Lazy Head Marine Terminal Project

Initial Project Description

Carver Mineral Resources, Inc.

15 October 2026



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1. Part A: Introduction and General Information

1.1 Project Name, Sector and Location

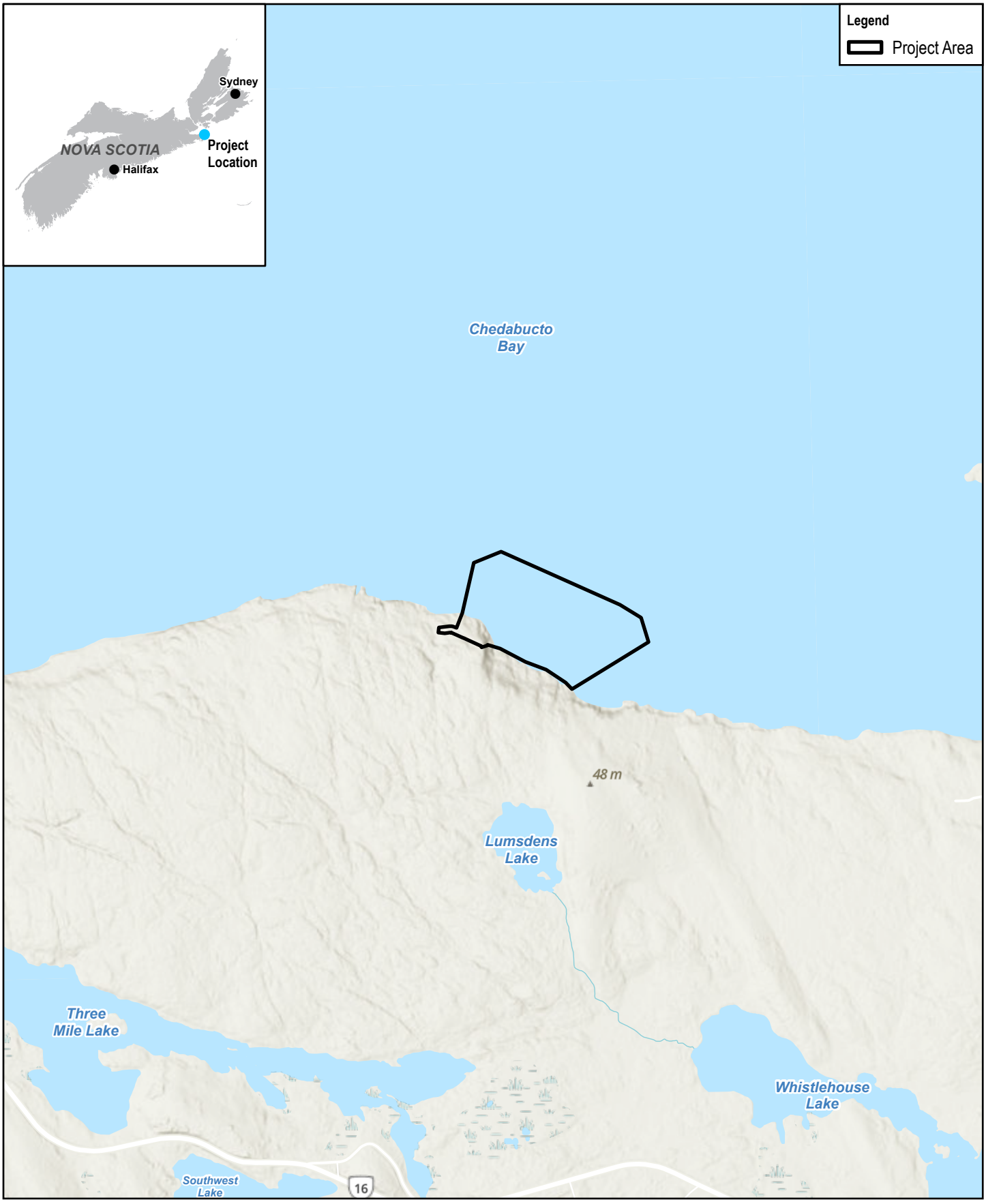
The name of the undertaking is the Lazy Head Marine Terminal Project (the Project), which includes the construction and operation of a marine terminal in Chedabucto Bay for the export of aggregate and wind industry rock, produced by the development of a granite aggregate quarry located adjacent to the marine terminal. The quarry is subject to a provincial Environmental Assessment by the province of Nova Scotia (NS), pursuant to its *Environment Act* and *Environmental Assessment Regulations.* Under the NS Act and Regulations, “a pit or quarry larger than 4 ha in area for extracting building or construction stone” is designated as a Class I undertaking. For the purpose of this Initial Project Description (IPD), the Project involves the marine terminal.

Aggregate from the Project will be loaded into bulk carriers to service both the United States (U.S.) East Coast and Gulf region construction market and the offshore wind sector along the east coast of North America. The marine terminal will be designed to allow up to 48,000 deadweight tonne (dwt) vessels to be loaded.

The Project is located in Lazy Head, NS, a coastal cape in the Municipality of the District of Guysborough (MODG) (Figure 1.1-1), located approximately 4.3 kilometres (km) west of the Town of Canso. The Project is 3.0 km northwest of Hazel Hill and 3.8 km northeast of Fox Island Main, both of which are unincorporated communities. Primary landside access to the Project is via Route 16 (Marine Drive), the region’s principal provincial highway, with local access via Fox Island Main Road.

The Project includes a marine study area (MSA) encompassing the zone targeted for the construction of the marine terminal along with adjacent marine habitat, totalling 21.3 hectares (ha), and a 195 m access road extending from the landside processing plant finish product piles to the marine terminal. The MSA was sized to provide flexibility for siting of the marine terminal during early planning; the actual terminal footprint will be smaller than the MSA boundary. Together the MSA and the marine terminal access road comprise the Project Area (PA) as shown on Figure 1.1-2. The PA covers an area of approximately 22.8 ha, and is centered at coordinates 5,023,542.01 m north, 652,486.42 m east (Universal Transverse Mercator (UTM) Zone 20 North American Datum (NAD) 83) (45°20’55.68”, N latitude and -61°03’12.3” W longitude).

The marine terminal access road will connect to a pre-existing access road, developed as part of the quarry development and assessed under the provincial Environmental Assessment. The marine terminal access road will provide access from the processing plant and pre-existing access road. For the IPD, the marine terminal access road refers only to the access road extending from the landside processing plant finish product stockpiles to the marine terminal. The general Project access road from Route 16 is part of the quarry development and will be assessed under the provincial Environmental Assessment process.



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Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N

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LAZY HEAD MARINE TERMINAL PROJECT

