

Baffinland Iron Mines Corporation

Mary River Project

MARINE SHIPPING AND VESSEL MANAGEMENT REPORT TO THE
NUNAVUT IMPACT REVIEW BOARD



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ABBREVIATIONS

AIS	Automatic Identification System
AIS	Aquatic Invasive Species
Baffinland	Baffinland Iron Mines Corporation
ERP	Early Revenue Phase
EWI	Early Warning Indicator
FEIS	Final Environmental Impact Statement
HTO	Hunters and Trappers Organization
IIBA	Inuit Impact and Benefit Agreement
MEEMP	Marine Environmental Effects Monitoring Program
MEWG	Marine Environment Working Group
MHTO	Mittimatalik Hunters and Trappers Association
MMASP	Marine Mammals Aerial Survey
MTPA	Million Tonnes Per Annum
NAMRP	Narwhal Adaptive Management Response Plan
NIRB	Nunavut Impact Review Board
NIS	Non-Indigenous Species
NLCA	Nunavut Land Claim Agreement
PIP	Production Increase Proposal
PIPE	Production Increase Proposal Extension
PIPR	Production Increase Proposal Renewal
RSA	Regional Study Area
SOP	Sustaining Operations Proposal
SSA	Stratified Study Area
The Project	Mary River Project
QIA	Qikiqtani Inuit Association
UAV	Unmanned Aerial Vehicle

1 INTRODUCTION

1.1 BACKGROUND

Project Certificate No. 005 (Amendment No. 4, dated November 3, 2022), requires that Baffinland Iron Mines Corporation (Baffinland) submit a Marine Shipping and Vessel Management Report (the Marine Shipping Report) to the Nunavut Impact Review Board (NIRB) prior to the commencement of the shipping season informing the Board of six (6) key components, as described in Table 1.1.

Table 1.1: Marine Shipping Report Components

Report Component	Report Section
Anticipated number of ship transits along the approved shipping route	Section 2
Identification of specific areas to be used for drifting and anchorage of vessels with details of how community feedback and comments from the Marine Environment Working Group (MEWG) has been used to inform the selection of suitable areas	Section 3
Timeline for organizing pre- and post-shipping meetings with the community	Section 4
Plans for preventing or mitigating vessel interference with marine mammals and traditional hunting activities pursuant to term and condition 125(a) of the Project Certificate;	Section 5
Evidence of community involvement to review preliminary results of the monitoring programs, and to compare results with experiences of community members and hunters with respect to the marine environment and marine mammals during the shipping season;	Section 6
Evidence of reporting new or non-native species identified as a result of Aquatic Invasive Species monitoring, to Mittimatalik Hunters and Trappers Organization (MHTO) and the Department of Fisheries and Oceans Canada (DFO) with confirmation of whether or not this species had been observed in the past or through other community or regional monitoring initiatives.	Section 7

Subsequent sections will provide additional details to support information requirements associated with components listed in Table 1.1.

2 2025 SHIPPING OPERATIONS

2.1 2025 SHIPPING OPERATIONS

In October 2023, Baffinland got approval for its Sustaining Operations Proposal (SOP), which permitted the company to ship 6.0 million tonnes of iron ore, as well as stranded ore from the previous year, until December 31st, 2024.

With the expiration of (SOP) at the end of 2024, Baffinland has reverted back to its original 4.2 million tonne operation for the 2025 shipping season. Despite a return to a nominal 4.2 Mtpa operation, all of the mitigation measures apply the same as in previous years.

With a reduction in shipping for 2025, an shorter shipping season is anticipated. The first vessels entered the Regional Study Area (RSA) on July 29, in open water conditions. Shipping will continue through October, with all vessels planning to depart from Milne Port by October 31st, 2025 at the latest. It is anticipated that shipping will conclude earlier in October but the final schedule will depend on weather conditions and operations, during the season. In 2025, approximately 50 ore carriers are expected to call on Milne Port. Of the expected ore carrier visits, four trips are planned to be made by Cape-size vessels.

Refer to Figure 2.1 for an example of ore carriers that will be travelling to Milne Inlet throughout the 2025 shipping season and Figure 2.2 shows the nominal shipping route.

In an email received July 5th, 2025, from the MHTO Office Manager, it was confirmed that the Floe Edge was closed by the MHTO Board at Midnight on July 3, 2025. Baffinland provided the MHTO and Hamlet 72 hour written advanced notice of the first anticipated vessels transiting to Milne Port on July 24th, 2025. They were provided 24 hours notice on July 29th before ships entered the Regional Study Area. Ore carrying vessels hold at least 40 km to the east of the RSA until approved by the Port Captain to enter and sail towards Milne Port (see Figure 2.3). The tugs are smaller vessels that are required to support the cargo ships once they arrive at Milne Port. This year, two tugs and three ore carriers began sailing in a convoy and entered the RSA on July 29th.

See Table 2.1 below for respective definitions and Table 2.2 for vessel movements for the 2025 season.

Table 2.1: Definitions

Term	Definition
Voyage	The two-way movement of one vessel into and out of Milne Port.
Transit	The one-way movement of one vessel or two or more vessels in a convoy inbound or outbound to/from Milne Port but only for the purpose of/under transit restrictions (i.e., 24-hour time restrictions). A convoy may be treated as a single convoy. A single vessel travelling one-way through the RSA will always be treated as a single transit. Tug activity is excluded when remaining within Milne Port. For additional information pertaining to transits, please review the Operational Guide for Ore Carrier Convoys, which is Appendix F in the most recent draft of the Shipping and Marine Wildlife Management Plan (Baffinland, 2023a).
Convoy	The movement of one or more vessels at the same time to Ragged Island and/or Milne Port during either escort or instructed to travel as a group. In 2024, Baffinland will continue to implement convoys, when deemed safe to do so. For additional information pertaining to

transits, please review the Operational Guide for Ore Carrier Convoys, which is Appendix F in the most recent draft of the Shipping and Marine Wildlife Management Plan (Baffinland, 2023a).
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Figure 2.1: Convoy of Three Ore Carriers on July 31, 2022



Figure 2.2: Milne Inlet Nominal Shipping Route



Figure 2.3: Shipping Route Buffer Zone

Table 2.2: Anticipated Vessel Transits in 2024

Vessel Type	Anticipated Number of Voyages to/from Milne Port	Anticipated Number of Transits to/from Milne Port	Note
Tugs	2	4	<p>Tugs will travel to Milne Port, and will remain for the entire shipping season to support ore carriers anchoring and berthing at the Port. The intention is to have the tugs depart together with the last ore carrier(s) in a convoy.</p> <p>Unlike other vessels, tug boats will be allowed to transit above 9 knots, and up to 14 knots within the Milne Port area for operational reasons (see Appendix 4). Figure 2.4 shows the area within Milne Port where tugs can exceed 9 knots.</p>
Ore Carriers	50	100	<p>The ore carriers will range in size from Supramax to Cape-size (Newcastlemax)</p>
Resupply Cargo Vessel	3	6	<p>Cargo vessels may be serving other Nunavut communities either before or after delivery to Baffinland. In 2025, some cargo vessels may be employed for the purposes of backhauling equipment from site.</p>
Fuel Tanker	4	8	<p>Fuel tankers may be serving other Nunavut communities either before or after delivery to Baffinland.</p>

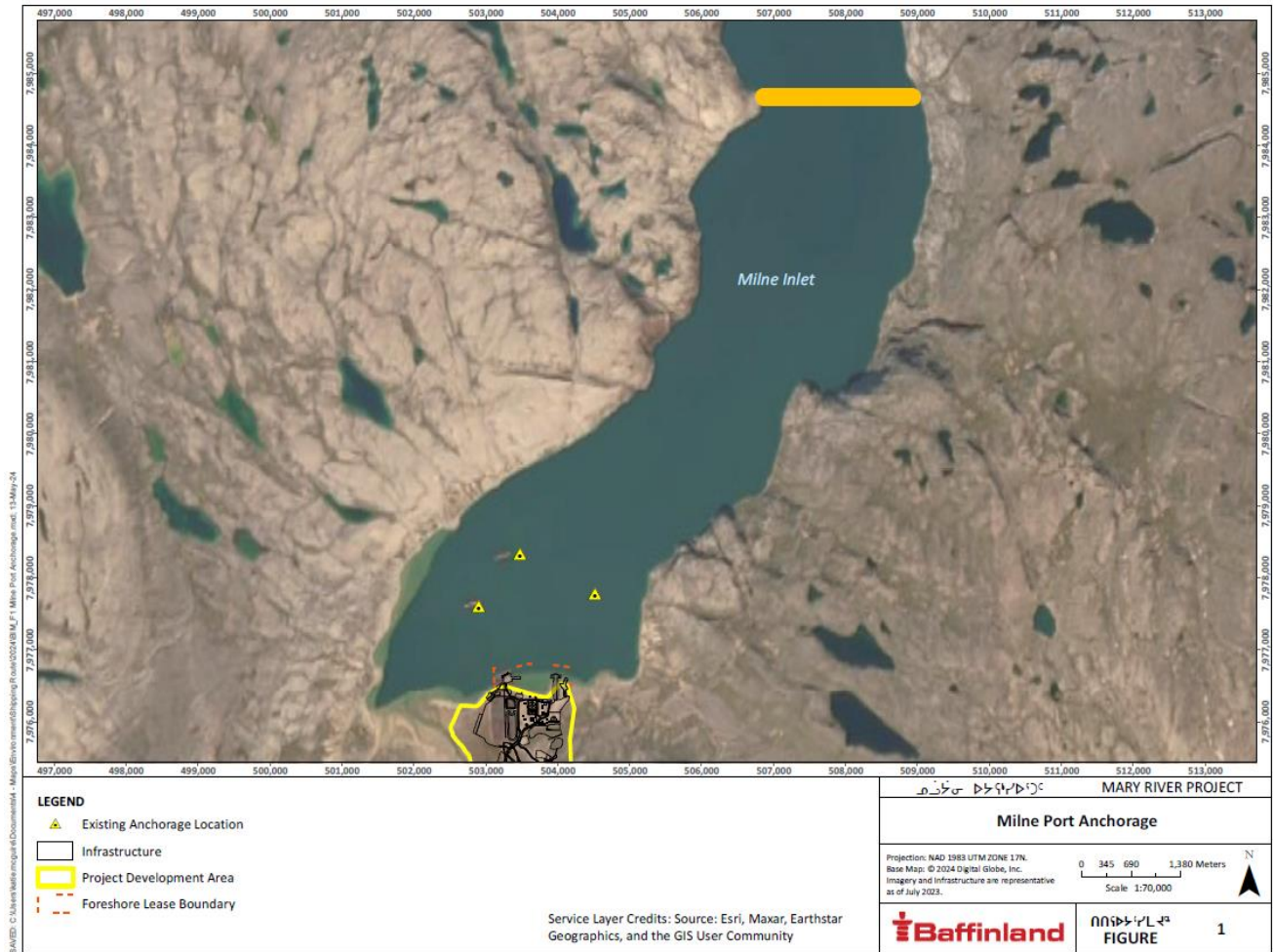


Figure 2.4 Location where tugs can exceed 9 knots

3 ANCHORING AND DRIFTING AREAS

3.1 CONTEXT

The NIRB has requested that Baffinland identify the specific areas to be used for drifting and anchorage of vessels and provide details related to how community feedback and comments from the Marine Environment Working Group (MEWG) have been used to inform the selection of suitable areas.

3.2 2025 ANCHORING AND DRIFTING AREAS

As a critical component to the safety and efficiency of Baffinland’s marine operations, two primary locations for anchoring in the RSA will continue to be used in 2025. Vessels waiting for an anchorage at Milne Port will continue to anchor to the west of Ragged Island in North Milne Inlet. Vessels undergoing post arrival formalities, including cargo inspections and ballast water salinity testing, will anchor within the vicinity of Milne Port prior to berthing at the Ore Dock (Figure 3.1).

3.2.1 Community Engagement and Feedback

During a visit to the Mary River Project in 2018, the MHTO proposed two alternative anchorage locations for Baffinland to consider (Eskimo Inlet and South Bylot), as well as an alternative location for vessel drifting (entrance to Baffin Bay). During the pre-shipping season meeting held in Pond Inlet on June 25th, 2019, the MHTO proposed two additional alternative anchorage locations: Guys Bight and Erik Harbour.

In 2020, Baffinland undertook an options exercise of five alternative locations proposed by the MHTO for anchoring and drifting along the Northern Shipping Route. The results of this alternative options exercise confirmed that the established anchorage locations near Ragged Island remain the most suitable for the Project. Table 3.1 below provides a brief summary of rationale for deeming each proposed alternate location as unsuitable. Additional details pertaining to Baffinland’s options exercise are summarized in a memorandum that was provided to the North Baffin Hamlet and Hunters and Trappers Organizations (HTOs) on January 13, 2020 (NIRB Registry No. 330789).

Table 3.1: Proposed Anchorage Locations and Rationale for Rejection by Baffinland

Proposed Alternative Location From MHTO	Purpose of Proposed Location	Rationale for Rejection of Proposition by Baffinland
Eskimo Inlet	Anchorage	<ul style="list-style-type: none"> • Too narrow – only 1.5 nautical miles (nm) wide at greatest extent, which presents safety risk for vessels transiting through corridor. • Exposed nature of inlet increases risk of vessels being trapped by ice • Water depth is unsuitable for anchoring (>250 m)
South Bylot	Anchorage	<ul style="list-style-type: none"> • Proposed location is in the current shipping lane, which would result in rerouting vessel traffic closer to Pond Inlet to reduce safety risks of vessel overlap • Leaves vessels exposed to extreme weather events (ie. high winds, ice bergs) • Water depth is unsuitable for anchoring (>300 m)
Guys Bight	Anchorage	<ul style="list-style-type: none"> • Potentially has suitable depths for anchorage

Proposed Alternative Location From MHTO	Purpose of Proposed Location	Rationale for Rejection of Proposition by Baffinland
		<ul style="list-style-type: none"> Existing nautical charts are not detailed enough to confirm the feasibility of safe anchorage in this area Could present potential disruptions to the loading sequence given the considerable distance to Milne Port (120 nm)
Erik Harbour	Anchorage	<ul style="list-style-type: none"> Difficult to enter due to a rocky outcropping near the entrance to the Harbour – vessels would need to anchor at the entrance, leaving them exposed to drifting ice from Pond Inlet Water depth is unsuitable for anchoring (>100 m)
Entrance to Baffin Bay	Vessel Drifting	<ul style="list-style-type: none"> Very exposed to weather and ice conditions, which presents safety concerns

Baffinland remains open to exploring feasible alternatives (or further modifying current practices) to anchoring at Ragged Island to minimize interference of shipping on land users, and welcomes feedback from the MHTO and community members of Pond Inlet. Feedback is solicited through various engagements, such as the NIRB marine mitigation workshops, pre-and post-shipping season meetings, pre- and post-shipping radio shows, Marine Environment Working Group (MEWG) meetings, and intervener comments on annual reports related to shipping and the marine environment.

For an anchorage location to be deemed suitable for use, it must provide adequate shelter from adverse weather conditions, be within an area that is wide enough for vessels to pass safely, and be of a suitable depth. A suitable anchorage depth varies depending on the size of the vessel. Generally, the length of the anchor chain for the vessel must be 5 times the depth of the anchor pocket to the seafloor. For example, 100 m of anchor chain would be required to safely anchor the vessel if the depth of the anchor pocket to the seafloor is 20 m. A Supramax vessel traditionally has an anchor chain that is 275-300 m long, which means that the water must be a maximum of 55-60 m deep in order to anchor safely—these are the smallest vessels currently contracted by Baffinland. Cape sized vessels, the largest to potentially be contracted by Baffinland, generally have anchor chains that are 355-385 m in length, which therefore require a maximum depth of 71-77 m. In order to accommodate all Baffinland vessels, **any proposed anchorage locations must be a maximum of 55 m deep.**

Until alternative requests are made, Baffinland will continue to minimize impacts on hunters and those traveling on water by enforcing that no more than three (3) ore carriers anchor at Ragged Island at any time. Baffinland also commits to avoiding its vessels from drifting in Eclipse Sound, unless warranted for safety considerations. Ore carriers are also prohibited from discharging ballast water at the Ragged Island anchorage locations. Furthermore, ore carriers are prohibited from discharging grey water and sewage throughout the RSA.

