accidental contact by project vessels with marine mammals or seabird colonies to Fisheries and Oceans Canada and Environment and Climate Change Canada respectively. The Proponent shall also ensure that the circumstances of the incident are investigated to determine if additional mitigative measures are required.

This Plan addresses these Conditions and is intended primarily for use by TMAC and its contractors to ensure that Project Certificate conditions are followed, and applicable regulatory requirements are met.

1.1. PURPOSE

The purpose of this Plan is to ensure that TMAC expectations are communicated to the shipping contractor for marine shipping activities related to TMAC's Hope Bay Project.

Consistent with TMAC's intent to be a responsible operator, these expectations are:

- Vessel operators and captains shall follow all applicable laws and regulations;
- Shipping regulators, appropriate to a given jurisdiction, such as Transport Canada (TC), are responsible for enforcing applicable laws and regulations;
- All vessel operators and captains shall respect distance buffers stated within the Plan, if it is safe to do so at the discretion of the vessel captain; and
- Vessel operators and/or captains shall record and report vessel strikes with marine wildlife (seabirds' and marine mammals) to appropriate authorities as required by law, and to TMAC as soon as reasonably possible as outlined in this Plan.

1.2. Relevant Legislation and Guidance

All shipping companies operating in Canadian territorial waters must abide by the Canadian regulatory framework. The Shipping Management Plan was developed in accordance with federal legislation. Shipping in Canada is regulated by the following (available online here):

- Canada Shipping Act;
- Arctic Waters Pollution Prevention Act;
- Marine Liability Act;
- Coasting Trade Act;
- Fisheries Act;
- Navigable Waters Protection Act; and
- Marine Transportation Security Act.

The Canada Shipping Act, the Marine Liability Act, and the Arctic Waters Pollution Prevention Act combine to provide Canada's operational regulatory regime governing marine safety and environmental protection issues in the Arctic. These federal laws and regulations aim to promote marine safety, prevent pollution, provide a framework to respond to incidents, and address related liabilities and compensation issues.

Transport Canada is the lead agency regulating shipping in Canadian jurisdiction – waters out to the 200 nautical mile limit. Other federal agencies and departments, such as Fisheries and Oceans Canada (DFO), the Canadian Coast Guard (CCG) and Environment and Climate Change Canada (ECCC), have distinct but interrelated responsibilities for the management of marine transportation safety and environmental protection in the Arctic. Transport Canada works with these federal agencies and departments to establish the regulatory framework and mechanisms that provide a coherent and consistent approach to aspects of marine transportation safety and environmental protection.

The Canada Shipping Act provides an overall mechanism to protect safety and the environment for vessels operating in Canadian waters. Its regulations include requirements for a vessel's construction, how it manages ballast water, its pollution control equipment, arrangements for emergency response, and its crew qualifications.

The Arctic Waters Pollution Prevention Act provides enhanced protection for vessels operating in Canadian jurisdiction north of 60°North latitude. It provides specific construction standards for vessels engaged in Arctic shipping, a system of shipping safety control zones, a ban on discharges of oil, hazardous chemicals, and garbage, and requirements for vessels to carry insurance to cover damages from any of these discharges.

The Marine Liability Act sets out a regime that requires vessels operating in Canadian jurisdiction to carry insurance to pay for damages from oil spills. In the event of a conflict between the Arctic Waters Pollution Prevention Act and the Marine Liability Act, the latter applies.

1.3. Roles and Responsibilities

TMAC is not a shipping company and does not own any vessels. Vessel operators and captains are responsible for ensuring that all regulations are met.

TMAC's Procurement Group is responsible for providing ship operators this Plan.

TMAC does not possess the expertise to impose navigational requirements in terms of safety at sea, emergency responses on ships, crew qualifications, or other specialized requirements on shipping providers. This expertise lies with the vessel operators and applicable government authorities.

1.4. Plan Management

The Shipping Management Plan is reviewed annually and updated as necessary by TMAC's Environmental Department in consultation as needed with other disciplines or subject matter experts.