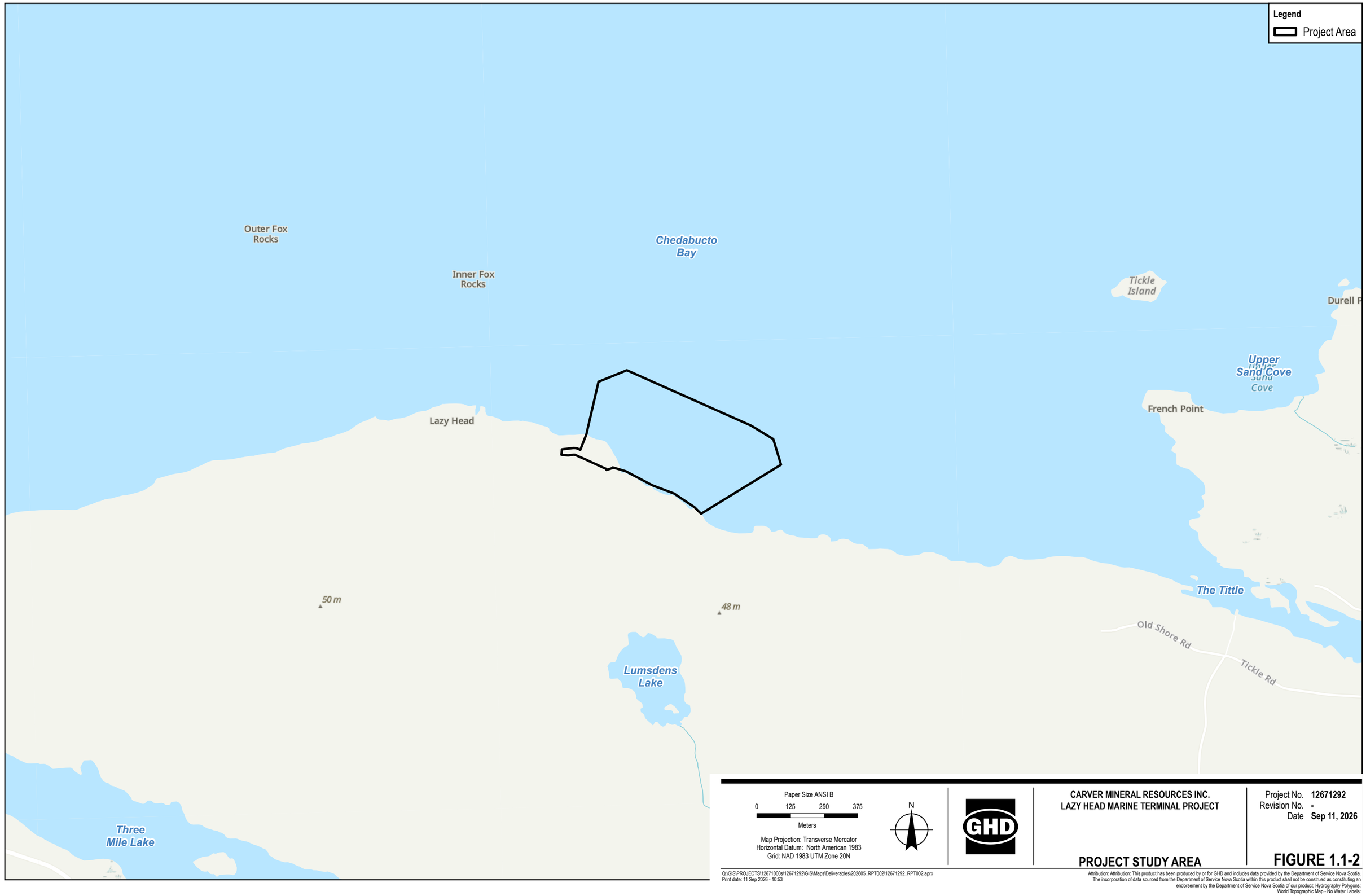
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Revision No. **-**
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PROJECT LOCATION

FIGURE 1.1-1

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Attribution: Hydrography Polygons:
Islands:
World Topographic Map - No Water Labels:
World Hillshade: Esri, NASA, NGA, USGS; Project Area layer provided by Morien Resources Corp. and modified by GHD.



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Grid: NAD 1983 UTM Zone 20N

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LAZY HEAD MARINE TERMINAL PROJECT

Project No. **12671292**
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PROJECT STUDY AREA

FIGURE 1.1-2

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1.2 Project Schedule

Construction of the marine terminal is expected to take approximately two years, with the first vessel shipments at the end of that period. The terminal is estimated to operate for approximately 85 years, based on the aggregate reserves available for shipment. Closure is expected to take approximately one year, for a total Project life of 88 years.

A breakdown of Project activities is shown on Figure 1.2-1, with an assumption that all applicable permits and approvals will be obtained prior to the start of activities. The closure phase timeline may be adapted as required based on conditions at the time of closure.

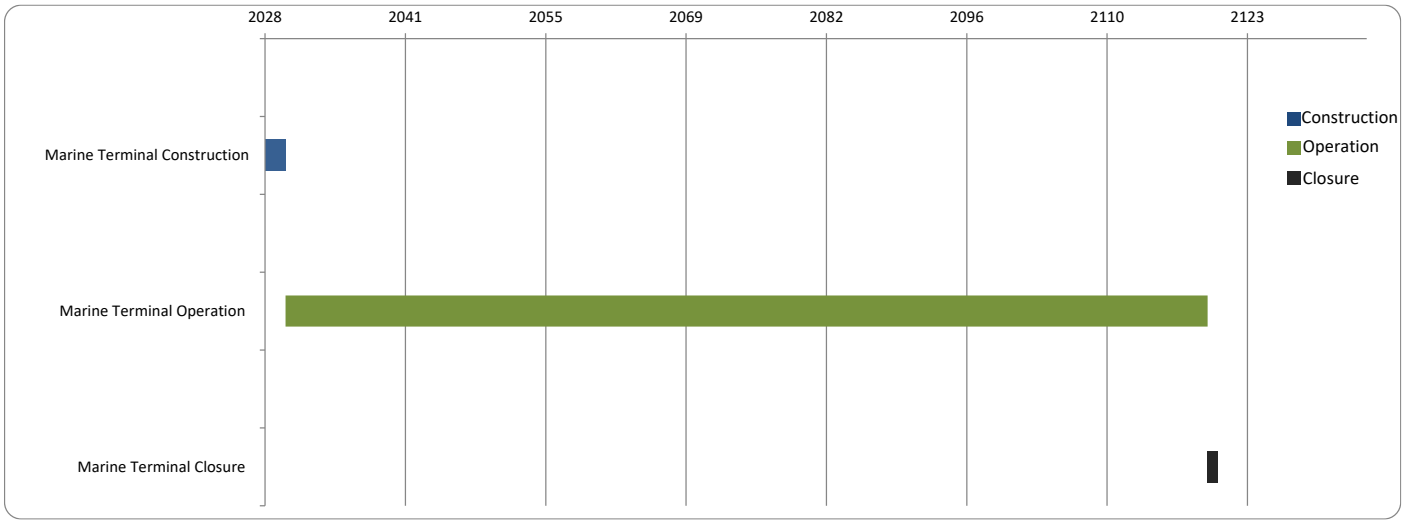


Figure 1.2-1 Project Schedule

1.3 Proponent Information

The proponent for the Project is Carver Mineral Resources, Inc. (Carver; Proponent), a subsidiary of Carver Companies, LLC, a privately held aggregate development company headquartered in Albany, New York. Carver will carry out the Project directly or through its wholly-owned Canadian subsidiary, 4754251 Nova Scotia Limited, an NS company incorporated under the *Companies Act* (Nova Scotia) in October 2025 to hold the permits and operate the facility. Carver is well-capitalized, owns and operates multiple port terminals along the U.S. East Coast, and has relevant Canadian aggregate operating experience as owner and operator of the Bayside Aggregate Quarry in New Brunswick.

Morien Resources Corp. (Morien), a publicly traded (TSX-V: MOX) mining company established in 2012 and headquartered in Halifax, NS, initiated the planning and early studies to support the Project, holds the underlying mineral exploration interests for the proposed quarry, and acts as agent of Carver under an agency agreement in the planning, engagement, and permitting of the Project. Morien's role is to support the Proponent in advancing the Project. Regulatory obligations under this IPD, and any subsequent permits, authorizations, and conditions of decision, are obligations of the Proponent.

Proponent:

Carver Mineral Resources, Inc., acting directly or through its wholly-owned Canadian subsidiary, 4754251 Nova Scotia Limited

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1.4 Engagement

Carver is committed to meaningful engagement with regulators, the Mi'kmaq of Nova Scotia, stakeholders, and the broader public. To fulfill this commitment, Carver has appointed Morien as a supporting agent who worked with Strum Consulting (Strum) and GHD Limited (GHD) to assist with engagement initiatives throughout the Project's development. Morien and Carver, with support from their consultants, have led key Rightsholder and stakeholder meetings, technical presentations, and two community open house sessions, held in October 2025 and March 2026.