At the time of drafting this report, the pre-shipping meetings were not successfully held with the MHTO. Baffinland scheduled meetings for July 15th and then July 23rd but these meetings were cancelled at the request of the MHTO Board. New dates are set for August 13th. A pre-shipping meeting was held with the Hamlet Council on July 30, 2025.

3.2.2 Marine Environmental Working Group (MEWG)

Since the release of the 2024 Marine Shipping Report and Vessel Management Report to the NIRB on July 28, 2024, Baffinland has organised four (4) MEWG meetings. The dates of these meetings are as follows:

- January 9th, 2025;
- March, 20th 2025;
- July 8th, 2025;
- July 11th, 2025.

At the January 9th MEWG meeting, WWF-Canada asked for clarification on the type of fuel used by vessels when they turn off their scrubbers while transiting through Milne Inlet. Baffinland confirmed that vessels use Marine Gas Oil (MGO).

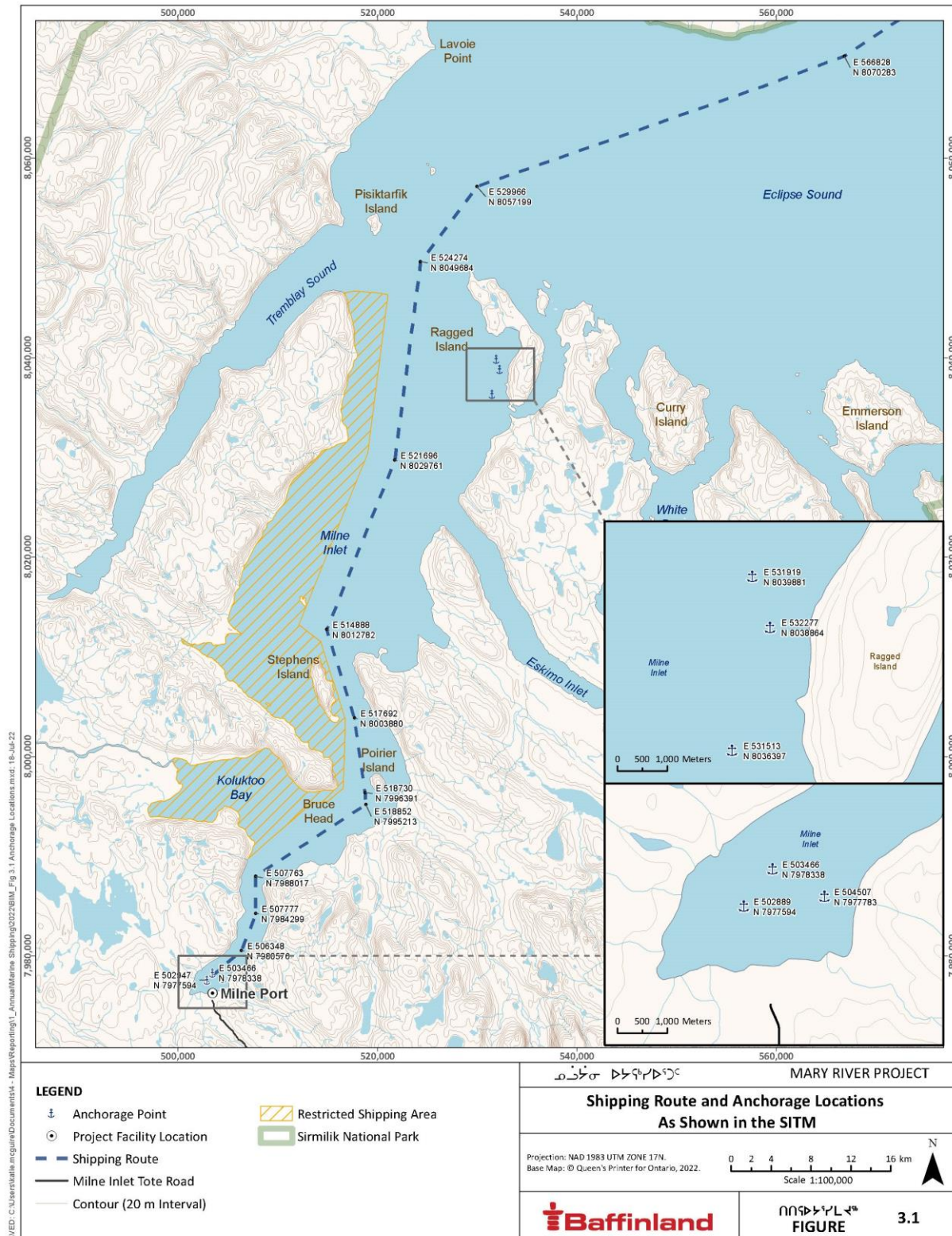


Figure 3.1 Shipping Route and Anchorage Locations

4 SHIPPING ACTIVITY-RELATED COMMUNICATIONS

4.1 CONTEXT

As part of its regular operation, Baffinland has a Shipping-related Communications Protocol to guide specific engagement activities with the MHTO and Hamlet of Pond Inlet. As part of this protocol, Baffinland typically hosts pre- and post-shipping season meetings. Baffinland also maintains a number of communication and engagement activities throughout the shipping season. A summary of the key activities is summarized in Table 4.1 below.

Table 4.1: Key Components of Shipping-Related Communications

Timing	Key Component	Description
Pre-season	Pre-Shipping Season Meeting	At the time of drafting this report, the pre-shipping meetings with the MHTO were yet to be held. Baffinland scheduled meetings for July 15 th and then July 23 rd but these meetings were cancelled at the request of the MHTO Board. A new date is set for August 13 th . Baffinland met with the Hamlet Council on July 30 th . A public radio show was also held July 30 th .
	Confirmation of floe edge closure	In an email received July 5 th , 2025, from the MHTO Office Manager, it was confirmed that the Floe Edge was closed by the MHTO Board at Midnight on July 3, 2025.
	Official start of shipping season	On July 24 th , Baffinland notified the MHTO, Hamlet of Pond Inlet by providing a 72-hour notice before the start of the shipping season. They were also provided a 24-hour notice on July 29 th .
	Ongoing shipping activities-related communications	Baffinland maintains active communication with the MHTO and residents of Pond Inlet about anticipated shipping operations and will continue to do so throughout the summer via multiple modes including local public radio, marine VHF radio, social media, and live ship tracking available on the Baffinland website (www.baffinland.com) under its >Operation>Shipping & Monitoring> webpage, and on our dedicated Facebook page. www.facebook.com/ShippingBaffinland/
During Shipping	Ongoing shipping activities-related communications	Shipping Monitors based in Pond Inlet are hired and in place for ongoing communications with residents.
		Dedicated email address (shipping@baffinland.com) for concerns, questions and comments directed to Baffinland.
	Overall shipping season summary	Maintain comment/concern tracker relevant to shipping season. Posting of Shipping and Marine Monitoring Summary brochure, including Shipping Route, in key locations in Pond Inlet (see Appendix 1). Baffinland to prepare a summary on all vessel-related activity.
Post-season	End of Shipping Season Meeting	Baffinland to host an End of Shipping Season Meeting with representatives of MHTO, the Hamlet of Pond Inlet and local QIA. Meeting is typically held within the same year of shipping season being discussed after the last Baffinland Project vessel has left the RSA. Where possible, Baffinland considers the potential for integrating feedback in planning of next shipping season operations, including consideration of adoption of new management and mitigation measures.
	MEWG Update	Baffinland will provide a shipping season summary at the November/December MEWG meeting like last year.

4.2 SUMMARY OF 2024/2025 IMPLEMENTATION OF BAFFINLAND'S SHIPPING COMMUNICATIONS PROTOCOL

2024 END –OF-SEASON MEETING

Baffinland's 2024 shipping season ended on October 26th, 2024 when all vessels exited the RSA. The 2024 End of Shipping Season Meeting was held in Pond Inlet on November 20th, 2024 separately with the Hamlet Council and with the MHTO at their office. The focus of these meeting was to provide representatives with an overview of Baffinland's 2024 shipping season, listen to concerns and take recommendations. Two concerns, VHF announcements being quiet and chlorine levels in the ballast water were raised by the Hamlet Council and the MHTO at these meetings. Baffinland understands that some VHF repeaters are down in the Region and will work with the MHTO to support initiatives to fix the repeaters. Additionally, Baffinland will get the shipping monitors to avoid using the handheld units, which may be quiet. On the high levels of chlorine in the ballast water treatment, Baffinland has reminded vessel masters in the annual Standing Instructions to Masters about this and offered suggestions from Department of Fisheries and Ocean (DFO) on what they may need to consider. Baffinland is also supporting DFO's Ballast Water study which includes chlorine measurements for ships coming to Milne Port.

4.2.1 2025 PRE-SHIPPING SEASON MEETING

At the time of drafting this report, the pre-shipping meetings with MHTO were not successfully held. Baffinland scheduled meetings for July 15th and then July 23rd but these meetings were cancelled at the request of the MHTO Board. A new date is set for August 13th with MHTO Board. On July 30th Baffinland representatives led by Baffinland's Sr. Manager of Environment & Social Governance and supported by Community Relations Guide met with the Hamlet Council. The team also held a radio show on July 30th, 2025 to inform the residents of Pond Inlet about the start of the 2025 shipping season.

The following is a brief summary of the key points that will be presented and discussed with residents of Pond Inlet:

- i) Brief recap of the 2024 season;
- ii) Overview of 2025 shipping season;
- iii) A summary of key mitigation measures that will be implemented this year;
- iv) Providing an update on the shipping monitor program focused on hiring, primary duties, and communication with the public. Baffinland team conveyed that shipping monitors are on duty 24/7 and therefore are available to provide information and answer questions about the vessels around the clock.

4.3 ENGAGEMENTS RELATED TO BAFFINLAND'S SHIPPING AND MARINE MITIGATIONS

A summary of engagements post 2024 Shipping Season and before 2025 Shipping Season are as follows:

1. On November 20th, 2024, Baffinland had a post shipping radio show and meeting in Pond Inlet with the Hamlet Council and the Board of MHTO to inform the community about the end of the shipping season.
2. On January 9th, 2025, the summary of the 2024 shipping season was presented to the Marine Environment Working Group (MEWG) and a question was asked on the type of fuel used by vessels when they turn off

their scrubbers while transiting through Milne Inlet. Baffinland responded that the vessels use Marine Gas Oil (MGO).

3. On January 9th, 2025, Baffinland presented the summary of the 2024 marine monitoring program and implications of ice conditions on the field programs to the Marine Environment Working Group. At that time, a discussion followed and members asked that the rationale for five-year monitoring plan be represented to the MEWG.
4. On March 20th, 2025, Baffinland again, presented the five-year environment-monitoring plan to the MEWG. This plan was initially presented and discussed at the MEWG meetings held in May and June 2024.
5. On July 8th and 11th, 2025, Baffinland organized a MEWG meeting where the results of the 2024 marine monitoring programs, and 2025 marine monitoring plans were discussed. This meeting also had presentations from DFO on the 2024 ballast water study at Milne Port, as well as DFO's beluga and walrus studies near the southern shipping route. Baffinland also presented an overview of the 2024 shipping season and the plans for 2025. This meeting had in attendance HTO members from Pond Inlet, Sanirajak and Clyde River communities.
6. On July 17th, 2025 Baffinland mailed the executive summaries of all environmental and socio-economic monitoring reports including the popular summary of the 2024 NIRB annual report in English and Inuktitut to Pond Inlet, Arctic Bay, Clyde River, Igloolik, and Sanirajak communities. Included in this package was a USB key with softcopies of the full versions of these reports.
7. On July 30th, 2025, Baffinland held a pre-shipping meeting with the Hamlet Council where they delivered a presentation on the 2025 shipping season. The team later went on the radio to inform the community on the start of the 2025 shipping season.

5 MITIGATIONS FOR MARINE MAMMALS AND TRADITIONAL HARVESTING

5.1 ADAPTIVE MANAGEMENT MEASURES FOR 2025

Baffinland continues to implement all existing mitigation measures as described in Section 6 of the Shipping and Marine Wildlife Management Plan (Baffinland, 2023b) and in Table 5.1 below, including delaying the shipping season until a continuous path of 3/10ths or less ice concentration is available along the Northern Shipping Route.

In addition to the continued implementation of marine mitigation measures from previous years, Baffinland will continue to restrict the use of scrubbers within the RSA, and will require vessels at anchorage to rely on auxiliary power unless not advisable for safety reasons. Baffinland has adapted its mitigation measures in response to Inuit Qaujimajatuqangit (IQ) and community concerns. We continue to seek input and address concerns raised to us. The two feedbacks that we heard about the 2024 shipping season was that the VHF announcements were too quiet and chlorine levels in the ballast water were raised by the Hamlet Council and the MHTO at these meetings. Baffinland understands that some VHF repeaters are down in the Region and will work with the MHTO to support initiatives to fix the repeaters. Additionally, Baffinland will get the shipping monitors to avoid using the handheld units, which may be quiet. On the high levels of chlorine in the ballast water treatment. Baffinland has reminded vessel masters in the annual Standing Instructions to Masters about this and offered suggestions from Department of fisheries and ocean (DFO) on what they may need to consider. Baffinland is also supporting DFO's Ballast Water study which includes chlorine measurements for ships coming to Milne Port.

5.2 SHIPPING MITIGATIONS MEASURES TO REDUCE IMPACTS ON MARINE MAMMALS

Vessels are instructed to follow the nominal shipping route to the fullest extent possible, however, at the start and end of the shipping season there may be a need for slight deviations from the nominal shipping route to avoid interactions with ice. Any notable deviations are communicated to hunters on the water and in the communities through the Shipping Monitors. In all cases, vessels are instructed to avoid Koluktoo Bay and the western shoreline near Bruce Head to minimize effects on marine mammals, sea birds, and interference with hunting activities (Figure 5.1).

All Project vessels will restrict speed to 9 knots when transiting along the established shipping corridor, and will operate in such a way as to avoid separating an individual member(s) of a group of marine mammals from other members of the group. When marine mammals appear to be trapped or disturbed by vessel movements, the vessel will implement appropriate measures to mitigate disturbance, including stoppage of movement until wildlife move away from the immediate area.