This plan is designed to be effective and achievable in both the short and long term. Components of the Shipping Management Plan may need to be revised over the life of the Project based on regulatory changes.

2. Shipping and Marine Wildlife

2.1. Habitat where Mitigation Applies

Sensitive habitat for marine birds has been identified along the Project shipping route as shown in Figure 2-1. These include but are not limited to:

- Prince Leopold Island;
- Bathurst Inlet/Elu Inlet Key Marine Habitat Site;
- Lambert Channel Key Marine Habitat Site; and
- Eastern Lancaster Sound Key Marine Habitat Site.

Sensitive habitat for marine mammals has been identified along the Project shipping route from Lancaster Sound to Franklin Strait, see Figure 2-2.

2.2. Shipping Setback Distances

Subject to safety and operational considerations, ships will adhere to the following setback distances from these sensitive habitats, as identified in the Wildlife Monitoring and Mitigation Management Plan (WMMP):

- **30 km** from Prince Leopold Island (Figure 2-1); and
- **500 m** from marine bird colonies in the Bathurst Inlet/Elu Inlet and Lambert Channel Key Marine Habitat Sites (Figure 2-1).

3. Shipping Near Marine Mammals and Seabirds

In addition to known sensitive habitats described in Section 2, incidental observations of seabirds and marine mammals may occur during project-related shipping activities. At all times, vessel operators and captains shall abide by applicable federal legislation, including the Fisheries Act and its associated regulations (e.g. Marine Mammal Regulations related to the disturb marine mammals).

In the event staff on the bridge note one of the observations outlined in Table 3-2, they shall report the observation to the ship's captain. Providing the ship's safety is not in concern, mitigation responses outlined in Table 3-2 are recommended.

Table 3-2. Recommended Shipping Mitigation Responses for Seabirds and Marine Mammals

Observation	Response
Seabirds	
Any large group of seabirds on ocean surface while traversing sensitive habitat areas identified in Figure 2-1.	Attempt to maintain a minimum 500 m setback distance
Any colony of seabirds on land while traversing sensitive habitat areas identified in Figure 2-1.	Attempt to maintain a minimum 500 m setback distance
Marine Mammals	
Any group of marine mammals observed on the ocean surface, especially in sensitive habitat areas identified in Figure 2-2.	At the discretion of the ship's captain, the following mitigation options are suggested: 1) Avoid ship strikes with marine mammals by slowing the vessel and allowing marine mammals to move out of the way. 2) Change ships heading to avoid groups of marine mammals. Consider adaptively managing ship speed to reduce noise disturbance. Noise disturbance can be reduced by 1.5-2.8 dB for every 1 knot reduction in speed.[1]

4. REPORTING

4.1.1. ACCIDENTAL CONTACT

If the ship's captain determines accidental contact or a 'ship strike' of a marine mammal or group of seabirds has occurred, they shall report it as required by legislation to TMAC and the appropriate regulatory authority within 24 hours.

Information required to be reported at a minimum will include:

- the date, time and location of the incident;
- the species of marine mammal involved in the incident;
- the circumstances of the incident;
- the size and type of vessel;

[1] Port of Vancouver. March, 2018. Enhancing Cetacean Habitat and Observation (ECHO) Program: Slowdown Trial – Interim Findings. Retrieved April 20, 2018, from https://www.portvancouver.com/environment/water-land-wildlife/marine-mammals/echo-program/vessel-slowdown-trial-in-haro-strait/

- the weather and sea conditions at the time of the incident; and
- the observed state of the marine mammal after the incident.

4.1.2. INCIDENTAL OBSERVATIONS

In addition to any regulatory reporting obligations, any available records of incidental observations and mitigation measures taken will be submitted to the Environment Team after each shipping trip for collation into a database.

5. RECOMMENDED REFERENCE GUIDES

Reeves et al. 2002. *National Audubon Society's Guide to marine Mammals of the World.*

Sibley. 2003. *Field Guide to the Birds of Eastern North America.*

Gjerdrum et al 2012 Eastern Canada Seabirds at Sea (ECSAS) standardized protocol for pelagic seabird surveys from moving and stationary platforms.