Morien, on behalf of Carver, has maintained a Project website since October 2025 (https://www.lazyhead.ca/), which includes information about the Project, the Proponent (Carver), Morien, and upcoming events. This publicly accessible website continues to be updated regularly.

To allow for a structured forum of engagement between the Project and the local community, Morien, on behalf of Carver, established a Community Liaison Committee (CLC) in May 2026, with an initial meeting held in September 2026, that will continue to meet through construction and operation. The CLC includes representatives from the community, the MODG, Morien, and Carver. The CLC will meet regularly to share relevant Project updates, and to discuss community feedback and any concerns raised. The CLC is intended to serve as a consistent point of contact between the Project and the community over the life of the Project.

1.4.1 Summary of Engagement with Government Departments, Agencies and Regulators

1.4.1.1 Overview

Carver is committed to open and transparent engagement with government departments on a federal, provincial, and municipal level, as well as agencies and regulators through Project planning to the end of Project life. Federal and provincial agencies were engaged with throughout the Project planning and design phases, including regular updates and correspondence regarding Project scope.

Discussions with federal and provincial regulators primarily focused on: Project concept, schedule, scope of environmental baseline surveys, and crown land. Key topics raised by municipal government included: confirmation of community support and awareness, responses to community questions (e.g., water usage, hunting and fishing activity), community benefits, public engagement, Seabreeze Campground support, and fisheries engagement. Engagement with government officials will continue throughout the development, including the construction and operation phases of the Project.

A summary of engagement completed to date is provided in Appendix A.

1.4.1.2 Government Departments, Agencies and Regulator Engagement

Carver, Morien, and its consultants have met with government entities and regulatory officials representing federal, provincial, and municipal jurisdictions (Table 1.4-1) to open lines of communication about the Project and ensure all regulatory requirements are met.

Table 1.4-1 Regulatory Engagement Details

Department/Agency/Regulatory Body	Engagement Details
Impact Assessment Agency of Canada (IAAC)	August 2025 – Correspondence to clarify terminology and Project scoping. September - October 2025 – Provided Project introduction / overview and discussed potential Impact Assessment. April 2026 – Provided Project update and discussed Project scoping and permit submission timelines. July 2026 – Provided Project overview presentation to federal agencies, including IAAC. September 2026 – Project update and discussions regarding Project permitting (e.g., FAA) and engagement.
Fisheries and Oceans Canada (DFO)	April 2026 – Project introduction and discussions regarding the *Fisheries Act* Authorization (FAA) and proposed offsetting. July 2026 – Follow up discussion on Canso Ledges – Sugar Harbour Islands Marine Protected Area. September 2026 – Project update and discussions regarding FAA and offsetting.
InvestNS	June - July 2025 – Provided Project introduction / overview and discussed Project scoping. November 2025 – Provided Project update and introduction to new staff.
Environment and Climate Change (ECC) – EA Branch	June - September 2025 – Provided Project introduction and updates, including Project status, status of baseline studies, and timing for submission.
Department of Natural Resources (DNR)	December 2024 – Provided Project introduction and overview. May 2025 – Provided Project introduction and updates on Project layout. Discussed Project schedule and employment opportunities. March 2026 – Provided a status update on the Project and discussed permit submission timelines. June 2026 – Meeting to discuss Crown Land Lease and to provide a Project update.
DNR – Land Administration Division	October 2024 – Provided Project introduction and discussed initial Project scoping. October 2025 – Discussed Project updates and scoping.
NS Department of Energy	May - October 2025 – Provided Project introduction and ongoing updates on Project scope, layout, and status. March 2026 – Provided a Project update and reviewed overall Project permitting.
MODG	January - February 2025 – Provided Project introduction and ongoing updates on initial Project scoping to attending MODG staff and councillors. April 2025 – Provided update on the Project in an email. May - June 2025 – Provided Project introduction to MODG staff and councillors. August 2025 – Provided Project introduction to MODG Director of Economic Development in a phone call. October 2025 – Presentation to MODG staff and Council to provide an update on the Project and engagement initiatives. Held discussion on establishment of community funds and benefits.

Department/Agency/Regulatory Body	Engagement Details
	March 2026 – Provided Project update presentation to MODG staff and Council. April 2026 – Provided Project update to MODG staff and council on Project status. August 2026 – Provided Project update, and discussed upcoming offshore geotechnical drilling program and community bulletins.

1.4.1.3 Key Issues and Concerns Raised by Government Departments, Agencies, and Regulator Engagement

Key areas of interest identified through engagement are detailed in Table 1.4-2.

Table 1.4-2 Key Issues and Concerns Raised by Government Departments, Agencies, and Regulator Engagement

Relevant Project Component - Issue or Concern	Action
Proximity of the Project to the proposed Canso Ledges-Sugar Harbour Islands Marine Protected Area	Carver will continue to engage with DFO regarding the location of the Project within the proposed Canso Ledges – Sugar Harbour Islands Marine Protected Area.
Impact of underwater noise from construction and vessel traffic causing fish avoidance, behavioural disruption, and interference with communication and predator/prey detection	Section 5.1.1.2 identifies proposed mitigation measures for fish and fish habitat, including the commitment to conduct hydroacoustic monitoring, as required and determined in consultation with DFO. In addition, Carver will develop a Marine Mammal Detection and Response Plan to manage underwater noise impacts on the marine environment. The Plan will set noise thresholds and foresee the use of qualified marine mammal observers to monitor the nearby area during periods of noisy activities. The Plan will also include the commitment to continuously monitor underwater noise and halt all activities immediately in the event that noise exceeds the set thresholds. The Proponent is committed to ongoing engagement with DFO through the *Fisheries Act* Authorization process.
The Project is located outside of the eastern limit of the Cape Breton Compulsory Pilotage Area (Zone D)	Although the marine terminal is located outside the Cape Breton Compulsory Pilotage Area, all vessels calling at the terminal will be guided by qualified pilots through the Lazy Head Pilotage Association, which will oversee pilot recruitment, training, procedures, and vessel movements. Pilots will hold appropriate marine certifications and complete Project-specific training. Prior to construction, a comprehensive navigation simulation study will be conducted to evaluate vessel transits, berthing operations, environmental operating limits, potential tug requirements, and navigation aid needs. The results will inform terminal operating procedures and be shared with Transport Canada and the Atlantic Pilotage Authority. Any required navigation aids will be installed before operations commence, and a Terminal Marine Operations Manual will be developed to establish vessel operating procedures, environmental limits, communications protocols, emergency response measures, and fishing vessel interaction requirements specific to the Project. To maintain navigation safety and coordination with marine users, a Navigation Safety Committee will be established with representation from local fishers, harbour authorities, municipal government, the Lazy Head Pilotage Association, and the Proponent. The Committee will oversee and annually review protocols for vessel routing,

Relevant Project Component - Issue or Concern	Action
	communications, advance notice of vessel movements, and management of fishing gear interactions. Together, these measures will support safe vessel operations and ongoing collaboration with local marine stakeholders.

1.4.2 Summary of Engagement with the Mi'kmaq of Nova Scotia

In Canada, the Crown has a constitutional duty to consult and, where appropriate, accommodate Indigenous peoples when it contemplates decisions or actions that may adversely affect asserted or established Aboriginal or Treaty Rights. This duty, which arises from section 35 of the *Constitution Act, 1982*, is guided by Supreme Court of Canada decisions. The scope of consultation is proportionate to the strength of the Indigenous claim in the geographic area in question and the seriousness of potential impacts. Depending on the situation, consultation may range from notification and information sharing to deeper engagement and accommodation. As per Supreme Court of Canada decisions and guidance such as the Updated Guidelines for Federal Officials to Fulfill the Duty to Consult (INAC, 2011), the Crown may delegate procedural aspects of consultation to proponents. However, the duty to consult, and ultimate decision-making authority, remains with the Crown. In NS, the Crown duty to consult with the Mi'kmaq of Nova Scotia regarding development projects is guided by the Mi'kmaq-Canada-Nova Scotia Consultation Terms of Reference and the Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (OLA, 2012).