A detailed description of mitigations for minimizing Project-related activities on marine mammals are available for review in Baffinland's SMWMP (Baffinland, 2023b). Table 5.1 summarizes these mitigations:

Table 5.1: 2024 Mitigation Measures for Marine Mammals

Project Activity	Mitigation Measure(s)	Species
Vessel traffic to/from Milne Port	<ul style="list-style-type: none"> • Maintain constant speed and course when possible. • Reduce vessel speed to 9 knots. • Reduce vessel idling. • No more than 3 ore carriers anchoring at Ragged Island and/or drifting in Eclipse Sound. Drifting to be avoided unless warranted for safety reasons. • No icebreaking to commence the 2024 shipping season. Ore carriers will not begin their transit to Milne Port until 3/10ths or less ice is present along the entire shipping route through the Nunavut Settlement Area (NSA) from the entrance of Eclipse Sound and Milne Port. • No breaking of landfast ice. • When marine mammals appear to be trapped or disturbed by Project vessel movements, the vessel will implement appropriate measures to mitigate disturbance, including stoppage of movement until wildlife move away from the immediate area (as safe navigation allows). • All Project vessels are provided with standard instructions to operate their vessel in a manner that avoids separating an individual member(s) of a group of marine mammals from other members of the group. • All Project vessels are provided with standard instructions to not approach within 300 m of a walrus, polar bear, or large aggregations of sea birds observed on sea ice. • Vessels awaiting instructions from the Port Captain to enter the RSA will be instructed to wait in Baffin Bay at least 40 km east of the Nunavut Settlement Area. • Opportunistic use of convoys throughout the 2025 season to further reduce total sound exposure. Acoustic monitoring data indicates that if ore carriers transit in convoys with inter-vessel separation less than 10 km, there is an overall reduction of the total sound exposure in the Regional Study Area compared to multiple individual transits of an equivalent number of vessels. Slight increases of instantaneous sound levels in the regions 	<p>Ringed Seal, Bearded Seal, Walrus, Beluga, Narwhal, Bowhead Whale, Polar Bear, Sea birds</p>

Project Activity	Mitigation Measure(s)	Species
	<p>between the vessels are compensated for by shorter exposure duration, resulting in a net decrease of noise exposure (see Appendix F in Baffinland, 2023b).</p> <ul style="list-style-type: none"> • Continued implementation of established “no-go zones” along the western shore of Milne Inlet and Koluktoo Bay. • Limiting the number of vessels anchored or drifting at Ragged Island to a maximum of three vessels at any time throughout the shipping season, unless there is a need for safety reasons. • Establishment of voluntary speed restrictions (9 knots) for all Project vessels travelling along the Northern Shipping Route to minimize ship wake and disturbance to marine mammal harvesting activities. • Restricting the discharge of grey water by vessels anywhere in the RSA; and no disposal of sewage or waste either. • Establishment of a nominal shipping route for all Project-vessels to follow to increase predictability and safe passage for hunters while Project-vessels are present in the Northern shipping corridor (see Figure 5.1). • Restricting the use of scrubbers within the RSA. • Instructing vessels to power off main engines and rely on auxiliary power at anchorage, unless warranted for safety purposes. 	

†All vessels ranging in size from Capesize to Newcastlemax will be collectively referred to as Capesize*, equivalent to vessel sizes of Deadweight Tonnage (DWT) range of 200,000 – 220,000, and carrying capacity range of approximately 200,000 to 215,000 metric tonnes.



Figure 5.1 Nominal Shipping Route and Restricted Shipping Areas

It is important to note that none of the aforementioned mitigations related to vessel movement, should be read in any way as over-riding the Master's authority and responsibility for safe navigation and management of the vessel.

Baffinland has also developed several mitigation and management measures to directly minimize the effects of the Project on Inuit hunting and harvesting activities and to ensure land user safety in the presence of Project activities.

Mitigation measures include:

- Waiting for confirmation from the MHTO that the floe edge has been closed for hunting prior to the start of the shipping season
- Submitting advanced notice to the MHTO and Hamlet 72 hours & 24 hours in advance of the first anticipated inbound vessels.
- Development of an extensive Internal Communications Protocol for Shipping Activities (Appendix 6), that includes the hiring of shipping monitors within Pond Inlet who provide community updates on vessel traffic both over community radio and VHF throughout the shipping season.
- Development of a Baffinland Shipping Facebook page to address community concerns related to shipping. www.Facebook.com/ShippingBaffinland/
- Weekly sharing of an anticipated approximate 10-day rolling schedule with the MHTO and Hamlet to ensure hunters and community members are aware of transiting vessels.
- Establishment of 'no-go zones', specifically near Saviit (along shoreline of Bruce Head), which has been identified as an important hunting area (see Figure 5.1).
- Providing fuel to hunters who visit the Project site.
- Providing food, water and shelter at the Project site.
- Support Inuit in identifying, communicating and using safe routes in or around the Project infrastructure.

5.3 IMPACT AND BENEFIT PROGRAMS FOR INUIT

Consistent with Article 12.5.5 (e) of the Nunavut Agreement, Baffinland has also made the following commitments to compensate for Project-effects on Inuit land use that were predicted within the Early Revenue Phase Final Environmental Impact Statement (ERP FEIS) and Production Increase Proposal Extension (PIPE) Amendment Package and have since been reported by community members since the start of the Project.

When Project activities began in 2013, Inuit and the Company acknowledged that impacts to harvesting may occur from the Project. Specifically, Article 13.1 of the Mary River Project Inuit Impact and Benefit Agreement (IIBA) notes the following:

"The objective of Article 13 hereof is to ensure that any potential incompatibility of the rights of Inuit to free and unrestricted travel and access for harvesting to all lands, water and marine areas within the Nunavut Settlement Area with the Company's land use activities and rights of navigation in marine areas may be reduced....The QIA recognizes that the Company's right to operate and manage their activity within the Project area including the rail and shipping corridor, subject to the provisions of this Agreement and QIA recognizes the restriction on Inuit right of access under Sections 5.7.18 and 5.7.25 of the NLCA..."

More specifically, concerns raised relating the discharge of firearms within the Project area are accounted for under Article 13.5.1 of the IIBA, which states the following:

“Inuit travelling in or accessing the Project lands shall not discharge firearms or otherwise pursue access for harvesting, within one (1) mile of a Project building, structure or facility, in conformity with Clause 5.7.17 (b) of the Nunavut Land Claim Agreement (NLCA), subject to wider safety or where the access for harvesting, including the discharge of firearms is incompatible with ongoing land use activity of the Company.”

In consideration of these effects, Article 5 (Financial Participation) ensures that Inuit receive a minimum of \$1,250,000 quarterly, or \$5,000,000 annually, in the form of resource royalties (IIBA 5.6.3, 2018).

Baffinland also provides funding for the Wildlife Compensation Fund (Article 17.6 of the IIBA); with distribution of this fund managed directly by the QIA. One of the stated purposes of IIBA Article 17 is to establish a wildlife compensation fund that QIA, an HTO, or an Inuk may apply to, as an additional remedy to an NLCA claim for wildlife compensation.

The amended IIBA, which was signed after the QIA provided support for the Production Increase Proposal (PIP), also included the establishment of

- Hunters Enabling Fund, which provides 300 litres of fuel to Inuit over the age of 12 residing in Pond Inlet, with an annual maximum value of \$400,000. (IIBA 17.7, 2018);
- Marine Research Equipment which will provide each North Baffin Community with a marine vessel after three amortization years of use (IIBA 17.9, 2018); and
- The Wildlife Monitoring Program which provides \$200,000 annually to the MHTO to conduct community-based research based on a scope and design established by the community and the MHTO, and subsequent approval by the Joint Executive Committee (IIBA 17.8, 2018).

The Marine Research Equipment (IIBA 17.9) and Wildlife Monitoring Program (IIBA 17.8) were developed in part due to the concerns expressed by harvesters and the desire for more community-based monitoring that is planned, led, and carried out by Inuit in the North Baffin Communities. This allows for topics of greatest concern to be actively monitored by Inuit.

Moreover, Baffinland, the MHTO, and the Hamlet of Pond Inlet signed the “Agreement to Establish the Pond Inlet Committee”¹ in response to concerns raised during former engagements related to the Production Increase Proposal (PIP). This agreement recognized the desire for improvements to the way in which Project benefits were being distributed to communities. The agreement commits Baffinland to providing \$10,000 to the Tasiuqtiit Working Group (TWG), managed by the MHTO and Hamlet of Pond Inlet, for every ore carrier required to ship in excess of 4.2 Mtpa. Since its signing in 2018, this Agreement has led to the direct disbursement of \$1,290,000 to the community of Pond Inlet (\$130,000, \$240,000, \$170,000, \$190,000, \$70,000, 270,000 and 220,000 for years 2018, 2019, 2020, 2021, 2022, 2023 and 2024 respectively).

¹ This agreement led to the creation of Tasiuqtiit Working Group (TWG).

6 MONITORING PROGRAM REVIEW

6.1 SHIPPING & MARINE MONITORING PROGRAM ENGAGEMENT FEEDBACK

Section 4 summarizes Baffinland’s 2024-2025 engagement activities with the community of Pond Inlet and other Parties, including the MEWG. Below summarizes the feedback Baffinland has received related to shipping and marine monitoring during those engagements. Below is a summary of comments received during the engagements on Baffinland’s monitoring programs.

1. At various engagements in 2024, HTO members raised concerns about ballast water and aquatic invasive species in the arctic partially due to increased profile of DFO’s Ballast Water Program. Baffinland continues to share information on its implementation of the Ballast Water Management Plan, which meets International Maritime Organisation (IMO) D-2 standard and the collaboration with DFO on ballast water monitoring program at Milne Port.
2. During the May 13th and 14th, 2024 MEWG meeting, members asked that Baffinland confirms whether vessels calling at Milne Port were using closed loop scrubbers. Baffinland confirmed that open and closed loop scrubbers have been restricted for years, and that vessels do not discharge in the RSA.
3. Baffinland received comments from members – DFO, QIA, Oceans North and Parks Canada on the five (5) years monitoring plan. Baffinland discussed this on three (3) separate occasions – a technical memo providing rationale was shared with members (MEWG May 13th and June, 6th, 2024) and IR comments submitted to NIRB (Aug 9th, 2024), and written submissions were addressed at the March 20th, 2025 MEWG meeting.
4. Steensby modelling: HTOs raised concerns that the spill model does not account for all the locations where marine mammals are known to occur. Baffinland acknowledged the input of the HTOs, highlighting the importance of Inuit Qaujimagatuqangit (IQ) in the spill modelling and agreed to work with the HTOs to identify all locations and include them in the spill model.
5. At January 9, 2025 MEWG meeting, Baffinland was asked to confirm the type of fuel used by vessels when they turn off their scrubbers. Baffinland confirmed that vessels use Marine Gas Oil (MGO).

6.2 2025 MONITORING ACTIVITIES

Baffinland has several marine mammal monitoring programs designed to assess the effects of Project shipping activities on marine mammals. The marine mammal monitoring programs outlined in Table 6.1 will be implemented during the 2025 shipping season. These programs will serve to continue Baffinland’s understanding of project related and cumulative effects to narwhal in the Regional Study Area:

Table 6.1: Summary of 2025 Marine Mammal Monitoring Programs

Program	Basic Description	2024 Follow-up Monitoring Priorities/ Considerations
Bruce Head Shore-Based Monitoring Program (Visual)	Visual Observations: <ul style="list-style-type: none"> • Relative Abundance and Distribution (RAD) • Group Composition and Behaviour • Human Activity 	<ul style="list-style-type: none"> • Monitor for local change in relative abundance and animal distribution including interannual variation • Monitor behavioural responses to shipping and other stressors (hunting, predation)

Program	Basic Description	2024 Follow-up Monitoring Priorities/ Considerations
	<ul style="list-style-type: none"> ○ Vessel Traffic ○ Hunting ● Weather and Anecdotal Observations Project-related vessels tracked via both satellite and shore-based AIS Estimated Start Date: August 6 th Estimated Duration: 4 weeks	<ul style="list-style-type: none"> ● Monitor Early Warning Indicator (EWI): change in the proportion of immature narwhal between years – was calving or calf survival potentially impacted based on observations made in 2023, noting that exact causal factor remains unknown since narwhal utilize habitats in the RSA temporarily for only ~up to 4 months per year (i.e., 1/3 of the year), and is dependent on ice conditions. Potential for spatial and temporal interaction with Baffinland shipping activities are therefore limited to the RSA and days over which shipping is occurring.
Bruce Head Shore-Based Monitoring Program (includes Unmanned Aerial Vehicle [UAV])	UAV Observations: <ul style="list-style-type: none"> ● Focal Follows – Northern Shipping Route, Koluktoo Bay Systematic Survey – Stratified Study Area (SSA) Morphometrics – Body Condition Proposed system by InDro Robotics: DJI M300 Estimated Start Date: August 6 th Estimated Duration: 4 weeks	<ul style="list-style-type: none"> ● Monitor narwhal behaviour in the presence and absence of vessels – do individual narwhal or narwhal pods modify their behaviour in the presence/absence of vessels in the open-water shipping season (multiple response variables examined)? ● Does the distance at which individual narwhal or narwhal groups react to vessels differ from past years, irrespective of the overall abundance of narwhal in the RSA? Do narwhal react to vessels in a similar manner to previous years? ● Collect second year of morphometric data to contribute towards a narwhal body condition monitoring program (base year is 2021). The photogrammetric data collection of narwhal (morphometric baseline data) using UAV will be used to monitor for potential interannual and seasonal changes in narwhal body condition (variable length/width measurements along body) that would indicate food/foraging success and/or stress response, noting that narwhal spend

Program	Basic Description	2024 Follow-up Monitoring Priorities/ Considerations
		only spend up to 1/3 of their year in the RSA with overlapping shipping activities.



Figure 6.1 2024 Bruce Head Shore-Based Program Field Researcher Conducting Visual Observations



Figure 6.2 Still Frame of Narwhal Mother and calf taken during 2024 Bruce Head Monitoring Program

6.3 INUIT PARTICIPATION IN MARINE MONITORING PROGRAMS

6.3.1 Inuit Participation in Marine Monitoring Programs

The integration of local Inuit knowledge in field program design is essential for all environmental monitoring programs to be successful. As part of this task, WSP Canada (WSP) (Baffinland’s marine consultants) and Baffinland aim to engage with the Mittimatalik Hunters and Trappers Organization (MHTO) prior to commencing all programs to receive input on the program components. Prior to all fieldwork, WSP will request a Letter of Approval (appendix 5) from the MHTO in order for the programs to proceed following receipt of the approval. The letter of approval was received on June 9, 2025 from the MHTO. WSP includes Inuit participants in field monitoring programs to ensure that Inuit Qaujimagatuqangit is incorporated. Inuit participation for the 2025 monitoring programs is as follows:

- Bruce Head Shore-based Monitoring Program (visual and UAV) – 10 Inuit participants.
- Marine Environment Effects Monitoring Program (MEEMP) – 3 Inuit participant.

In addition, Baffinland has hired 11 community-based shipping monitors in Pond Inlet for the upcoming 2025 season. These shipping monitors are based out of the MHTO office building and act as a liaison between community members, hunters, and Baffinland. A community-based Environmental Coordinator, who was hired in November 2021 is the community-based contact in Pond Inlet for residents to engage directly with Baffinland on any environmental matters. This position remains filled and the Pond Inlet Environmental Coordinator continues to be involved in Marine and Terrestrial Working Group Meetings, community engagements, and marine monitoring programs.

6.3.2 Support for Community-Based Monitoring Programs

In 2018, as part of updates to the Inuit Impact Benefit Agreement (IIBA) for the Mary River Project (the Project), Baffinland established the Wildlife Monitoring Program (Article 17.8 of the IIBA), which is a community-based

monitoring program, specific to the research interests of the community of Pond Inlet. Baffinland looks forward to considering the results of these community-driven monitoring efforts into the design of future monitoring programs led by Baffinland and as part of contributions to overall adaptive management practices adapted by Baffinland. As results from the community-based monitoring programs become available, Baffinland will seek to work with the MHTO to conduct a comparison of results, where appropriate. Prior to implementing any programs in a given year, the community of Pond Inlet is responsible for developing an annual work plan, which is then presented to the Joint Executive Committee (Baffinland and QIA) (JEC) for review and approval.

7 AQUATIC INVASIVE SPECIES / NON-INDIGENOUS SPECIES MONITORING

7.1 2024 AQUATIC INVASIVE SPECIES / NON-INDIGENOUS SPECIES MONITORING PROGRAM RESULTS

Baffinland's AIS/NIS monitoring program is one of the most comprehensive monitoring for AIS/NIS done in a Canadian Port. This includes benthic infauna samples, benthic epifauna and macroalgae, zooplankton, flora and fauna, fish collection by fukui trap, hoop net, gillnet, angling and trawling (and analysis of gut contents) were compared against the existing taxonomic inventory for Milne Inlet to detect non-indigenous species (NIS) or aquatic Invasive Species (AIS). Approximately 1,204 taxa have been identified at Milne Port through monitoring to date, of which 499 have been identified to unique species (macroflora, zooplankton, benthic invertebrates and fish).