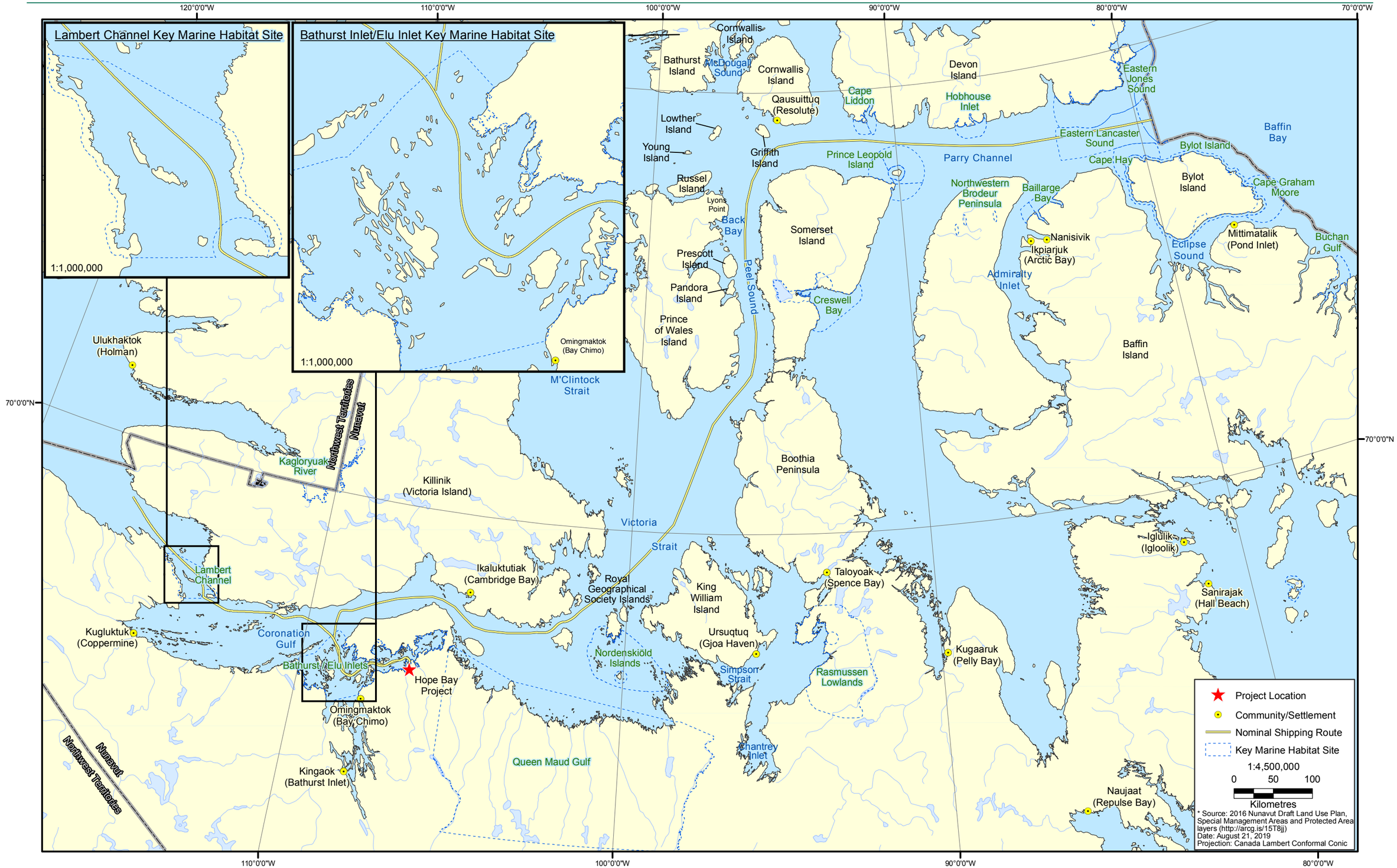

Figure 2-1: Key Habitat for Seabirds and Seaducks along the Nominal Shipping Route

Figure 2-2: Key Habitat for Marine Mammals along the Nominal Shipping Route