1.4.2.1 Overview

The Mi'kmaq are the founding people of NS and currently live throughout the province, including 13 Mi'kmaq communities (OLA, 2015). The Project is located within the Mi'kmaq territory called Eskikewa'kik, which means "skindresser's territory" (MDCC, 2025a).

The provinces of NS, NB, and Prince Edward Island, and the Gaspé Peninsula in Québec, are founded on land historically occupied by the ancestors of the Mi'kmaq. The earliest evidence of the Mi'kmaq of Nova Scotia in the Maritimes Region indicates that the ancestors of the Mi'kmaq have existed on the land for more than 11,000 years (MDCC, 2025b).

The Mi'kmaq of Nova Scotia have established Aboriginal and Treaty rights, including the right to fish for a "moderate livelihood" which flows from the Peace and Friendship Treaties, and Aboriginal rights to hunt, fish, and gather for food, social, and ceremonial purposes, more broadly referred to as "traditional" purposes. Mi'kmaq rights are communal rights and therefore shared amongst all members of the Mi'kmaq Nation in Nova Scotia.

For the purposes of consultation, 11 of the 13 Mi'kmaq communities are represented by the Kwilmu'kw Maw-klusuaqn (KMK), which reports to the Assembly of Nova Scotia Mi'kmaq Chiefs. At this time, Millbrook First Nation and Sipekne'katik First Nation represent their own communities in consultation through their elected Chiefs and Councils.

Additionally, the NS Native Council is the self-governing authority that represents Mi'kmaq and Aboriginal people living off reserve in NS throughout traditional Mi'kmaq territory.

The nearest Mi'kmaq community to the Project is the Potlotek First Nation on the Chapel Island (No. 5) Reserve (45 km northeast across the Strait of Canso in Cape Breton), followed by the Paqtnkek-Niktuek Reserve (No. 23) near Afton Station (52 km northwest).

The nearest known Mi'kmaq placenames to the Project are Siplo'kaqnek which means "at the long flat stretched island", Qamso'q which means "across a body of water", and Maqtewatqek which means "at the black foresty area" (T'an Weji-sqalia'tiek, No Date). These placenames correspond to the areas of Durells Island, Canso, and Black Point near Highway 316.

Morien and Carver notified the Mi'kmaq of Nova Scotia of the Project, extended an offer to meet, provided Project information, met with the KMK, contracted a Mi'kmaq Ecological Knowledge Study (MEKS) completed by Membertou Geomatics Solutions (MGS), and had an Archaeological Resource Impact Assessment (ARIA) completed by Cultural Resource Management Group Limited (CRM Group). Morien has documented the engagement process (Table 1.4-3) per steps one through six of the Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (OLA, 2012).

Table 1.4-3 Engagement with the Mi'kmaq of Nova Scotia

First Nation Group	Dates, Activities, Comments
Millbrook First Nation	June, October and December 2025 – Provided Project introduction / update and maps. June 2026 – Provided draft IPD sent for review and comment. July 2026 – Followed up on status of draft IPD review. October 2026 – Provided Project update and continued discussion on FAA and proposed fisheries offsetting program.
Paq'tnkek First Nation	October 2025 – Meeting held at Paq'tnkek office to provide a Project overview and inform on early Project scoping. December 2025 – Provided a Project update and outlined the permitting process.
Sipekne'katik First Nation	June 2025 – Providing Project introduction, map, and offer to meet. July 2025 – Meeting held at the Sipekne'katik office to discuss Project details and receive feedback. July - August 2025 – Correspondence sent on the Sipekne'katik Governance Initiative (SGI) process commitments. October 2025 – Email sent extending an invitation to the October open house; however, Council was unable to attend. Follow-up emails were sent requesting a meeting with community to discuss the Project. January 2026 – Meeting held at the Sipekne'katik office to provide Project updates and next steps in engagement. April 2026 – Provided Project update and discussion on advancement through SGI process. April 2026 – Correspondence concerning a list of criteria for Sipekne'katik to consider regarding the acquisition of private land to support the Project's Crown Land Exchange. April 2026 – Provided Project update and discussed FAA and offsetting scoping. June 2026 – Provided draft IPD for review and comment. August 2026 – Provided MEKS and ARIA for review and comment. September 2026 – Discussion on draft IPD regarding MEKS and ARIA. October 2026 – Provided Project update and continued discussion on FAA and proposed fisheries offsetting program.
Kwilmu'kw Maw-klusuaqn (KMK)	June - August 2025 – Provided Project introduction, updates, and maps. August 2025 to February 2026 – Continued correspondence to provide Project updates, meet engagement commitments, and notify KMK of EA/IPD registration timing. February 2026 – Provided a Project update on all 2025 activities and 2026 scheduling plan.

First Nation Group	Dates, Activities, Comments
	March 2026 – Meeting to discuss the draft Memorandum of Understanding (MOU), and associated Proponent-funded annual budget. April 2026 – Presentation to KMK and Assembly of Chiefs, and continued discussions with KMK regarding the MOU, a Mutual Benefits Agreement (MBA), and next steps. Provided Project update and discussed FAA and offsetting scoping. August 2026 – Provided ARIA, MEKS, and IPD for review and comment. October 2026 – Provided Project update and continued discussion on FAA and proposed fisheries offsetting program.

1.4.2.2 Key Issues and Concerns Raised by the Mi'kmaq of Nova Scotia

Key areas of interest identified through engagement with the Mi'kmaq of Nova Scotia are detailed in Table 1.4-4.

Table 1.4-4 Key Issues and Concerns Raised by the Mi'kmaq of Nova Scotia

Relevant Project Component - Issue or Concern	Action
Partnership opportunities	Carver and Morien executed a Memorandum of Understanding (MOU) with the Assembly of Nova Scotia Mi'kmaw Chiefs (Assembly) on June 1, 2026. The MOU establishes a formal framework between the Assembly and Carver to negotiate an MBA for the full life of the Project. The MOU also commits Carver to funding KMK's engagement capacity in regard to its assessment of the Project.
Impacts to Indigenous fishers	The Proponent will identify any Indigenous fishers who may be impacted by the Project and will engage directly with affected fishers to understand potential impacts and collaboratively develop appropriate mitigation measures.
Aquatic Invasive Species from marine terminal operation	Aquatic Invasive Species (AIS) will be evaluated and considered during the FAA. DFO assess AIS under the *Fisheries Act*, SARA and AIS Regulations. The AIS Regulations are intended to prevent the introduction and spread of AIS in Canadian waters by prohibiting the import, possession, transport, release, and introduction of listed invasive species, and by requiring authorization before introducing aquatic species into waters where they are not naturally found. The AIS Regulations will be used to implement appropriate prevention methods. In addition, all third party contracted vessels carrying ballast water will be required to comply with all relevant ballast water management regulations, including the *Canadian Ballast Water Regulations*, federal regulations under the *Canada Shipping Act*, and associated international requirements, where applicable.

1.4.2.3 Ongoing Engagement

Carver is committed to ongoing, meaningful engagement and economic reconciliation with the Mi'kmaq of Nova Scotia and will provide regular updates and seek feedback throughout the life of the Project. Morien, on behalf of Carver, will continue to engage with the Mi'kmaq of Nova Scotia to provide information and allow the opportunity to express concern and/or comments before initiation of activities, through to closure.

1.4.2.3.1 Agreements with Indigenous Groups

Memorandum of Understanding

Carver, Morien, and the Assembly of Nova Scotia Mi'kmaw Chiefs (the Assembly) have executed a Memorandum of Understanding (MOU) that establishes a formal framework for engagement, capacity support, and the negotiation of a Mutual Benefits Agreement (MBA) over the life of the Project.