In the 2024 monitoring program, there were 54 new additions to the Milne Inlet Taxonomic Inventory (taxa that had not been observed in previous surveys) but all were previously recorded from the Canadian Arctic or described ranges that were likely to include the Project area. Five taxa (*Chaetozone anasima*, *Chaetomorpha sp.*, *Desmarestia ligulata*, *Atithamnion cf. sparsum*, *Polysiphonia kapraunii*) were precautionarily flagged for further review and were placed on the Watch List as a Low Risk taxon. *Paramphitrite birulai* which was previously placed on Watch List due to uncertainty in its natural range was also collected in 2024, this was further sent for independent verification. Distribution and abundance of *P. birulai* collected in 2024 were compared to previous years and there were no meaningful trends in abundance or distribution since taxon was first observed in Milne Port that may signal the onset of invasive behaviours. No change in the status of this taxon on the Watch List was recommended. No taxa were removed from the Watch List in 2024. The Watch List now consist of thirteen (13) taxa and there are no species on the Trigger List

The identification and risk assessment of individual taxa out of the hundreds identified in Milne Inlet indicated this surveillance program is effective and functioning as intended. The vast majority of these taxa have been designated as "No Risk" and are not considered to be of concern. No species require the development of a response plan.

7.2 2025 AQUATIC INVASIVE SPECIES / NON-INDIGENOUS SPECIES MITIGATION AND MONITORING

In 2025, Baffinland will continue to require all ore carrier vessels with treatment systems to perform both a ballast water exchange and treatment as part of ongoing management and mitigation measures aimed at reducing/eliminating the potential risk of introduction of aquatic invasive species at Milne Port. Baffinland intends to continue implementation of its Ballast Water Management Plan (Baffinland, 2019) in 2025, which includes monitoring for compliance with D-2 Regulations on all Project vessels prior to discharge of ballast water at Milne Port. Baffinland will also continue to implement monitoring of aquatic invasive species/non-Indigenous species (AIS/NIS) sampling at Milne Port in 2025 through marine sediment quality and benthic infauna sampling, as per the marine Environmental Effects Monitoring Program (MEEMP).

Additionally, Baffinland will continue to collaborate with the DFO to conduct a two-week program involving the biological sampling of ballast water onboard vessels with treatment systems. This program started in 2023 involving engagement with Pond Inlet community youths to provide hands-on experience, training, and share preliminary findings and will continue in 2025.

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APPENDIX 1

2025 SHIPPING AND MARINE MONITORING SUMMARY

SHIPPING AND MARINE MONITORING SUMMARY

BAFFINLAND SHIPPING

Contents

- 1 Baffinland Shipping Activities
- 2 Addressing Concerns
- 3 Shipping Route
- 4 Potential Effects on the Environment
- 5 Marine Monitoring Programs
- 6 Communications





BAFFINLAND SHIPPING ACTIVITIES

Baffinland Iron Mines Corporation ('Baffinland' or the 'Company') will begin its shipping activities once certain minimum requirements have been met, including no presence of landfast ice along the entire Northern Shipping Route, and confirmation that the Pond Inlet floe edge has been closed.

Baffinland will continue to implement mitigation measures throughout the shipping season in direct response to Inuit input. The trigger to commence the beginning of the shipping season is the presence of a continuous path of 3/10^{ths} or less ice concentrations between the entrance of Eclipse Sound and Milne Port, which is typically expected to occur by July 30th. Baffinland will continue to provide regular updates to the community through the Shipping Monitor program based in Pond Inlet as well as through the shipping Facebook page. As we approach the start of the season we provide a 72hr notice to the community when we anticipate to begin shipping.

The final shipping schedule will depend on prevailing ice conditions. Once initiated, shipping will continue through October, with all vessels planning to depart from Milne Port by October 31st.

What you've shared with us

Through valuable conversations with local community members, Baffinland has heard a number of primary concerns related to shipping through the Northern Shipping Route.

The potential for shipping to interfere with local hunting

The potential for dust to impact the marine environment including water and sediment quality, and marine organisms

The potential for vessels to affect marine mammals

The potential for shipping activity to harm the health of the marine ecosystem

ADDRESSING CONCERNS

How has Baffinland addressed these concerns?

Baffinland is committed to continuing to monitor any potential effects of shipping activities. Here are some of the measures we will be implementing to manage and mitigate potential issues:

1. Baffinland vessels will not break through landfast ice and will wait for confirmation that the floe edge has been closed before entering Eclipse Sound. The trigger to commence the beginning of the shipping season is the presence of a continuous path of 3/10^{ths} or less ice concentrations between the entrance of Eclipse Sound and Milne Port, which is typically expected to occur by July 30th.
2. Convoys and larger vessels will be used opportunistically to further reduce total underwater sound exposure and reduce the total number of vessel transits. Baffinland introduced the use of convoys, where vessels travel in groups, throughout the shipping season. This reduces the total underwater sound exposure, potential interactions with hunters, and limits the number of overall vessel transits through the area.
3. Vessels will follow the approved Northern Shipping Route, unless deviations are required to ensure safe sailing conditions. We have a notification system that alerts Baffinland staff if any Baffinland vessels are travelling above the speed limit (maximum of 9 knots) or outside of the approved Northern Shipping Route by more than 1 nautical mile (nm).
4. A maximum of three vessels can be anchored or drifting at Ragged Island at any one time. Vessels are only permitted to drift within the established drifting zone and Ragged Island, which is strictly for safety purposes.
5. Ensuring that all Baffinland vessels follow the Standing Instructions to Masters which provides information to vessel captains on speed limits, the shipping route, and anchorage locations.
6. No grey water, sewage or ballast water will be discharged in Eclipse Sound by ore carriers. Ballast water is only discharged by ore carriers at Milne Port after compliance testing.
7. Baffinland enforces “no-go zones,” which include the western shoreline near Bruce Head and Koluktoo Bay to minimize interference with hunting activities.
8. Baffinland works with community members, Hunters and Trappers Organizations and Hamlets to ensure that all concerns related to shipping activities are considered. Full-time Shipping Monitors will be available in the Baffinland Pond Inlet office to support daily tracking and viewing of vessels passing through Eclipse Sound all the way to Milne Port.
9. Baffinland will conduct marine mammal shore-based monitoring throughout the shipping season to monitor narwhal relative abundance, calving rates, and behaviour.
10. Baffinland will continue to implement dust suppression and mitigation measures, as well as monitor dust concentrations in Milne Inlet and surrounding areas.
11. The use of scrubbers is prohibited within the Regional Study Area.
12. Vessels turn off the main engine at anchorage and only use auxiliary power, unless warranted for safety reasons, to reduce sound exposure.
13. Baffinland conducts voluntary salinity testing on board each ore carrier calling to Milne Port prior to discharging ballast water. All Project vessels are required to conduct a ballast water exchange prior to arriving at Milne Port and all vessels with a treatment system on board are required to treat ballast water in addition to conducting an exchange.

It is important to remember that the health and safety of people is always Baffinland’s top priority. In some situations, the vessel captains may need to deviate away from standard operating procedures to ensure safe passage.

SHIPPING ROUTE



have questions or concerns?

If you are on the water and have an immediate concern, **contact our shipping monitor via VHF radio channel 26.**

Visit the Baffinland office and speak with our shipping monitors or **view vessel tracks** in the Mittimatalik Hunters and Trappers Organization (MHTO) building, 2nd floor.

Email us at :
shipping@baffinland.com

Call us at:
(867) 899-1807

For shipping updates visit:
www.baffinland.com
> Operation
> Shipping & Monitoring



potential effects on the environment

Baffinland monitors the marine environment for all potential effects from Baffinland shipping. Shipping may affect marine mammals:

- Distribution and abundance
- Behaviour
- Habitat

Shipping could potentially affect the local marine environment by:

- Introducing aquatic non-indigenous or invasive species
- Altering the quality or quantity of fish habitat
- Altering water quality near Milne Port



marine monitoring programs

What are we doing to monitor the marine environment?

Baffinland has been monitoring for potential project related effects on the marine environment every year since 2013 and while not all monitoring programs are required each year, we ensure that monitoring efforts meet or exceed industry standards. We report our results each year through the Nunavut Impact Review Board's (NIRB) annual report as well as with the Marine Environment Working Group (MEWG) that has member representation from the Mittimatalik Hunters and Trappers Organization (MHTO) and other HTA's.

To monitor potential effects from shipping on the marine environment, Baffinland will be running a number of different monitoring programs throughout the shipping season.

The marine monitoring programs will:

- Measure the effects that shipping is having on the marine environment
- Assess the accuracy of predictions of effects
- Determine if adaptive mitigation measures need to be developed.



Marine Mammal Aerial Surveys

The Aerial Clearance Survey is done at the end of the season (October), if ice is present, when the last ships are leaving to ensure that no Narwhal are entrapped in ice.



Marine Environmental Effects and Aquatic Invasive Species and Habitat Offset

Monitors water and sediment quality including metals, benthic infauna, epifauna and epiflora, fish abundance and health (focus on Arctic char) including contaminant analysis, and ballast water compliance testing. This program takes place at Milne Port from the end of July to the third week of August.



Ship-based Observer Monitoring

Marine Mammal Observers (MMOs) based off of the icebreaker MSV Botnica and MSV Fennica monitor for potential ship strikes on marine mammals in the Regional Study Area and document the relative abundance of marine mammal and seabird species in the Project area relevant to icebreaking operations. This program takes place for two weeks in mid to late October.



Aquatic Invasive Species Ballast Water Monitoring (DFO Collaboration)

The Department of Fisheries and Oceans in collaboration with Baffinland ran a two-week pilot program in 2023 that focused on biological sampling of ballast water. This program is intended to monitor for the introduction of invasive species through ballast water discharges and will include training workshops in the community of Pond Inlet. In 2024, this program will run for two-two week periods in September and October.



Bruce Head Shore-based Monitoring

Investigates narwhal response to shipping along the Northern Shipping Route by observing them from the top of Bruce Head. This program takes place the month of August for 4 weeks.

communications

In order to provide better communications about Baffinland vessel activities, full-time Shipping Monitors will be available over the entire shipping season working from the Baffinland Pond Inlet office located in the Mittimatalik Hunters and Trappers Organization (MHTO) office building (2nd Floor). If you have questions, comments or concerns about Baffinland vessels, please contact Baffinland by visiting one of our Shipping Monitors, or provide your concern to a representative from the MHTO who can then relay the message to Baffinland.

In addition to interacting directly with Shipping Monitors, vessel traffic in 2024 may be monitored through a variety of methods including:

1. Accessing the Baffinland website (www.baffinland.com) and following the path to "Operation>Shipping & Monitoring", access also available in the Baffinland Pond Inlet office;
2. Visiting the Pond Inlet Baffinland office to observe live tracking of vessels through the Automatic Identification System (AIS) monitoring station, and learning more about the type of vessels that Baffinland requires for its operations;
3. Announcements about upcoming vessel activity including convoys will be made on the local Pond Inlet radio at regular intervals;
4. Listening to periodic announcements of daily and upcoming vessel activity including convoys on marine VHF radio channel 26;
5. Accessing the Baffinland shipping Facebook page for shipping related updates and ship tracks at www.facebook.com/ShippingBaffinland/



questions? here is how you can reach us

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360 Oakville Place Drive

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L6H 6K8**

If you have questions, comments or concerns about Baffinland vessels, please contact us by visiting one of our Shipping Monitors at the Baffinland Pond Inlet office (in Mittimatalik Hunters and Trappers Organization (MHTO) building, 2nd floor), contact us via marine VHF radio channel 26, or provide your concern directly to the MHTO. For specific vessel operation concerns, if possible, please indicate the name of the vessel, location, the date and time of observation, as well as any details about your concern. Please provide photos and video if available.

Cortney Oliver
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APPENDIX 2
SELF ASSESSMENT OF SIGNIFICANCE AGAINST NIRB CRITERIA –
NEWCASTLE MAX

Table 1. Capesize Trial 2023 – Self Assessment of Proposed Amendment to Approved Project

Self-Assessment Criteria	Baffinland Self Assessment										
<p>A sufficiently detailed scope of project components and activities to be undertaken during the proposed modification, contrasted with the scope of the original project as previously considered by the NPC, the NIRB and/or the NWB</p>	<p>The NIRB’s approval of the Early Revenue Phase considered the use of up to 58 vessels, sized Handymax to Post-Panamax. The Production Increase Proposal series of approvals considered 80 – 86 vessels, sized Handymax to Capesize. The use of Cape size vessels was specifically assessed and submitted to the NIRB on March 5, 2023 as a response to the NIRB’s 2019-2020 Mary River Project NIRB Annual Monitoring Report and Recommendations.</p> <p>In 2023 two (2) Cape size (Cape size) vessels would be chartered to complete two round trips each during the shipping season. These trips would occur in open water. A Cape size vessel would be capable of carrying up to 204kt. With the average vessel load out of Milne Port being 76,862 kt in 2021, the use of Cape size could reduce the number of maximum number of vessels needed by 7:</p> <table border="1" data-bbox="607 823 1414 1150"> <tr> <td>Cape size Capacity</td> <td>209,000t</td> </tr> <tr> <td>X 4 trips (2 trips by 2 vessels)</td> <td>836,000t</td> </tr> <tr> <td>Avg Vessel Capacity in 2021</td> <td>76,862t</td> </tr> <tr> <td>Total 2022 Cape size capacity divided by Avg Vessel capacity in 2021</td> <td>11 (10.87)</td> </tr> <tr> <td>Difference between Cape size trips (4) and 2021 Avg vessel trips (11)</td> <td>7</td> </tr> </table> <p>Only minor modifications to Milne Port ore dock are required (installation of additional tidal gauge screen to be reviewed live by vessel captains, installation of new fenders previously and bollards above high water mark).</p>	Cape size Capacity	209,000t	X 4 trips (2 trips by 2 vessels)	836,000t	Avg Vessel Capacity in 2021	76,862t	Total 2022 Cape size capacity divided by Avg Vessel capacity in 2021	11 (10.87)	Difference between Cape size trips (4) and 2021 Avg vessel trips (11)	7
Cape size Capacity	209,000t										
X 4 trips (2 trips by 2 vessels)	836,000t										
Avg Vessel Capacity in 2021	76,862t										
Total 2022 Cape size capacity divided by Avg Vessel capacity in 2021	11 (10.87)										
Difference between Cape size trips (4) and 2021 Avg vessel trips (11)	7										
<p>Information demonstrating the proponent has considered the significance of the potential impacts associated with the proposed modification using the factors for determining significance as set out in s. 90 of the NuPPAA reflecting any other guidance or information requirements of the NPC, the NIRB and/or the NWB to evaluate the significance of the proposed modification;</p>	<p>See Table 2.</p>										
<p>The proponent should also identify whether any new or modified permits, licenses or</p>	<p>No new or modified permits, licenses or other approvals are required to support the proposed activities.</p>										

<p>other approvals are anticipated to be necessary for the proposed works or activities</p>	<ul style="list-style-type: none"> • Appendix P of the North Baffin Regional Land Use Plan does not specify vessel size; Cape size trial conforms to Appendix P and does not require amendment. • There is no Project Certificate Term and Condition that dictates vessel mix or maximum vessel size. No amendment to the PC is required; the use of Cape size was explicitly assessed and submitted to NIRB in March 2021 • There are no implications for water or waste, no amendment or modification is required to the Type A or B Water License. • There are no implications on the Ore Dock #1 FAA. • There are no other permits, licenses or other approvals relevant to this activity.
<p>For proposed modifications to approved projects with a NIRB Project Certificate, information should also be provided as to whether the grounds for a reconsideration of the existing Project Certificate terms and conditions have been met</p>	<p>The proposed modification to the shipping plan for 2022 does not meet the definition of ‘project’ under the Nunavut Planning and Project Assessment Act (NuPPAA). The use of two Cape size vessels traveling at restricted speeds (9 knots) produces less acoustic disturbance than what was assessed for Post-Panamax traveling at greater speeds (14 knots). Further, the reduction in the total number of vessels required by using larger vessels reduces the season’s cumulative noise generation, which is an improvement. Accordingly, the proposed activities are better characterized as an environmental improvement.</p> <p>According to the NIRB’s April 8th guidance document ‘Approaches to Assessment of Proposed Amendments to Approved Projects’, the proposal is manifestly insignificant and does not require submission to the NPC or NIRB for further review.</p> <p>The Cape size trial activities will be subject to Baffinland’s existing marine monitoring program. No changes to the monitoring program are required to account for the modified activities.</p>

Table 2. Change in Factors Related to Section 90 (NuPPAA) Significance Criteria

Section 90 NuPPAA Significance Criteria		Change in Factors Related to Significance of Impacts
a	Size of Geographic Area and Wildlife Habitats Likely to be Affected	No change. All activities and components associated with the larger vessel transits will be located entirely within the shipping lane (Baffin Bay-Eclipse Sound-Milne Inlet) considered under the Approved Project. Therefore, no changes are predicted for any VEC with respect to the size of the geographic area and wildlife habitats likely to be affected.
b	Ecosystemic Sensitivity of the Area	<p>No change. The Eclipse Sound and Milne Inlet are home to the Eclipse Sound summer stock of narwhal. The area is known to host narwhal calving activities throughout the summer. The larger vessels will transit within the existing project boundaries and no new environmental sensitivities have been identified.</p> <p>Note - Given their close co-relationship with sea-ice, narwhal are predicted to be highly sensitive to effects of climate change. Direct and indirect effects of climate change on narwhal include increasingly erratic sea ice activity, seasonal and permanent sea ice decline, increased human activity in narwhal habitat (commercial fisheries, shipping), colonization of narwhal home range by species not previously present in the high north including predators, and impacts on food chain and prey availability (affecting narwhal foraging behaviour and energetics).</p> <p>In the FEIS (BIM 2012), the significance of potential impacts on marine mammals was evaluated in light of the state of health of the ecosystem and its predictable evolution, taking account global climate change. Therefore, the ecosystemic sensitivity of the Arctic relevant to climate change was accounted for in the original FEIS, and this has not changed since.</p>
c	Historical, Cultural, and Archaeological Significance of Area	No Change. The shipping lane passes through Eclipse Sound and Milne Inlet. During the summer months, these waters are occupied by recreational traffic including local hunting boats. Hunters harvest narwhal, ringed seal, bearded seal and Arctic char from the marine environment during the open-water season. The larger vessel transits will be confined to the existing project boundaries; no new features of historical, cultural or archaeological significance will be affected.
d	Size of Human and Animal Populations Likely to be Affected	No Change. Vessels will be visible to the community of Pond Inlet (population 1617 (2016)) but they would continue to hug the south coast of Bylot Island and would unlikely be discernable from the Post Panamax vessels that already travel the shipping route. Hunters and land users may see the vessels on the water, or from their cabins along the shipping route at a closer range. While the differences in the size of vessels may not be generally discernable, Pond Inlet residents and hunters will experience up to 7 fewer vessels transiting the waters than they would have otherwise.

Note - Recent aerial survey results have indicated that narwhal abundance in Eclipse Sound was statistically lower in 2020 and 2021 than in previous survey years (2013, 2016 and 2019) (Golder 2022). However, the combined narwhal abundance in Eclipse Sound and Admiralty Inlet was shown to be similar in 2020 to that observed in previous survey years (2013 and 2019); and was statistically higher in 2021 than in previous survey years (2013, 2019 and 2020) (Golder 2022). Collectively, these results suggest one or more of the following:

- A portion of the Eclipse Sound stock occupied the Admiralty Inlet summering ground during the 2020 and 2021 open-water seasons. Potential primary drivers of displacement considered in 2020 included i) acoustic disturbance effects from icebreaking, ii) acoustic disturbance effects from construction activities (e.g., Year 1 of impact pile driving) associated with the Pond Inlet Small Craft Harbour (SCH) Project, and/or iii) increased killer whale presence in the RSA (Golder 2021c). Note that open-water shipping was not identified as a likely contributing factor to the observed decline in 2020 for reasons identified in Baffinland (2021), and that rationale remains valid for 2021.
- Favorable environmental conditions (e.g., prey availability, ice coverage, lower predation pressure) during the spring and/or summer seasons in Admiralty Inlet may have attracted a larger influx of narwhal from the Eclipse Sound summer stock, and potentially from other proximal summer stock areas (i.e., Somerset Island, East Baffin Island) during the 2020/2021 open-water seasons.
- There is a natural exchange of narwhal between the two putative summer stock areas (i.e., Eclipse Sound and Admiralty Inlet) during the open-water season. This has been previously suggested by DFO based on historical aerial survey results (Doniol-Valcroze et al. 2015, 2020; DFO 2020b) and telemetry studies (DFO 2020b). Natural exchange of narwhal between these stock areas during the open-water season is also strongly supported by available Inuit Qaujimagatuqangit (IQ) (NWMB 2016a, 2016b; QWB 2022).

As noted in Golder (2021c), the above factors may have independently or cumulatively contributed to the observed decrease in narwhal numbers in Eclipse Sound. Prior to the start of the 2021 shipping season, it was not possible to determine whether one of these factors alone was the source of the narwhal decline in Eclipse Sound, whether the combined influence of one or more of these factors was responsible, or whether the observed change was natural in occurrence.

Baffinland's commitment to the community of Pond Inlet to not undertake icebreaking during the early shoulder season of 2021 provided an opportunity to determine whether Project activities were the cause of the

observed changes in narwhal abundance in Eclipse Sound in 2020 (Baffinland 2021; Golder 2021c). The precautionary and temporary adaptive management measure applied in 2021 eliminated the possibility of acoustic disturbance to narwhal from icebreaking during the timing of narwhal migration into Eclipse Sound in 2021, and also served to avoid the potential for cumulative noise effects associated with the Pond Inlet SCH Project. As a result of this, underwater noise from icebreaking operations was not considered to be an influencing factor on narwhal abundance in Eclipse Sound during the 2021 season. It also provides additional confidence that observed changes in 2020 were likely not a result of Project activities (i.e., early shoulder season icebreaking).

With respect to underwater noise generated by the SCH construction in Pond Inlet, DFO confirmed that impact pile driving undertaken in 2021 was limited to seven days between 24 June and 01 July (DFO 2021), prior to breakup of the landfast ice and what DFO stated to be the possible arrival of narwhal into Eclipse Sound. DFO therefore concluded that underwater noise from pile driving could not be considered an influencing factor on narwhal abundance in Eclipse Sound or nearby waters during the 2021 season (DFO 2021). No further analysis on this can be completed given the lack of publicly available data. Any additional analysis would remain the responsibility of the Proponent for the SCH construction Project and associated regulatory authorities (i.e., DFO).

Other Considerations:

For the past three consecutive years (2019-2021), combined surveys of both Admiralty Inlet and Eclipse Sound summering stock areas have been undertaken. The primary impetus for running the combined stock surveys (as opposed to the Eclipse Sound summer stock only) was based on available IQ, which indicates that the geographic and genetic distinction between these two summering stocks may be invalid (NWMB 2016a; 2016b; QWB 2022). DFO has also been investigating the extent to which there is a natural exchange of narwhal between these stock areas during the open-water season (Doniol-Valcroze et al. 2015, 2020; DFO 2020b). Natural exchange between the two summering areas was proposed as a possible reason why the 2013 survey results for Admiralty Inlet (~35,000 narwhal) and Eclipse Sound (~10,000 narwhal) differed substantially from previous survey results for the same stocks (18,000 for Admiralty Inlet in 2010 and 20,000 for Eclipse Sound in 2004) (Doniol-Valcroze et al. 2015). All of these surveys (i.e., 2004, 2010, 2013) occurred prior to the start of Baffinland iron ore shipping operations. In summary, despite the adaptive management measure of eliminating underwater noise from icebreaking in 2021, results from the 2021 monitoring programs again indicated lower narwhal numbers in Eclipse Sound during the 2021 shipping season. While underwater noise from open-water shipping cannot be ruled out as a potential cause of narwhal displacement from the RSA, monitoring results collected to date demonstrate that responses to Project-related shipping activities are temporary and localized, suggesting that there are likely

		<p>other factors contributing to the observed change (Austin et al. 2022a, 2022b; Baffinland 2021; Golder 2020a, 2021b).</p> <p>Given that the combined stock estimate for Admiralty Inlet and Eclipse Sound indicates that the regional narwhal population remains stable relative to pre-shipping conditions, and in consideration of the available IQ regarding the degree of exchange between narwhal groups on their summering grounds, the observed decrease in narwhal relative abundance in Eclipse Sound likely reflects natural exchange between the two putative stock areas, or alternatively, that animals shifted to Admiralty Inlet due to more favorable ecological conditions related to sea ice conditions, prey availability and/or predation pressure (Chambault et al. 2020; Franeira et al. 2017; Heide-Jorgensen et al. 2021; Higdon et al. 2012; Laidre et al. 2008, 2015; Lefort et al. 2020; Steiner et al. 2019, 2021), all of which are known to be influenced by a rapidly changing climate in the Arctic (Stroeve et al. 2012; IPCC 2013; Overland and Wang 2013). To better understand what is occurring, additional engagement and monitoring with Inuit stakeholders and regulatory agencies are needed, inclusive of collaborative regional scale monitoring that looks at the population dynamics of the entire Baffin Bay narwhal stock</p>
e	Nature, Magnitude, and Complexity of Impacts	<p>No Change/Improvement. While Capesize vessels do have a marginally larger acoustic sound field than Post-Panamax vessels, the use of larger vessels offset the total number of vessels needed in a season to call on Milne Port. Acoustic modeling completed for the FEIS indicated that a Post-Panamax carrier traveling at 14 knots would generate underwater noise capable of resulting in a behavioral disturbance at distances up to 70 km from the source (Zykov and Matthews (2010). Acoustic modeling undertaken in support of the FEIS Addendum for Phase 2 (BIM 2018) indicated that a Capesize carrier traveling at 9 knots would generate underwater noise capable of resulting in a behavioral disturbance at distances up to 29.5 km (Quijano et al 2018). The noise field associated with a Cape size vessel traveling at 9 knots would be similar to that of the Capesize vessel described above, and would therefore result in a smaller acoustic footprint than what was predicted in the original assessment (FEIS). Furthermore, the cumulative noise exposure on marine mammals would be slightly lower in 2022 given that the introduction of two Cape size voyages in 2022 would result in a net decrease in the overall number of transits animals would be exposed to during the season.</p> <p><i>Quijano, J.E., C. O’Neill and M. Austin. 2018. Underwater Noise Assessment for the Mary River Project – Phase 2 Proposal: Construction and operation activities in Milne Port and along the Northern Shipping Route. Document 01621. Vsrion 1.0.</i></p> <p><i>Zykov, M and M.N.R. Matthews. 2010. Assessment of Underwater Noise for the Mary River Iron Mine Constrtion and Operitona of the mlne Inlet Port Facility. Version 2.1. Technical report prepared for LGL Limited by JASCO Applied Sciencs.</i></p>

f	Probability of Impacts Occurring	No Change. The effects of the larger vessel transits are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance, including the probability of an impact occurring.
g	Frequency and Duration of Impacts	No Change. The effects of the larger vessel transits are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance, including the frequency or direction of an impact occurring. In fact, the reduction in overall vessel requirements will reduce the frequency of impacts from shipping transits.
h	Reversibility or Irreversibility of Impacts	No Change. The effects of the larger vessel transits are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance, including the reversibility or irreversibility of environmental effects.
i	Cumulative Impacts	No Change. The cumulative effects assessed for the Approved Project are not evaluated to change as a result of the larger vessel transits.
j	Any Other Factor that the Board Considers Relevant	Baffinland is not aware of any other factor that NIRB considers relevant to the assessment of the significance of environmental effects.

APPENDIX 3
SELF ASSESSMENT OF SIGNIFICANCE AGAINST NIRB CRITERIA –
CONTINGENCY ICEBREAKER

Table 1. Ice Escort Contingency – Self-Assessment of Proposed Amendment to Approved Project

Self-Assessment Criteria	Baffinland Self-Assessment
<p>A sufficiently detailed scope of project components and activities to be undertaken during the proposed modification contrasted with the scope of the original project as previously considered by the NPC, the NIRB and/or the NWB</p>	<p>BIM is chartering a second ice breaker (MSV Fennica) to ensure our ability to safely escort vessels out at the end of the season in adverse ice conditions like those experienced in October 2022. The conditions experienced in 2022, where multiyear ice flushed into Eclipse Sound through Navy Board Inlet in early October, are rare compared to the last 25 years of recorded ice conditions in the area. As such, the MSV Fennica will be present as a contingency and anchored at Milne Port unless conditions trigger the need for its use.</p> <p>The use of two icebreakers are intended to increase the availability of ice escorts along the shipping route within the marine Regional Study Area, allow shipping to continue through to October 31 while still remaining within the shipping conditions permitted under Project Certificate 005 Term and Condition 187 (no breaking land fast ice). We have overall limited the charter period on both ice breakers to half of what we have chartered in previous seasons. Between 2018 and 2022 Baffinland contracted the MSV Botnica for 120 days and in 2023 the two icebreakers will not arrive in the marine RSA until the end of September.</p> <p>The use of a second icebreaker was specifically assessed and submitted to the NIRB on March 5, 2023 as a response to the NIRB’s 2019-2020 Mary River Project NIRB Annual Monitoring Report and Recommendations.</p> <p>Within the capabilities of the second icebreaker and within applicable regulations:</p> <ul style="list-style-type: none"> (1) Escort ice-breaking for bulk cargo vessels, tankers or other vessels which are loading or unloading or performing operations at Milne Port (2) Ice management in the vicinity of the terminal at Milne Port in the Mary River area of Baffin Island, Nunavut, Canada (3) Loading, storage, deployment, recovery, cleaning and discharge of pollution cleanup and containment gear such as spill booms, absorbent pads, skimmers. Equipment and personnel to be supplied by the Charterer. (4) Provision of emergency services to other ships, including oil spill response, fire fighting and damage control

	(5) Assistance accessing any ship chartered by Charterers or its facilities
Information demonstrating the proponent has considered the significance of the potential impacts associated with the proposed modification using the factors for determining significance as set out in s. 90 of the NuPPAA reflecting any other guidance or information requirements of the NPC, the NIRB and/or the NWB to evaluate the significance of the proposed modification;	See Table 2
The proponent should also identify whether any new or modified permits, licenses or other approvals are anticipated to be necessary for the proposed works or activities	<p>Under the Flag Waiver obtained by Baffinland, Transport Canada and possibly the Canadian Border Service Agency (CBSA) will inspect the vessel to ensure it meets all applicable standards. Once the vessel has been cleared a certificate will be issued.</p> <p>No new or modified permits, licenses or other approvals are required to support the proposed activities.</p> <ul style="list-style-type: none"> • Appendix P of the North Baffin Regional Land Use Plan does not specify vessel size; Cape size trial conforms to Appendix P and does not require amendment. • There is no Project Certificate Term and Condition that dictates vessel mix or maximum vessel size. No amendment to the PC is required; the use of a second icebreaker was explicitly assessed and submitted to NIRB in March 2021 • There are no implications for water or waste, no amendment or modification is required to the Type A or B Water License.
For proposed modifications to approved projects with a NIRB Project Certificate, information should also be provided as to whether the grounds for a reconsideration of the existing Project Certificate terms and conditions have been met	<p>The chartering of a second icebreaker for the stated purpose does not meet the definition of ‘project’ under the Nunavut Planning and Project Assessment Act (NuPPAA). The activation of a second icebreaker in the Fall has been previously defined as part of the existing Project and assessed.</p> <p>According to the NIRB’s April 8th guidance document ‘Approaches to Assessment of Proposed Amendments to Approved Projects’, the proposal is manifestly insignificant and does not require submission to the NPC or NIRB for further review.</p> <p>The potential use of a second icebreaker in the Fall will be subject to Baffinland’s existing marine monitoring program. No changes to</p>

	the monitoring program are required to account for the modified activities.
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Table 2. Change in Factors Related to Section 90 (NuPPAA) Significance Criteria