Under the MOU, the Proponent commits to fund the Kwilmu'kw Maw-klusuaqn (KMK) engagement capacity in connection with its assessment of, and engagement on, the Project. The MOU also commits the parties to negotiate an MBA that will define how the Project's benefits, impacts, and ongoing relationship are shared between the Project and the Mi'kmaq of Nova Scotia.

The MBA will be developed through ongoing negotiations between the Proponent and the Assembly, supported by KMK, and is expected to address, amongst other items, economic participation, employment and training opportunities, environmental stewardship, and ongoing consultation arrangements over the construction, operational, and closure phases of the Project.

The MOU does not replace or substitute for the Crown's duty to consult the Mi'kmaq of Nova Scotia in accordance with the Mi'kmaq-Canada-Nova Scotia Consultation Terms of Reference; rather, it provides a parallel proponent–Rightsholder framework that supports meaningful participation in Project planning and decision-making.

Sipekne'katik Governance Initiative

The Proponent entered the Sipekne'katik Governance Initiative (SGI) with Sipekne'katik First Nation in August 2025. The SGI is a community-based engagement process developed by Sipekne'katik to guide engagement between proponents and Sipekne'katik on projects proposed within its traditional territory, and to ensure that potential effects on Mi'kmaq interests are understood and considered through Project planning.

Under the SGI, the Proponent and Sipekne'katik follow a structured, multi-phase process that includes an initial introduction to the Project, a joint scoping of the potential issues to be examined, the development of a workplan and associated capacity funding, and community-based review and dialogue. The process is designed so that the depth of engagement reflects the nature of the Project and the matters of interest to Sipekne'katik, including environmental, cultural, social, and economic considerations.

The Proponent's participation in the SGI reflects a commitment to working directly with Sipekne'katik in a respectful, well-resourced, and transparent way over the course of the Project. As with the MOU with the Assembly, the SGI does not replace or substitute for the Crown's duty to consult the Mi'kmaq of Nova Scotia; rather, it provides a parallel proponent–community framework that supports meaningful participation in Project planning and decision-making.

1.4.3 Summary of Engagement with Stakeholders

1.4.3.1 Overview

Morien, on behalf of Carver, and its consultants have been involved in engagement activities with the local community and stakeholders to ensure the community was made aware of the Project and given ample opportunity to receive information, ask questions, and share local knowledge.

Two open houses were held on October 21, 2025, and March 10, 2026. Materials associated with the open houses, including advertising materials, attendance logs, and comment cards, are provided in Appendix A. Attendance at the open houses for the Project is provided in Table 1.4-5.

Table 1.4-5 Attendance at Open Houses

Open House Number	Date	Location	Number of Public Attendees	Exit Surveys Completed
1	October 21, 2025	Hazel Hill & Area Community Centre	60	6
2	March 10, 2026	Hazel Hill & Area Community Centre	34	6
		Total	94	12

Note: Attendance totals reflect only those attendees who signed in upon entering the venue. Actual attendance at both open houses was understood to have been higher, as sign-in was optional.

A phone number and email address were set up for community members and members of the public and others to reach the Project team with questions, comments, and concerns, and distributed via print and digital media by email, mail, and to those attending in-person meetings. Carver, through Morien, has invited the public to reach out and engage via these contacts through flyers, posters, and the Project website.

The objective of Open House 1 was to provide an initial introduction of the Project and a Project description, and to gather community feedback to inform the Project design. The objective of Open House 2 was to update the community about fieldwork findings, evaluation of effects, proposed mitigation measures and monitoring programs, and continued engagement initiatives with the community.

Sign-in sheets were available for participants to provide their contact information and enable follow-up, as required. Exit surveys were also available for participants to provide anonymous feedback (Appendix A).

Both open houses were advertised primarily through mail-outs to neighbouring residences, with posters also posted in local businesses and public gathering spaces. MODG staff and councillors were also informed and asked to spread the advertisement and local Facebook pages to spread awareness.

Engagement with the public and stakeholders will continue through the pre-planning, construction, and operation phases of the Project. Table 1.4-6 summarizes key issues and concern raised through engagement with the public and stakeholders.

Table 1.4-6 Engagement with the Public and Stakeholders

Community Group/Stakeholder	Engagement Details
Atlantic Pilotage Authority (APA)	September - October 2025 – Provided Project overview with a focus on under keel clearance as well as associated tug and pilot support for berthing vessels.
Guysborough County Inshore Fishermen's Association (GCIFA)	June 2025 – Provided a Project introduction with a focus on impacts to fisheries. Discussed initial Project scoping and upcoming bathymetry survey. October 2025 – Discussed establishing Project benefits funds and provided invitation to the open house. November 2025 – Provided update on the Project scoping and overall layout. December 2025 - January 2026 – Discussions on the marine terminal layout and scoping update. March 2026 – Provided overall Project update, including marine terminal layout and design. April - May 2026 – Discussed Project timing as well as FAA and offsetting scoping. July – September 2026 – Engagement and coordination on Carver's geotechnical offshore drill program.
Nova Scotia Power Inc. (NSPI)	September 2025 – Provided Project introduction and initiated conversations regarding power requirements at the Project. June 2026 – Discussions on the Project's anticipated electrical load and next steps to conducting a preliminary assessment.
Seabreeze Campground	June - August 2025 – Provided Project introduction, initial Project scoping, discussed accommodation proposal and collaboration between the Project and Seabreeze Campground. September 2025 – Meeting to discuss the environmental baseline programs and next steps for the Project.

Community Group/Stakeholder	Engagement Details
	October 2025 - August 2026 – Meetings to discuss the upcoming drilling program, Project updates, and discussions on the long-term collaboration agreement between the Project and Seabreeze Campground.
Members of the public	May 2025 – Correspondence with local residents to introduce the Project, and discussions on local employment opportunities for the Project. October 2025 – Door knocking campaign in local communities of Hazel Hill, Tickle Road, Three Mile Lake, and Fox Island Main to discuss the Project and answer any questions from community members. October 2025 - Advertisement mail-outs to 249 addresses along rural routes from Guysborough to Queensport, 430 addresses in Canso and along rural routes in Eagle Valley Cottages, Durell's Island, Tickle Road, and Hazel Hill regarding the October open house. November 2025 – Correspondence with local residents requesting Project information, including fisheries impacts, community funds, and details about the CLC. November 2025 – Community bulletin mail-out local residents informing on the details and timing for an upcoming helicopter-supported drill program at the Project. February 2026 – Advertisement mail-outs to 249 addresses along rural routes from Guysborough to Queensport, 430 addresses in Canso and along rural routes in Eagle Valley Cottages, Durell's Island, Tickle Road, and Hazel Hill about the March 10 open house. July 2026 – Posted and distributed community bulletin on the upcoming offshore geotechnical drill program. Distribution of bulletins was assisted by MODG staff, MODG councillors and GCIFA.

1.4.3.2 Key Issues and Concerns Raised by Stakeholders

Issues and concerns raised by the public as expressed in meetings and from in-person and written feedback have been grouped into broader categories, which have been assessed throughout the IPD.

Key issues raised by stakeholders regarding the marine terminal include the loss of commercial fishing grounds and the impact to associated navigation of commercial fishers in Chedabucto Bay.

Key issues and concerns raised by stakeholders for the Project have been compiled and summarized in Table 1.4-7.

Table 1.4-7 Key Issues and Concerns Raised by Stakeholders

Relevant Project Component - Key Issue or Concern	Action
Will there be a CLC for this Project?	A CLC was established in May 2026 with the first meeting held in September 2026, and includes representatives from the local community, MODG, Morien and Carver.
What kind of investments/programs are planned for the local communities?	A Community Development Fund will provide annual direct payments to communities and stakeholders within MODG over the life of the operation. At full production, the Community Development Fund will contribute $340,000 annually in support of community-led projects A Community Wellness Fund will support local recreation and wellness groups across MODG. At full production, the Community Wellness Fund will contribute $170,000 annually. The Canso and Area Minor Hockey Association is designated as a committed recipient of a portion of the Fund for the first ten years of operation.