Section 90 NuPPAA Significance Criteria		Change in Factors Related to Significance of Impacts
a	Size of Geographic Area and Wildlife Habitats Likely to be Affected	The 'Activity' (potential increase in icebreaking operations from 1 to 2 icebreakers during late shoulder season only) remains confined entirely within the PDA for the Approved Project. Therefore, no changes are predicted for any VEC with respect to the size of the geographic area and marine mammal habitats likely to be affected.
b	Ecosystemic Sensitivity of the Area	The activity remains within the existing PDA; no new environmental sensitivities have been identified for marine mammal VECs.
c	Historical, Cultural, and Archaeological Significance of Area	As described in the SOP addendum, the Baffin Region of Nunavut has a rich and visible archaeological heritage dating back many thousands of years. There are many archaeological sites with varying degrees of importance that have been found in the PDA, particularly around Milne Port and Steensby Port, and the transportation corridors between them. However, the activity remains confined to the existing PDA; no new features of historical, cultural or archaeological significance will be affected.
d	Size of Human and Animal Populations Likely to be Affected	The activity is not predicted to more adversely affect the size of animal populations or human demographics in the RSA. The population size of narwhal affected by the activity would be lower in late October than other times of the shipping season (i.e., July/August) as the majority of narwhal would have already completed their outmigration from the RSA and into Baffin Bay (as described in Baffinland 2021). The population size of ringed seal affected by the Activity would remain the same as originally assessed and as described in Baffinland (2021). From a human population perspective, North Baffin communities have grown over the past 20 years although the SOP is unlikely to introduce any additional demographic changes beyond what the current operation of the Approved Project has induced.
e	Nature, Magnitude, and Complexity of Impacts	The activity may result in incremental changes for most of the VECs included in the scope of the assessment; however, these effects are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance. See Baffinland response to NIRB Recommendation #5 (Baffinland 2021) for additional details regarding impact on marine mammal VECs as a result of two icebreakers operating during fall shoulder season.
f	Probability of Impacts Occurring	The activity may result in an increase in the probability of environmental effects on certain VECs; however, these are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance. See Baffinland response to NIRB Recommendation #5 (Baffinland 2021) for additional details regarding impact of two icebreakers on marine mammal VECs during fall shoulder season.
g	Frequency and Duration of Impacts	The activity may result in a net increase in the frequency and/or duration of icebreaking impacts on marine mammal VECs in the RSA (as described in

		Baffinland 2021); however, these are consistent with the Approved Project and will not exceed any significance thresholds or change the determination of significance.
h	Reversibility or Irreversibility of Impacts	In consideration of the nature of the potential interactions and environmental effects associated with the activity, no changes are predicted for marine mammal VECs with respect to the reversibility or irreversibility of this impact pathways (two icebreakers operating during fall shoulder season).
i	Cumulative Impacts	The cumulative effects assessed for the Approved Project are not evaluated to change as a result of the activity.
j	Any Other Factor that the Board Considers Relevant	Baffinland has taken into consideration community comments share directly from the communities, with QIA and through the NIRB process relevant to the above topics. Baffinland is not aware of any other factor that NIRB considers relevant to the assessment of the significance of environmental effects.

Table 2: Modelled distance to the 120 dB disturbance onset threshold for narwhal and total exposure period >120 dB re 1 uPa per icebreaker transit for three different icebreaker escort scenarios (based on Phase 2 Proposal) in various ice conditions along the Northern Shipping Route

Icebreaker Transit Scenario	Vessel speed (knots)	Ice concentration	Range (R95%) to 120 dB disturbance threshold* (km)	Total exposure period >120 dB per icebreaker transit
2 icebreakers + 2 capesize carriers	4.6	10/10	44.3	10.4 h
	9	3/10	42.5	5.1 h
	9	0/10 (open)	26.3	3.2 h
1 icebreaker + 2 capesize carriers	4.6	10/10	40.3	9.5 h
	9	3/10	37.3	4.5 h
	9	0/10 (open)	25.9	3.1 h
1 icebreaker + 1 capesize carrier	4.6	10/10	40.4	9.5 h
	9	3/10	34.9	4.2 h
	9	0/10 (open)	18.6	2.2 h

*Acoustic threshold for onset of disturbance in narwhal (onset of behavioural responses that can range from subtle changes in swim speed and direction to minor and localized avoidance of a sound source) (NOAA 2013).

APPENDIX 4
SELF ASSESSMENT OF SIGNIFICANCE AGAINST NIRB CRITERIA -
TUG BOATS

Table 1. Self-Assessment of Proposed Amendment to Approved Project

Self-Assessment Criteria	Baffinland Self-Assessment
<p>A sufficiently detailed scope of project components and activities to be undertaken during the proposed modification contrasted with the scope of the original project as previously considered by the NPC, the NIRB and/or the NWB</p>	<p>The two tugboats are employed for various functions within Milne Inlet Harbor. Specifically, they play a crucial role in facilitating berthing and unberthing operations, and they serve as transportation vessels for Port personnel shuttling between ore carriers and monitoring their draughts. Presently, a blanket voluntary speed restriction of 9 knots is enforced by Baffinland on vessels transiting to or from Milne Port within the Nunavut Settlement Area, including for tug boats performing operations within the immediate vicinity of Milne Port for the duration of the shipping season. Elevating this limitation specifically for the two tugs within the terminus of Milne Inlet at Milne Port to 14 knots could enhance operational efficiency, specifically moving staff conducting inspections between shore and vessels, assisting with berthing and general safety maneuvers required when ice and/or icebergs are present in Milne Port.</p>
<p>Information demonstrating the proponent has considered the significance of the potential impacts associated with the proposed modification using the factors for determining significance as set out in s. 90 of the NuPPAA reflecting any other guidance or information requirements of the NPC, the NIRB and/or the NWB to evaluate the significance of the proposed modification;</p>	<p>Please see Table 2</p>
<p>The proponent should also identify whether any new or modified permits, licenses or other approvals are anticipated to be necessary for the proposed works or activities</p>	<p>No new or modified permits, licenses or other approvals are anticipated to be necessary for the proposed works or activities</p>
<p>For proposed modifications to approved projects with a NIRB Project Certificate, information should also be provided as to whether the grounds for a reconsideration of the existing Project Certificate terms and conditions have been met</p>	<p>The proposed modification to the shipping plan for 2024 does not meet the definition of ‘project’ under the Nunavut Planning and Project Assessment Act (NuPPAA). Vessel speeds up to 14 knots was proposed in the Early Revenue Phase Final Environmental Impact Statement Addendum. Increasing the vessel speed limits for tugs at Milne Port and no further north than marked in Attachment 1 (Milne Port Anchorage) is a minor adjustment to a blanket mitigation Baffinland has voluntarily implemented since 2018. Accordingly, the proposed activities represent no modification to the Project as previously assessed, reviewed and approved.</p>

	<p>According to the NIRB's April 8th guidance document 'Approaches to Assessment of Proposed Amendments to Approved Projects', the proposal does not represent a modification to the Approved Project and does not require submission to the NPC or NIRB for further review.</p> <p>The potential use of a second icebreaker in the Fall will be subject to Baffinland's existing marine monitoring program. No changes to the monitoring program are required to account for the modified activities.</p>
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Table 2. Change in Factors Related to Section 90 (NuPPAA) Significance Criteria

Section 90 NuPPAA Significance Criteria		Change in Factors Related to Significance of Impacts
a	Size of Geographic Area and Wildlife Habitats Likely to be Affected	The 'Activity' (increased maximum speed for tugs to 14 knots within the area marked in Attachment 1 remains confined entirely within the PDA for the Approved Project. Therefore, no changes are predicted for any VEC with respect to the size of the geographic area and marine mammal habitats likely to be affected.
b	Ecosystemic Sensitivity of the Area	The activity remains within the existing PDA; no new environmental sensitivities have been identified for marine mammal VECs.
c	Historical, Cultural, and Archaeological Significance of Area	As described in the FEIS and FEIS Addendums for the Mary River Project, the Baffin Region of Nunavut has a rich and visible archaeological heritage dating back many thousands of years. There are many archaeological sites with varying degrees of importance that have been found in the PDA, particularly around Milne Port and Steensby Port, and the transportation corridors between them. However, the activity remains confined to the existing PDA; no new features of historical, cultural or archaeological significance will be affected.
d	Size of Human and Animal Populations Likely to be Affected	The activity is not predicted to more adversely affect the size of animal populations or human demographics in the RSA. The population size of narwhal affected by the activity would be lower in late October than other times of the shipping season (i.e., July/August) as the majority of narwhal would have already completed their outmigration from the marine RSA and into Baffin Bay (as described in Baffinland 2021). The population size of ringed seal affected by the Activity would remain the same as originally assessed and as described in Baffinland (2021). From a human population perspective, North Baffin communities have grown over the past 20 years and the activity is unlikely to introduce any additional demographic changes beyond what the current operation of the Approved Project has induced.
e	Nature, Magnitude, and Complexity of Impacts	The activity may result in incremental changes for most of the VECs included in the scope of the assessment compared to the operations subject to the additional voluntary blanket speed limit of 9 knots; however, vessel speeds of up to 14 knots were assessed and reviewed as part of the Approved Project and will not exceed any significance thresholds or change the determination of significance.
f	Probability of Impacts Occurring	The activity may result in an increase in the probability of environmental effects on certain VECs; however, these were considered as part of the Approved Project and will not exceed any significance thresholds or change the determination of significance.
g	Frequency and Duration of Impacts	The activity may result in a net increase in the frequency and/or duration of acoustic disturbance compared to the operations subject to the additional voluntary blanket speed limit of 9 knots, however, vessel speeds of up to 14 knots were assessed and reviewed as part of the Approved Project and will not exceed any significance thresholds or change the determination of significance.

h	Reversibility or Irreversibility of Impacts	In consideration of the nature of the potential interactions and environmental effects associated with the activity, no changes are predicted for marine mammal VECs with respect to the reversibility or irreversibility of this impact pathways (increased maximum speed for tugs to 14 knots with within the area marked in Attachment 1)
i	Cumulative Impacts	The cumulative effects assessed for the Approved Project are not evaluated to change as a result of the activity.
j	Any Other Factor that the Board Considers Relevant	Baffinland has taken into consideration community comments shared directly from the communities, with QIA and through the NIRB process relevant to the above topics. Baffinland is not aware of any other factor that NIRB considers relevant to the assessment of the significance of environmental effects.

APPENDIX 5

MHTO COMMUNICATION – LETTER OF APPROVAL



May 30, 2025

Reference No. CA0052528.1707-002-L-Rev0

Mittimatalik Hunters and Trappers Organization
PO Box 189,
Pond Inlet, Nunavut
X0A 050

LETTER OF SUPPORT FOR BAFFINLAND'S 2025 MARINE MONITORING PROGRAMS

Dear Mittimatalik Hunters and Trappers Organization (MHTO),

WSP Canada Inc. (WSP), on behalf of Nuqsana WSP Engineering and Environmental Consulting Inc., will be conducting work for Baffinland Iron Mines Corporation (Baffinland). Two marine monitoring programs will be conducted in Milne Inlet in 2025 consistent with Baffinland's requirements under Project Certificate No. 005 issued by the Nunavut Impact Review Board (NIRB). The objectives of the marine monitoring programs are as follows:

- To evaluate the accuracy of impact predictions made for the marine environment and marine wildlife as part of the environmental assessment and review process for the Mary River Project administered by the NIRB, including the Final Environmental Impact Statement (FEIS) and associated amendments.
- To assess the effectiveness of mitigation measures in place to avoid and/or minimize any identified adverse effects on the marine environment and marine wildlife.
- To identify the need for additional mitigation measures to further avoid or reduce adverse environmental effects on the marine environment and marine wildlife.
- To monitor compliance with the agreed terms and conditions set out in Project Certificate No. 005.

The 2025 marine monitoring programs proposed by Baffinland include:

1) 2025 Marine Environmental Effects Monitoring Program (MEEMP):

- Dates: July 23 to August 12, 2025.
- Study Objective: To monitor for adverse effects from shipping and port operations on the marine environment at Milne Port.
- Monitoring Components:
 - Marine water quality and sediment sampling
 - Benthic invertebrate sampling
 - Macroflora (seaweed) sampling
 - Fish and fish habitat surveys

- Fish tissue collection and analysis
 - Inuit Positions:
 - One to two field technician(s) for 21 days
- 2) 2025 Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program**
- Dates: July 23 to August 12, 2025
 - Study Objective: To monitor for potential invasive species or non-native species in the Project area that might have been introduced from Project shipping
 - Monitoring Components:
 - Benthic invertebrate and seaweed sampling
 - Zooplankton sampling
 - Fish sampling
 - Inuit Positions:
 - Shared with MEEMP
- 3) 2025 Bruce Head Shore-based Monitoring Program**
- Dates: August 6 to September 3, 2025.
 - Study Objective: To evaluate changes in narwhal relative abundance, distribution, group composition and behaviour in relation to shipping.
 - Study Location: Bruce Head Camp and Observation Platform north of Koluktoo Bay.
 - Study Information: Visual-based observations and drone-based observations conducted from an observation platform on a 300-m cliff overlooking shipping lane in Milne Inlet.
 - Inuit Positions:
 - Four to six marine mammal observers (MMOs) for 14 days
 - 2–4 polar bear monitors for 14 days

Details of the above 2025 marine monitoring programs will be presented to the MHTO during the July 2025 Marine Environmental Working Group (MEWG) virtual meeting. Program details will also be presented in Pond Inlet during Baffinland's Start of Shipping Meeting (date to be determined with the MHTO).

WSP and Baffinland would be pleased to provide the MHTO with any additional information on these programs upon request.

If the MHTO is in agreement with the monitoring programs proposed above, please sign and date below and return this letter to WSP at your earliest convenience. This letter of support may be provided to Fisheries and Oceans Canada (DFO) and Transport Canada in support of Baffinland's permit applications required to complete this work.

"The Mittimatalik Hunters and Trappers Organization (MHTO) is supportive of the 2025 Marine Monitoring Program that WSP will be conducting on behalf of Baffinland. Please consider this as an official letter of support from the MHTO."

Signature: Jonathan P.
Name: Jonathan Pitseolak
Title: Vice-Chair
Date: June 09, 2025

Should you have questions or require clarification, please contact Andrea Locke via email at andrea.locke@wsp.com or at 250-881-7372.

Sincerely,




Andrea Locke, PhD
Lead Marine Biologist



Patrick Abgrall, PhD
Principal Marine Biologist

AL/PA/jts

APPENDIX 6
INTERNAL COMMUNICATIONS PROTOCOL FOR SHIPPING ACTIVITIES

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Baffinland Iron Mines Corporation

INTERNAL COMMUNICATIONS PROTOCOL FOR SHIPPING ACTIVITIES

Prepared By: Genevieve Morinville
Department: Sustainable Development
Title: Manager Environmental, Social and Governance
Date: June 28, 2021
Signature:

Approved By:
Department: Shipping
Title:
Date:
Signature:



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1 PURPOSE

- Provide procedural guidance for engagement by Baffinland Iron Mines Corporation (Baffinland, or the Company) on certain yearly shipping season-related activities with the Mittimatalik Hunters and Trappers Organization (MHTO), the Hamlet of Pond Inlet (the Hamlet), and the Qikiqtani Inuit Association (QIA) during key engagement periods;
- Develop clear instructions for Baffinland to receive written or verbal confirmation that the floe edge for the purpose of harvesting/hunting has been closed by the MHTO;
- Develop clear instructions for Baffinland’s written and verbal communications related to the start of the shipping season; ad hoc and variance requests, and end of shipping communications; and
- Develop clear instructions for Baffinland’s requirements to fulfil regulatory or social license obligations related to shipping and management of the marine environment (for further details, refer to Appendix A).

2 SCOPE

This protocol covers communications related to shipping activities during key engagement periods for Baffinland’s shipping season. This protocol also covers the obligations of commitments made under regulatory or social license that requires input and oversight from the Shipping Department and its contractors. This protocol does not preclude any other ad hoc engagement activities that may be required during the year and/or during these key engagement periods. This protocol does not abdicate any individual, department, or contractor responsibilities for understanding and following all legal requirements under permits and authorizations issued to the Company.

Key engagement periods related to shipping-specific communications-related aspects include:

Pre-shipping period: covers up to four months (March to July) before the first day vessels (i.e., day 1 of shipping = start of shipping period) enter the Regional Study Area (RSA);

Shipping period: covers the time window between the start of shipping and the last day of all vessels exiting the RSA (i.e., last vessel exiting RSA = last day of shipping); and


Post-shipping period: covers up to four months (November to March) following the last day of shipping.

3 ROLES & RESPONSIBILITIES

Key Baffinland roles and responsibilities required for implementation of protocol include:

Executive Vice-President (EVP), Operations & Growth (Operations Department)

Role: Oversees shipping operations through support of the Head of Shipping and Baffinland Shipping Teams. Advises Baffinland Shipping personnel of regulatory requirements and social

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license that requires compliance from the Shipping Department and/or its contractors (e.g. FedNav). Provides oversight on overall communications protocols and coordinates with VP Sustainable Development on notifications to the MHTO and Hamlet of Pond Inlet on the operational start date of the shipping season as.

Responsibilities: Informs VP, Sustainable Development when all operational/technical conditions (e.g., no land fast ice and any other Baffinland commitment/regulatory requirements relevant to the current year’s operations) have been met for the start of the shipping season. Notified in writing by VP Sustainable Development and/or Sr. Manager ESG of confirmation that the floe edge in Pond Inlet is no longer in use for harvesting activity.

Vice-President (VP) Sustainable Development (Sustainable Development Department)


Role: Provides oversight on overall communications protocol and for notifying the MHTO and Hamlet on the operational start date of the shipping season as provided by the Head of Shipping.

Responsibilities: Develops and communicates clear instructions to Baffinland shipping personnel and responsible parties on all regulatory and/or social license obligations related to shipping and management of the marine environment. Responsible to communicate requirements under the regulatory and social licenses that require actions from the Shipping Department or its contractors and to inform EVP of Corporate Development and Head of Shipping when conditions for the official start of shipping are fulfilled. This includes confirmation, in writing, of the closure of the floe edge for the purpose of harvesting/hunting by the MHTO, or the Hamlet should the MHTO not be reachable.

Head of Shipping

Roles: Provides direction and coordination of all contracted vessels, communicates with the port captain and advises Sustainable Development on ice conditions and the start of shipping conditions.

Responsibilities: Informs VP, Sustainable Development and the Sr. Manager ESG on the anticipated shipping season schedule (i.e., start and end of operational shipping season) as soon as it is available to be shared publically. At the star of each season (July 1) shares daily ice conditions with the Baffinland team (Canada Ice Service charts and satellite imagery) obtained through ice analysts (Fednav). Provides a 10-vessel rolling schedule on a weekly basis to the Sr. Manager, ESG and Environmental Engagement Lead for subsequent dissemination to Shipping Monitors, and representatives of the Hamlet, the MHTO, and local Qikiqtani Inuit Association (QIA). Participates in Pre-season and End of Season meetings/radio shows held virtually or in-person in Pond Inlet. All meeting materials are co-developed by the Sr. Manager ESG and Head of Shipping.

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Manager, Port Operations Valleyfield: Responsible for providing the number of Project re-supply and fuel vessels that will be coming to site in any given year and the approximate schedule of transits to the Sr. Manager ESG and the Head of Shipping.


Senior Manager, Environmental, Social and Governance (Senior Manager ESG; Sustainable Development Department): Accountable for the shipping monitor program. The key liaison with the Head of Shipping and between the Company and community of Pond Inlet (MHTO, Hamlet and public) on shipping-related matters.

Environmental Engagement Lead (Sustainable Development Department): Responsible for oversight of Shipping Monitors over the entire shipping season reporting to Sr. Manager ESG. Responsible for program administration and reporting (Hiring, Hours Submission, Scheduling, Daily, Weekly, Monthly Shipping Activity Reports, Deviation Reports, End-Shipping Season Report, Annual Reporting, Engagement Materials). Responsible for public communications and liaison between Company management and the community of Pond Inlet (MHTO, Hamlet and public) on shipping monitor program. Liaise with BIM Port Services and Agents for deviation reporting and tracking, weekly rolling vessel schedule, Marine Monitoring surveys and any other relevant matters.

Community Engagement Lead (Community & Strategic Development Department): In coordination with Environmental Engagement Lead and Sr. Manager ESG, provides support to Shipping Team for engagement logistics and communications with the community of Pond Inlet (MHTO, Hamlet and public). Assists with engagement planning and logistics for Pre- and Post-Shipping community meetings and information sessions.

Shipping Monitors (Sustainable Development Department): Based out of the Pond Inlet Baffinland office, community-based shipping monitors track, record, and communicate daily shipping activity over the entire shipping season. Primary liaisons between the community of Pond Inlet, the MHTO, and Baffinland (through Environmental Engagement Lead) to inform, discuss and/or resolve potential issues related to Baffinland shipping and community marine activities such as hunting.

BIM Port Management & Services Agent (Fednav or other contractor): Implements shipping-related requirements under the regulatory and social license issued to the Company. Provides daily ice conditions (Canada Ice Service charts and satellite imagery) obtained by ice analysts to Head of Shipping and Sr. Manager ESG beginning on July 1 of each year. Provides *Standing Instructions to Masters* for each vessel entering the RSA. Coordinates with vessel Masters on positioning and vessel movement from 73W (Baffin Bay) throughout the Northern Shipping Route, for Milne Port arrival and departure. Confirming deviations with vessel Masters and coordinates deviation reports from vessel Masters with support from Environmental Engagement Lead and Shipping Monitors.

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Non-Baffinland roles and responsibilities required for implementation of protocol include:

MHTO Manager and/or MHTO Chair: Responsible for sending confirmation via email to Baffinland via the Shipping Monitors, Environmental Engagement Lead, Sr. Manager ESG and/or VP Sustainable Development indicating that the floe edge is closed. May participate in pre and post shipping meetings, act as an advisor/approver for Ad Hoc and Variance Request. May meet with Baffinland representatives in-person, via email, phone and/or through virtual meeting on topics relevant to start and end of shipping season, recommended implementation of mitigation measures, and comments/feedback received by residents of Pond Inlet.

MHTO Representatives including Board Members: Requested to attend meetings with Baffinland to discuss yearly shipping season activities and for providing input on shipping activities.

Mayor of Hamlet of Pond Inlet (the Hamlet): The Hamlet may participate in pre and post shipping meetings, act as an advisor/approver for Ad Hoc and Variance Requests and is responsible for confirming whether the floe edge is closed should the MTHO be unavailable to confirm.

Hamlet of Pond Inlet Representatives: Requested to attend meetings with Baffinland to discuss yearly shipping season activities and for providing input on shipping activities.

Qikiqtani Inuit Association (QIA) Director, Lands and Resource Management: Responsible for designating QIA representative to attend as part of the Pre-shipping Season and End of Season meetings, and for shipping-related email correspondence over the shipping season.


QIA Representatives: Sr. Manager ESG will inform designated QIA representative(s) of Baffinland’s anticipated dates for start of shipping. Requested to attend meetings with Baffinland to discuss yearly shipping season activities and for providing input on shipping activities.

4 COMMUNICATIONS PROTOCOL


4.1 PRE-SHIPPING PERIOD COMMUNICATIONS AND ACTIVITIES

Key activities implemented in advance of the start of the shipping season include:


- 1) Provide communities with anticipated shipping schedule using a variety of communication methods:
 - a. Baffinland Sustainable Development Department, with support from Community & Strategic Development Department, to host a pre-shipping season engagements with MHTO, the Hamlet of Pond Inlet and QIA in advance of the anticipated start of shipping season. Should in-person gatherings not be possible, an alternative format may be considered (e.g., public radio show, exchange of information via email correspondence and hard copies);
 - b. Hosting a radio show in Pond Inlet prior to start of shipping season;

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- c. Develop and post the Shipping and Marine Monitoring Fact Sheet (See Appendix B; to be developed yearly) including Shipping Route and mitigations; and
 - d. Provide the MHTO with hard copies of previous year's final marine environment monitoring program reports when made available.
- 2) Confirmation of floe edge closure by the MHTO, or by the Hamlet should the MHTO not be reachable:
- a. Before any vessels are ready to enter the Regional Study Area, Baffinland Sustainable Development Department contacts MHTO Manager, the Mayor and the Hamlet of Pond Inlet either in-person, phone or email to obtain verbal and written confirmation the floe edge has been closed;
 - b. MHTO Manager is reached via call/in-person visit/email by Baffinland Sustainable Development Department, in addition to the Mayor and Hamlet of Pond Inlet, should the MHTO not be reachable, before vessels are ready to enter shipping corridor to confirm that the floe edge has been closed by the MHTO;
 - c. MHTO Manager and/or MHTO Chair, or the Hamlet should the MHTO not be reachable, confirms in writing, via email, to Baffinland Shipping Monitors, Environmental Engagement Lead, Sr. Manager ESG and/or VP Sustainable Development that the floe edge has been closed by the MHTO;
 - d. Baffinland Sustainable Development Department, via either VP Sustainable Development or Sr. Manager ESG, informs Head of Shipping and EVP Corporate Development via email that the floe edge is closed to harvesting activity.
- 3) Initiation of Shipping:
- a. Communicate with MHTO Manager and the Hamlet of Pond Inlet about anticipated shipping schedule in advance of shipping season when available. Information to be provided will include daily ice conditions (via Canadian Ice Service charts) starting on July 1 of each year as shared by ice analysts;
 - b. Head of Shipping to notify Sustainable Development Department, via VP Sustainable Development and Sr. Manager ESG, with a minimum of 72 hours before the projected operational start of shipping to initiate in-community notifications and daily updates/changes thereafter;
 - c. VP Sustainable Development sends formal notification letter addressed to the MHTO Manager, MHTO Chair and Mayor of Pond Inlet, and shares letter with QIA representative via email announcing 72-hour notice for the start of shipping;
 - d. Baffinland Shipping Monitors commence daily social media and radio announcements in the community providing status updates on the start of shipping;
 - e. Baffinland Shipping Monitors provide daily updates to the Environmental Engagement Lead on community activities, use of sea ice and incidental marine mammal observations/anecdotes;

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- f. During the 72-hour notification period, Shipping Monitors provide any feedback or information direct from the community on use of sea ice that may affect the commencement of Shipping. Baffinland Sustainable Development Department, via either VP Sustainable Development or Sr. Manager ESG, informs Head of Shipping and EVP Operations & Growth via email of any other community considerations for the commencement of the start of shipping (i.e., use of sea ice by community members, marine mammal observations).
 - g. VP Sustainable Development provides notification that all requirements under the regulatory and social licenses have been met to commence shipping;
 - h. EVP Corporate Development and VP Sustainable Development confirm that all operational/technical conditions for the commencement of shipping for the year have been met with the anticipated time in which the first vessel is expected to enter the Regional Study Area (RSA).
 - i. VP Sustainable Development notifies the official commencement of shipping season (i.e., vessel(s) entering the RSA) by sending a letter addressed to the MHTO and the Hamlet, and shares letter with QIA representative and NIRB via email indicating when the first vessel is intended to enter the RSA in the next 24 hours based on latest information provided by the Head of Shipping;
 - j. Shipping Department to update Standing Instructions to Masters annually in advance of the shipping season commencing to reflect new commitments, requirements, and mitigations under the Company’s regulatory or social licenses.
- 4) Hiring community-based Shipping Monitor positions based out of Pond Inlet Baffinland office. Shipping Monitors will work in shifts in order to cover the greatest in-person daily availability (up to 24 hours) from the Pond Inlet office:
- i. Monitor the presence of both Baffinland-contracted and other vessels in the RSA and Baffin Bay, as deemed relevant.;
 - ii. Daily tracking of project vessels and other vessel activity in RSA, community concerns/comments, and associated responses or action items taken to address these;
 - iii. Provide up-to-date information to community members on project vessel activity using a variety of methods including:
 - o In-person visits: daily office hours (8am to 5pm) implemented, where residents can visit the office and meet directly with the on-duty Shipping Monitor;
 - o Periodic announcements of daily and upcoming vessel activity on marine VHF radio channel 26 and availability to respond live to comments/concerns from community members;

 Baffinland	INTERNAL COMMUNICATIONS PROTOCOL FOR SHIPPING ACTIVITIES	Issue Date: June 28, 2021 Rev.: 1
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- Frequent daily social media posts about project vessel activity on dedicated Baffinland Shipping Facebook Profile Page on a daily basis, as well as through periodic radio shows;
 - Direct cell phone access of on-duty Shipping Monitor at 867-899-1807.
- 5) Recruit, encourage and maintain involvement of Inuit in marine monitoring programs (Sustainable Development Department):
- Consult with MHTO on marine monitoring programs before;
 - Hire local Inuit to work in marine monitoring programs, where possible; and
 - Invite MHTO to participate as observers in monitoring staged from Pond Inlet (e.g., aerial surveys).