Relevant Project Component - Key Issue or Concern	Action
	Annual bursaries for graduating MODG high school students will be funded, along with coop placements during construction and operation. A formal Community Benefits Agreement (CBA) is being negotiated with the Municipality to establish the framework for these commitments, which will apply throughout the construction and operation phases of the Project. A pre-revenue community fund of a minimum of $25,000 annually, established at the effective date of the CBA, to support community-led projects and wellness initiatives prior to Commencement of Commercial Sales. A long-term partnership agreement is being developed with Seabreeze Campground, a neighbouring landowner, to share Project benefits with the campground in recognition of its proximity to the Project.
Will jobs created by the Project be given to local workers?	Carver will share economic opportunities with MODG residents throughout the construction and operation life of the Project. Local sourcing of goods and services will be prioritized, and local residents will receive first consideration for employment opportunities, advanced notification of job openings, and access to training and hiring preference programs. Carver will prioritize the hiring of MODG residents for all operation roles and will prioritize efforts to maximize local employment. The Project's office will be located within the MODG and likely be established onsite at the Project. All permanent employee training will take place within the MODG. A job fair will be held prior to construction to connect with local community members and service providers. Local sourcing of goods and services will be prioritized.
Concerns about impacts to local hunting, hiking, and all-terrain vehicle (ATV) activity	Carver, through Morien, has engaged, and will continue to engage, with local recreation groups to understand how the Project may affect recreational activities. An Access Management Plan for the general Project access road will be developed with community input to maintain safe access for established hunting, ATV, and other recreational use, where practicable. In response to feedback from local residents who frequent the Lumsdens Lake area, Carver established a 100 m buffer between all Project infrastructure and the Lumsdens Lake boundary, a measure that exceeds regulatory requirements and reflects Carver's commitment to protect nearby habitats. For the IPD, the marine terminal access road refers only to the access road extending from the landside processing plant to the marine terminal. The general Project access road from Route 16 is part of the quarry development and will be assessed under the provincial Environmental Assessment process. The Access Road Management Plan will be developed in advance of construction activities to address any issues associated with the Project.
Land-based road network - How will this impact wildlife and wildlife habitat, vegetation communities, SAR, waterbodies, and areas of scientific or natural interest?	Desktop analysis and field surveys have been completed to characterize the terrestrial environment, including flora and fauna, lichen, Species at Risk (SAR) and Species of Conservation Interest (SOCI), wetland and watercourses, etc. The Project access road has been designed in consideration of identified constraints, with mitigation measures selected to avoid or minimize potential environmental and/or socioeconomic impacts, where practicable. Further details are provided in Section 2.5. The Project access road will be assessed as part of the provincial quarry project Environmental Assessment and permitting process.

Relevant Project Component - Key Issue or Concern	Action
Potential impact of the Project on navigation to commercial fishers in Chedabucto Bay	Discussions with the Guysborough County Inshore Fishing Association (GCIFA) are ongoing and related to potential impacts on fisheries and on shipping lanes from the additional vessel traffic, as the Chedabucto Bay is a major shipping corridor and the nearby Strait of Canso is a major intersecting traffic corridor. Carver, through Morien, is also currently undergoing discussions with the APA regarding under keel clearance and pilot support, where pilotage is not compulsory in this region of Chedabucto Bay. Further information on marine transportation is provided in Section 2.3.2.

1.4.3.3 Ongoing Engagement

Carver is committed to continuing to work to address any concerns raised by stakeholders and members of the public over the duration of the Project's life in a meaningful and transparent way. Additionally, a CLC has been established and will meet at regular intervals throughout the life of the Project, until such a time that it is deemed unnecessary. The CLC's first meeting was held in September 2026, with subsequent meetings scheduled on a regular basis (quarterly or as warranted by Project milestones).

1.4.3.3.1 Municipality of the District of Guysborough

Discussions are currently ongoing regarding the execution of a Community Benefits Agreement (CBA) between MODG and the Proponent. The CBA is expected to be in place before construction is initiated for the Project. The substantive terms of the agreement are described in Section 2.1.1.4.

The CBA establishes a long-term cooperation framework between the parties and confirms the alignment of the Project with MODG's economic development priorities. Through the CBA, the Proponent has committed to specific community investment, local employment, and ongoing engagement obligations, and MODG has confirmed its support for the Project's advancement through regulatory review.

1.5 Regional Studies and Assessments

The Proponent is not aware of any publicly available regional studies or assessments that are relevant to the Project. A MEKS has been completed for the Project, as summarized in Sections 3 and 5 and provided in Appendix C. The Proponent is not aware of any publicly available Indigenous-led assessments that are relevant to the Project.

1.6 Strategic Assessments

The Strategic Assessment of Climate Change (SACC) (2020) is a federal policy instrument developed by Environment and Climate Change Canada (ECCC) under the *Impact Assessment Act* (IAA) to ensure that climate change considerations are consistently integrated into federal impact assessments for major projects. The SACC applies to all designated projects undergoing a federal impact assessment under the IAA and, as such, the SACC will apply to the Project should it undergo a federal impact assessment. Should the SACC apply, and because the Project is expected to operate beyond 2050, the development of a post-2050 net-zero plan for the Project may be required in alignment with SACC guidance. Key SACC elements, including the quantification of greenhouse gas (GHG) emissions, identification of mitigation measures, and a high-level assessment of climate change resilience, are addressed in Section 5.5 of this Initial Project Description (IPD) for the Project.

The Proponent is not aware of any additional strategic assessments that are publicly available or applicable to the Project.

2. Part B: Project Information

2.1 Purpose and Need for the Project

The purpose of the Project is to export high-quality, “Class-A” granite aggregate from Lazy Head, NS, by marine transportation from the on-site marine terminal.

The Project is intended to supply high-growth infrastructure markets in eastern North America, including offshore wind energy installations and the eastern U.S. construction market, where long-term aggregate supply constraints are emerging.

2.1.1 Potential Benefits

The marine terminal provides an efficient route to market for aggregate, supplying the U.S. East Coast and Gulf region construction market and offshore wind energy developments along the east coast of North America.

Aggregate will be shipped from the marine terminal to ports owned by Carver along the eastern seaboard, extending from Brayton Point, Massachusetts to Port Manatee, Florida. Marine transportation offers significant benefits over shipping via rail or haul truck, including higher bulk capacity per shipment, reduced impact on local communities (i.e., eliminating increased traffic and safety concerns related to haul trucks) and reduced per-tonne carbon emissions.

Aggregate supplied to offshore wind installations will also support broader regional GHG reduction objectives by enabling the development of new renewable energy generation, while reducing the need to source aggregate from more remote jurisdictions with longer marine or overland transportation routes.

Morien engaged EcoTec Consultants to prepare an economic impact study: Economic Benefits Assessment – Lazy Head Aggregate Project (EcoTec, 2026). The results of the report are summarized in this section; the full report is provided in Appendix B. The economic estimates summarized below, and in Appendix B, relate to the combined Lazy Head aggregate and marine terminal development, rather than the marine terminal alone. The terminal provides the marine export infrastructure required to realize these benefits.

2.1.1.1 Capital and Operational Expenditures

Total Project expenditures are estimated at $3.25 billion (B) over the life of the Project. The initial capital expenditure (CAPEX) budget is estimated at $284 million (M) over the construction phase. The remaining budget of $2.97 B is comprised of operating expenditures (OPEX) and sustaining capital and will be invested over 85+ years of operations. At full production, annual expenditures are anticipated to reach $33.7 M.