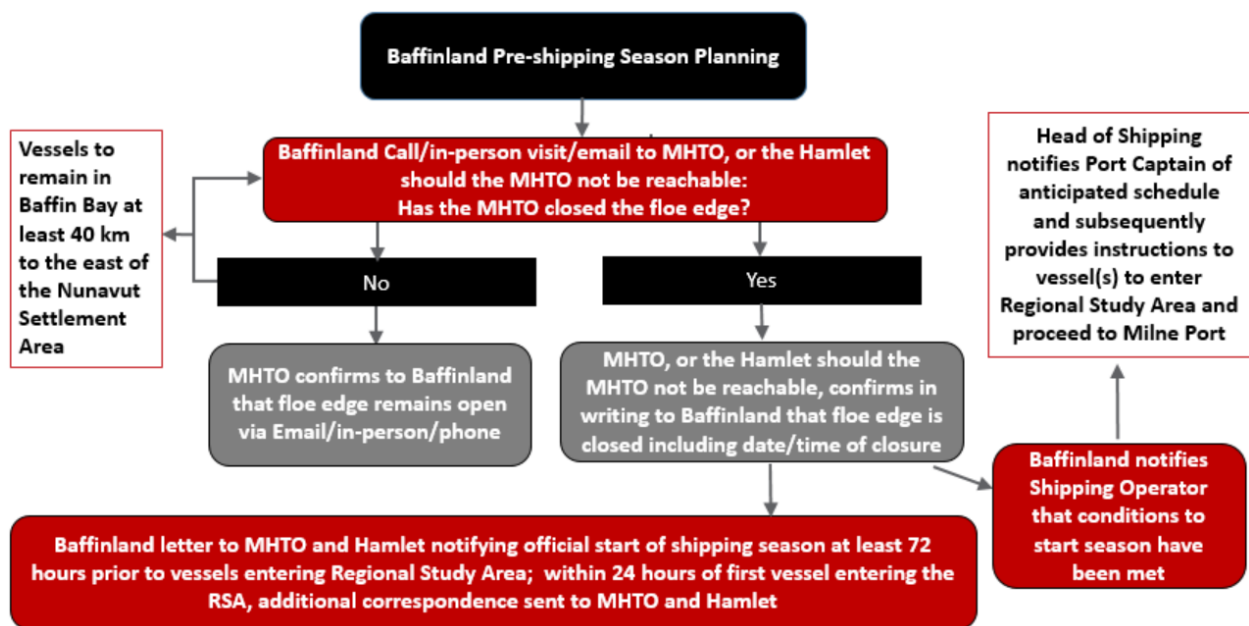



Figure 1. Pre-shipping Communications Protocol related to Start of Shipping Activities


4.2 SHIPPING SEASON COMMUNICATIONS

Key activities during the shipping season include:

- 1) Maintaining communications with community members throughout the shipping season using a variety of methods such as social media, local radio, VHF radio and a dedicated email address, shipping@baffinland.com (Sustainable Development Department – Pond Inlet Shipping Monitors):
 - a. Track vessels over the entire shipping season:
 - i. View 24-hour live vessel tracks on the Baffinland website (www.baffinland.com) and following the path to “Operation>Shipping & Monitoring”;

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- ii. Installation of Automatic Identification System (AIS) monitoring station in Pond Inlet Baffinland office (2nd floor MHTO office building) over entire shipping season (Sustainable Development Department) - allows for any member of the public to view live tracking of ships on dedicated computer station and large wall-mounted monitor;
 - iii. On-duty Shipping Monitors in the Pond Inlet Baffinland office available to receive public visitors interested in Baffinland shipping activities and to observe live tracking of vessels (including non-Baffinland vessels) through the AIS monitoring station, and to learn more about the type of vessels that Baffinland requires for its operations. A computer station and large wall-mounted monitor dedicated to the viewing of vessels is available to those interested;
 - b. Monitoring dedicated email address (shipping@baffinland.com) by Baffinland Sustainable Development Department team members including the on-duty Shipping Monitor, and Sr. Manager ESG.
 - c. Ongoing communications about vessel activity using a variety of methods including:
 - Facebook posts through Baffinland (general) and Shipping-dedicated page and group, Pond Inlet News and Pond Inlet Hunters information pages for periodic postings about past and future shipping activities.
 - d. Posting of Shipping and Marine Monitoring Fact sheet, including Shipping Route throughout Pond Inlet, including contact information for key Baffinland contacts (e.g., Shipping Monitors and Baffinland Sr. Manager ESG, and Head of Shipping).
 - e. Head of Shipping to provide to the Sr. Manager ESG and Environmental Engagement Lead on a weekly basis a 10-vessel rolling schedule that shared via email to representatives of the MHTO, the Hamlet and the QIA.
- 2) Icebreaking Communications:
- a. Daily meetings between Operations, Sustainable Development, Shipping and their respective contractors (i.e., Fednav and WSP) from the start of shipping until less than 3/10ths ice concentration exists (i.e., unrestricted shipping activities). One participant from each department must attend the meeting.
 - b. Daily meetings used to communicate shipping schedule for the day, any community concerns raised, marine mammal observations and instructions to minimize impacts or assist in marine monitoring programs (see Section 6).
 - c. Daily summary of icebreaker transits (including start and end times of 24-hour cycle) and ice conditions (Canadian ice charts and satellite imagery) provided by Fednav to Baffinland Sustainable Development (Sr. Manager ESG, and Shipping Monitors) and Head of Shipping.
- 3) Vessel Speed Exceedance or Shipping Route Deviation Notifications Communications:
- a. Upon receiving any notification alert by *Spire ShipView*, as established by set parameters (i.e, vessel speed, buffer distance from shipping route centreline, drifting, no-go zones, etc.), Head of Shipping, Sr. Manager ESG, or Environmental Engagement Lead to request

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- that the Port Captain request from Vessel Master reasoning for non-compliance as soon as feasible, and will include Sr. Manager ESG, Environmental Engagement Lead and Shipping Monitors (via shipping@baffinland.com) in correspondence; and
- b. Non-compliance (e.g., vessel speed exceedances, shipping route deviations, drifting), whether anticipated or not, shall be communicated with reasons for non-compliance as soon as possible by the Vessel Master to the Port Captain, Head of Shipping, Sr. Manager ESG, Environmental Engagement Lead and Shipping Monitors (shipping@baffinland.com);
 - c. Non-compliance deviations tracked, recorded, and filed for end-of shipping season and annual reporting.


4.3 POST-SHIPPING SEASON COMMUNICATIONS

Key activities implemented after the end of shipping season include:

- 1) Sr. Manager ESG sends email correspondence confirming the end of the shipping season to representatives of the MHTO, the Hamlet and QIA.
- 2) Shipping Monitors and Environmental Engagement Lead prepare shipping season summary prepared on overall year's shipping activities including total number of vessels and transits by vessel types;
- 3) Sustainable Development Department, with support from Community & Strategic Development Department host End of Shipping Season Meeting (preferably by November 30 of each year) which includes, though not exclusively, the following agenda items:
 - a. Summary of project vessel activity in the RSA;
 - b. Summary of community concerns tracked by Shipping Monitors and actions taken by Baffinland to address;
 - c. Summary of shipping mitigation and management measures implemented throughout the shipping season;
 - d. Discussion of overall hunting success and harvest levels;
 - e. Summary of completed marine monitoring programs; and
 - f. Open discussion on feedback from MHTO and community members.
- 4) Sustainable Development Department prepares overall shipping season summary on shipping activity and incorporates feedback received from meeting; and
- 5) Shipping and Sustainable Development Departments begin planning for following year's shipping season in consideration of feedback received from End of Shipping Season Meeting.

4.4 AD-HOC REQUESTS, VARIANCE REQUESTS AND COMMUNICATIONS

From time to time requests may come in during the shipping period from either regulatory or community feedback that has been received. Each instance will require consideration and decision on any changes to

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the operations. For the most part, these requests will come through either the Sustainable Development or Community Strategic Development departments:

- 1) When ad-hoc requests are made the Head of the receiving department should notify the Sr. Manager ESG and the Head of Shipping;
- 2) Environmental Engagement Lead and Sr. Manager ESG to document and record any ad-hoc requests made and coordinate the Company's response;
- 3) The Head of Shipping to determine feasibility and impacts of request and communicate these to the EVP Operations & Growth and VP Sustainable Development;
- 4) VP Sustainable Development to provide risks/benefits to social or regulatory licenses and recommendation on implementation;
- 5) EVP Corporate Development to make decision on implementation and communicate to the Head of Shipping, VP Sustainable Development and Sr. Manager ESG.

As Baffinland avoids breaking land fast ice at all times during the shipping season, the burden of proof rests with the Company to confirm a continuous path of 3/10ths ice concentrations along the Northern Shipping route is available for project vessels to transit. Baffinland plans for ceasing all shipping from Milne Port by October 31 of each season. However, Baffinland may proceed with a variance to these conditions (*NIRB Project Certificate, No. 005, Amendment 5, Term and Condition 185*) under exceptional circumstances that may occur from time to time.


Exceptional circumstance include events that are unforeseen and occur outside of Baffinland's control but will not include contingencies that the Company reasonably planned. Example of unforeseen events may include:

- i. Breakdowns in loading equipment;
- ii. Weather disruptions to shipping schedules; and/or
- iii. A later than expected ice break up past July 15 of each shipping season.

In the event for a need for a variance or an exceptional circumstance arises, Baffinland is required to provide a detailed written description to the NIRB, QIA, Hamlet of Pond Inlet and MHTO clearly demonstrating how it will meet the criteria set out in Term and Condition 185. For greater clarity, TC 185 applies to all project vessels supporting the Mary River Project.

Baffinland will meet the following criteria for Variance Requests:

- i. Provide a description of the rationale for variation or exceptional circumstances and anticipated duration of the extended shipping season;
- ii. Provide a description as to whether the anticipated ice condition during the shipping period are consistent with *PC No. 005, Appendix B* commitments;
- iii. Provide a description of any additional mitigation or monitoring efforts being undertaken as a result of the variation or exceptional circumstance;

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- iv. Provide a description of how Baffinland has made best efforts to meet with the Hamlet of Pond Inlet, MHTO and the QIA to discuss and consider the variation or exceptional circumstance;
- v. Provide copies of public communications relating to the variation or exceptional circumstance;
- vi. Obtain confirmation (written or verbal) from the Hamlet of Pond Inlet and the MHTO that sea ice overlapping the shipping route is not being used for travel or harvesting activity and that the proposed shipping activity will not result in additional safety risks to harvesters that cannot be mitigated (for instance, by transiting a path of less consolidated ice in Eclipse Sound and Milne Inlet);
- vii. In the event the MHTO is unreachable on these matters, Baffinland will coordinate and communicate with the Hamlet and broader community of Pond Inlet;
- viii. Variance Requests are then reviewed by the QIA, Hamlet of Pond Inlet and MHTO and responded to within a timeframe that will not unduly delay shipping activities;
- ix. Baffinland will respond to items raised upon review of the variance request including requested changes to monitoring, mitigation and compensation associated with the variance or exceptional circumstance; and
- x. All determinations related to variances and exceptional circumstances will be communicated to NIRB.

5 ICE MANAGEMENT AND ICE BREAKING ACTIVITIES


Criteria used by Baffinland to initiate the shipping season, as well as instructions for the escort of vessels, and instructions to vessels entering and/or exiting the Regional Study Area during implementation of mitigation measures is detailed in Section 5 of the Shipping and Marine Wildlife Management Plan.

6 MARINE MONITORING & MITIGATION PROGRAM REQUIREMENTS

a. Annual Marine Monitoring Programs

The Sustainable Development Department is responsible for development of the work plans and necessary contracting requirements for all marine monitoring programs. Site Environment will lead the oversight and implementation of programs while contractors are on site completing fieldwork and may assist in monitoring programs. Occasionally, there may be requests to the Shipping Department (or contractors) or Vessel Captains to facilitate meeting the objectives of the monitoring programs or commitments made to regulators and/or community representatives. Below is a list of the marine monitoring programs run to be updated annually with any special considerations for a given year of operations noted for the Shipping Department:

- 1) Shipping corridor mitigations:

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- i. No breaking through landfast ice and will wait for confirmation that the floe edge has been closed before entering Eclipse Sound;
- ii. Shipping season only starts when confirmed that there is a continuous path of 3/10ths or less ice concentrations between the entrance of Eclipse Sound and Milne Port;
- iii. Convoys and larger vessels will be used opportunistically to further reduce total underwater sound exposure and reduce the total number of vessel transits;
- iv. Vessels follow approved Northern Shipping Route, unless deviations are required to ensure safety of navigation and sailing conditions;
- v. Automatic notification system alerts Baffinland shipping personnel if any Baffinland contracted vessel are travelling above the speed limit (maximum of 9 knots) or outside approved shipping lane by more than 1 nautical mile;
- vi. Maximum of three vessels anchored or drifting at Ragged Island at any one time. Vessels are only permitted to drift within the established drifting zone and Ragged Island, which is strictly for safety purposes (e.g. ice enters area);
- vii. Baffinland contracted vessels follow the *Standing Instructions to Masters* providing information to vessel captains on speed limits, the shipping route, and anchorages locations;
- viii. Ore carriers will discharge no grey water, sewage or ballast water in Eclipse Sound. Ballast water is only discharged by ore carriers at Milne Port after compliance testing;
- ix. Enforce 'no-go zones', which include the western shoreline near Bruce Head and Koluktoo Bay to minimize interference with hunting activities;
- x. Work continuously with community members, Hunters and Trappers Organizations and Hamlets to ensure that all concerns related to shipping activities are considered. Full-time Shipping Monitors will be available in the Baffinland Pond Inlet office to support daily tracking and viewing of vessels passing through the Northern Shipping Route to Milne Port;
- xi. Use of scrubbers is prohibited within the Regional Study Area;
- xii. Vessels turn off the main engine at anchorage and only use auxiliary power, unless warranted for safety reasons, to reduce sound exposure; and
- xiii. Continue to conduct voluntary salinity testing on board each ore carrier calling to Milne Port prior to discharge ballast water. All Project vessels are required to conduct a ballast water exchange prior to arriving at Milne Port and all vessels with a treatment system on board are required to treat ballast water in addition to conducting and exchange.

2) Seal Aerial Surveys (June)

- a. No special considerations yet for 2024

3) Marine Mammal Aerial Surveys (multiple legs, typically starting in July)

- a. Early season surveys will be used to observe ice conditions and marine mammal presence


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- b. May influence route to be travelled (i.e. avoidance of particular leads, presence of bowhead whales etc.) to be communicated on daily meeting during ice-breaking activities
- 4) Marine Environment Monitoring Program (MEEMP; typically starting in August)
 - a. MMEEP will run again in 2024 though may look different from 2023
- 5) Aquatic Invasive Species Monitoring (AIS; typically done in concert with MEEMP)
 - a. Planning to run in 2024
- 6) Bruce Head Shore-based Observation Monitoring Program (typically starting in late July/early August)
 - a. Planning to run in 2024
- 7) Acoustic Monitoring Program (variable timing)
 - a. No special considerations yet for 2024
- 8) Ballast Water Compliance Testing (throughout entire shipping season; all foreign-flagged vessels to be tested)
 - a. All compliance testing to be completed by Port Captain and reported to Milne Port Site Environment staff;
 - b. Coordination ongoing with DFO Ballast Water Study for 2024
- 9) Ship-based Observer (SBO) Monitoring Program (on-board the icebreaker)
 - a. Request MSV Botnica staff and subset of ore carriers to record marine mammal incidental sightings using data protocols developed through the [Marine Mammal Observation Network](#) (MMON); whale identification online training available for all participating vessels [here](#). Offline training versions also available upon request.

7 APPENDICES

Appendix A: Baffinland-specific Requirements relevant to Shipping Activities (e.g., relevant Project Certificate Terms and Conditions)

Appendix B: Shipping and Marine Monitoring Fact Sheet


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APPENDIX A: Baffinland-specific Requirements relevant to Shipping Activities (excludes applicable Canadian and international shipping-related regulations and guidelines established by International Maritime Organization)

1. [Inuit Impact and Benefit Agreement \(IIBA\)](#):
 - Article 9 Maritime Shipping
2. Project Certificate (PC) No. 005 Terms and Conditions:
 - Relevant conditions to the marine environment and marine mammals include PC Conditions 76 to 128. Those of particular relevance to shipping include:
 - Shipping safety, including ice conditions:**
PC 78 - 81
 - Ballast Water and Invasive Species:**
PC 86 – 91
 - Shipping activity monitoring and communications with community (vessel tracks and speed, shipboard observers):**
PC 103 – 106, PC 120 – 123, 126-127, 163-164, 166
 - Monitoring including noise and marine mammals**
PC 109 – 112
 - Anchorage Sites**
PC 125 (a)
 - Accidents and Malfunctions**
PC 173 - 174, 176 – 177
 - Ore Shipped:**
PC 179(a)
 - Variance Requests:**
PC 185
 - Working Groups:**
PC 183 - 184

Steensby – also has specific requirements related to winter fuel storage, vessel design requirements (e.g., 82, 84, 86, 93, 94, 95, 96, 97, 101, 172, 175, 178, 179, 180-182)

 3. Relevant [Baffinland Management Plans](#) and Instructions to Masters:
 - Shipping and Marine Wildlife Management Plan
 - Ballast Water Management Plan
 - Standing Instructions to Masters – to be co-developed annually by Fednav and Baffinland Shipping Department based on applicable Baffinland requirements (i.e., regulatory and social licenses, updated commitments), and any relevant updates to management plans.

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APPENDIX B – Shipping and Marine Monitoring Fact Sheet