2.1.1.2 Contribution to Gross Domestic Product and Fiscal Revenue

Total contribution to provincial Gross Domestic Product (GDP) over the life of the Project (both construction and operation) is estimated at $2.26 B, an average of $24.4 M annually over the life of the Project (Table 2.1-1). The Guysborough region will be the largest beneficiary within the province, with a total GDP contribution estimated at $1.22 B over the life of the Project (annual average of $13.1 M). GDP generated within the Guysborough region is expected to reach a sustained level of $13.5 M starting in Year 6.

Table 2.1-1 GDP Benefits of the Lazy Head Project

GDP (M$)	Guysborough Region	Nova Scotia	Canada
Total	1,215.6	2,256.9	3,245.5
Annual Average	13.1	24.4	35.1

Total fiscal revenues are estimated at $702.2 M over the life of the Project ($7.6 M annually), including $359.5 M federally ($3.9 M annually), $250.7 M provincially ($2.7 M annually), and $91.9 M to municipalities within NS ($1.0 M annually).

2.1.1.3 Contribution to Employment

The total number of full-time equivalents (FTEs) generated within NS is estimated at 19,184, equivalent to an annual average of 207 FTEs over the life of the Project (Table 2.1-2). After an early construction peak of 447 FTEs in Y-3, a sustained operating peak of 203 FTEs will be reached in Y+5. Employment generated within Guysborough region is estimated at 11,590 FTEs, an annual average of 125 FTEs, representing 60.4% of the total employment generated within NS by the Project. Employment in the rest of NS is estimated at 7,594 FTEs (an average of 82 per year).

Table 2.1-2 Employment Benefits of the Lazy Head Project

Employment (FTEs)	Guysborough Region	Nova Scotia	Canada
Total	11,590	19,184	25,232
Annual Average	125	207	273

2.1.1.4 Benefits to the Guysborough Region

While exact economic benefits over such a long period cannot be estimated with certainty at this early stage, the Project has the potential to boost economic growth ($1.2 B in total GDP contribution) and provide a substantial number of jobs (11,447 FTEs) within the Guysborough region over the life of the Project. It will offer desirable, full-time, year-round employment and stable, sustainable, multi-generational economic activity for the Guysborough region and NS for almost a century.

The significance of these potential socioeconomic effects is best understood when compared to the present-day economy. The annual average of 124 FTEs generated within Guysborough region is equivalent to approximately 4.9% of the number of employed persons in the Guysborough Census Division in 2021, representing a meaningful potential increase in local employment.

2.1.1.5 Community Benefits Agreement and Community Funds

In addition to the economic activity generated by Project, the Project will deliver direct community contributions to Guysborough region over its life through a CBA being developed between Morien, Carver, and MODG. The CBA formalizes a series of life-of-Project commitments to host community benefit, structured to ensure that communities most affected by the Project share in its long-term success.

Two life-of-Project community funds are central to the CBA:

– **The Community Development Fund**: funded at a per-tonne rate on aggregate sold, will support community-led projects across the Guysborough region, with priority given to the nearby communities of Hazel Hill, Three Mile Lake, Tickle Road, and Fox Island Main. At full production, the Fund is expected to contribute approximately $340,000 annually.
– **The Community Wellness Fund**: also funded at a per-tonne rate on aggregate sold, will support local sports, culture, recreation, and trails organizations across the Guysborough region. The Canso and Area Minor Hockey Association is designated as a committed recipient of a portion of the Fund for the first ten years of operation. At full production, the Fund is expected to contribute approximately $170,000 annually.

Together, the two funds are expected to contribute approximately $510,000 annually in direct community support at full production, with contributions scaling proportional to the production ramp-up in earlier years.

Additional CBA commitments include:

– A pre-operations community fund established at the effective date of the CBA
– Annual bursaries for graduating high school students in the Guysborough region
– Co-operative work placements during construction and operations
– Local hiring and procurement commitments
– Location of the Project's administrative centre and operational employee training within the Guysborough region

2.1.2 Funding

Carver will fund the Project in full through private financing and equity contributions. The Project does not require public or government funding to proceed, and its viability does not depend on it.

Given the Project's role in supplying armour stone to NS's proposed offshore wind development, a joint federal and provincial priority, it may be eligible for federal or provincial programs that support this sector. Any such funding would supplement Carver's private financing and is not a condition of the Project proceeding.

2.2 Physical Activities Regulations Provisions

The Project is a designated project under the *Physical Activities Regulations* of the IAA. The Project includes construction, operation, and closure of a new marine terminal, designed to accommodate ships larger than 25,000 dwt. Based on the size of the vessels proposed to be utilized (48,000 dwt), the marine terminal triggers the requirement for assessment under Section 52 of the Schedule to the *Physical Activities Regulations*.

2.2.1 Overview of the Undertaking

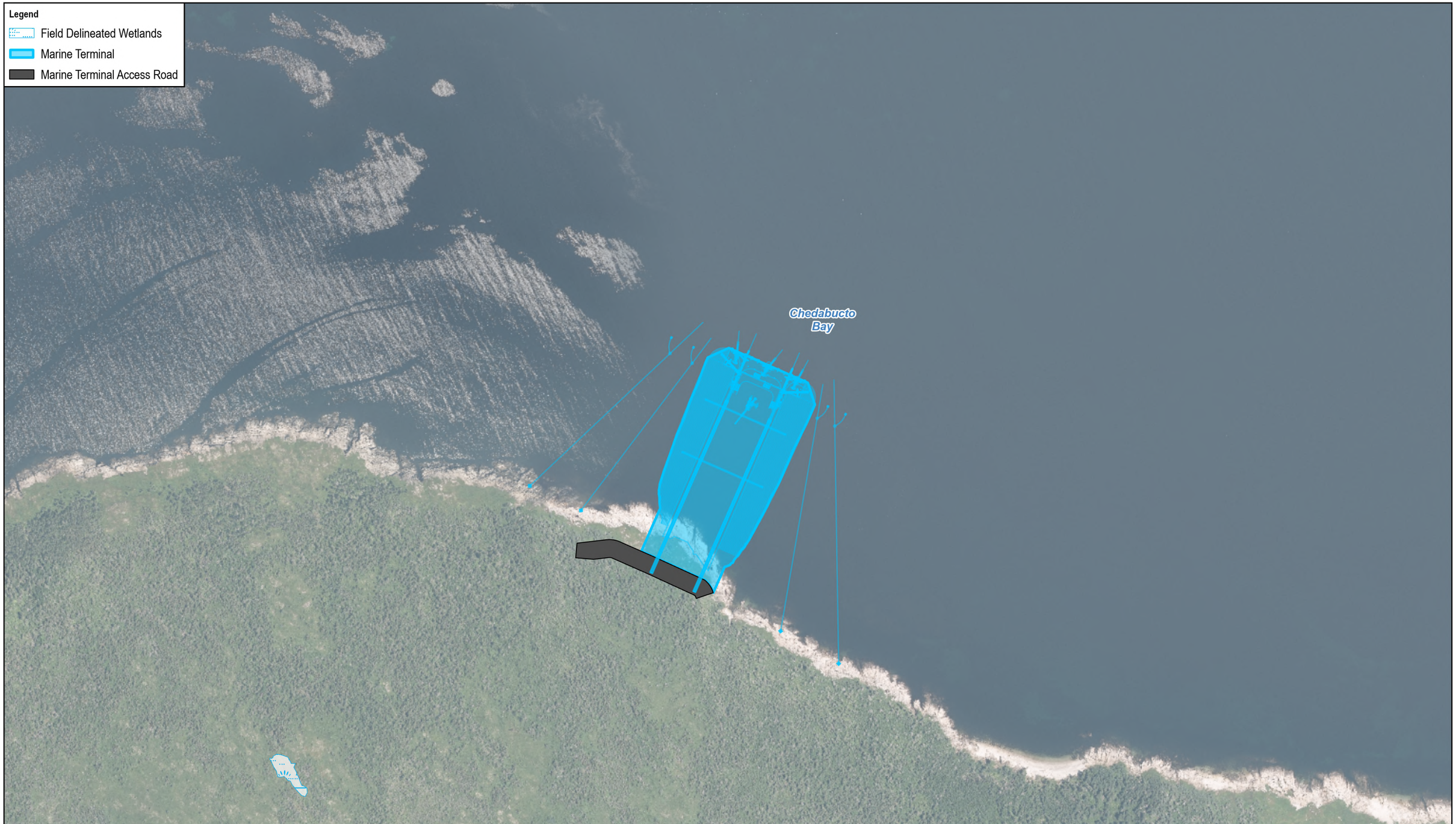
The Project consists of a single rubble mound marine terminal extending from the shoreline north into Chedabucto Bay. The marine terminal will ship granite aggregate and wind industry rock by ocean-going vessels. The PA is centered at coordinates 5,023,542.01 m north, 652,486.42 m east (Universal Transverse Mercator (UTM) Zone 20 North American Datum (NAD) 83) (45°20'55.68", N latitude and -61°03'12.3" W longitude).

Figure 2.2-1 presents the Project plan, including the marine terminal and access road. The marine terminal access road will connect to a pre-existing access road, developed as part of the quarry development and assessed under the provincial Environmental Assessment. The marine terminal access road will provide access from the pre-existing access road and finished product storage area, as shown on Figure 2.2-1.

The marine terminal access road has two overpasses that cross the dual shipping conveyors on the rubble mound, allowing vehicular traffic to pass over the conveyors. The Project begins at these overpasses and extends to the dock face of the fixed dock. It includes all associated electrical and control equipment, the fixed dock's five jacketed dolphins, infill sections and structural steel deck frame, vessel berthing and mooring systems, and the ship loading radial stackers. Marine terminal components are shown on Figure 2.2-2.

The Project scope includes construction, operation, and closure activities.

Project operations have the potential to occur up to 24 hours per day, yearround, depending on the timing of vessel calls. Each aggregate vessel call is expected to have a total loading cycle of approximately 24 hours, including berthing, loading, and departure activities.



Paper Size ANSI B

0 50 100 150

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

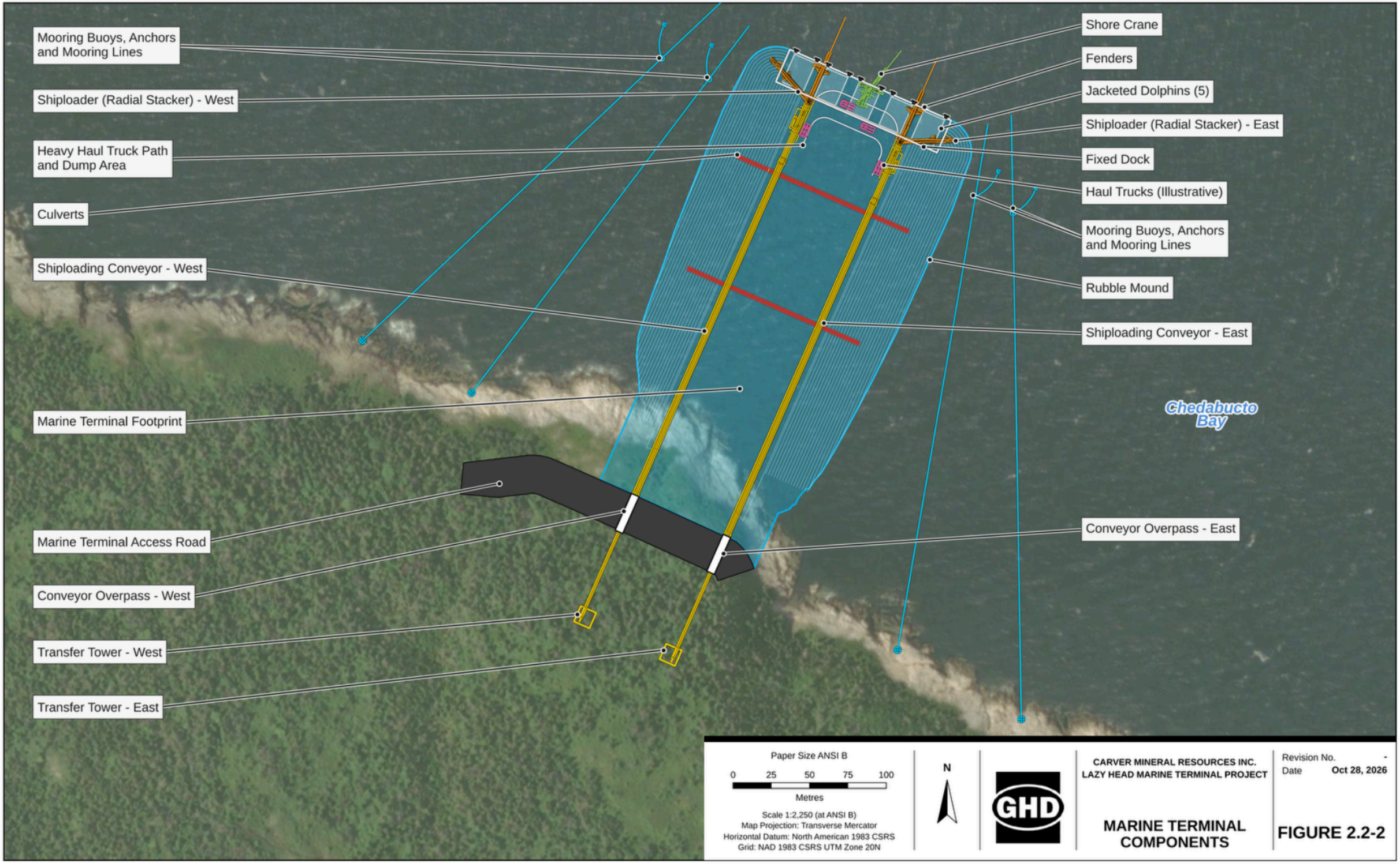
PROJECT PLAN

Project No. **12671292**
Revision No. **-**
Date **Sep 24, 2026**

FIGURE 2.2-1

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Mooring Buoys, Anchors and Mooring Lines
Shiploader (Radial Stacker) - West
Heavy Haul Truck Path and Dump Area
Culverts
Shiploading Conveyor - West
Marine Terminal Footprint
Marine Terminal Access Road
Conveyor Overpass - West
Transfer Tower - West
Transfer Tower - East
Shore Crane
Fenders
Jacketed Dolphins (5)
Shiploader (Radial Stacker) - East
Fixed Dock
Haul Trucks (Illustrative)
Mooring Buoys, Anchors and Mooring Lines
Rubble Mound
Shiploading Conveyor - East
Conveyor Overpass - East
Chedabucto Bay
Paper Size ANSI B
0 25 50 75 100
Metres
Scale 1:2,250 (at ANSI B)
Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N
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GHD
CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT
MARINE TERMINAL COMPONENTS
Revision No. -
Date Oct 28, 2026
FIGURE 2.2-2

The marine terminal will be developed with a single rubble mound approach extending seaward approximately 270 m from the shoreline (Figure 2.2-1). At its crest, the rubble mound is approximately 70 m wide. Preliminary engineering evaluated several terminal designs to minimize seafloor disturbance. The selected configuration includes fully covered dual ship loading conveyors along the length of the rubble mound for material transfer; a fixed dock structure at the seaward end of the rubble mound that provides a vertical dock face and structural support for conveyor transfer points and equipment; and four mooring buoys (two for bow lines and two for stern lines) anchored to the shoreline by concrete deadmen for berthing and mooring vessels across the full tidal range. Single lane temporary access roadways will connect the deadmen locations to the marine terminal access road. The transfer equipment includes two enclosed conveyors, and dual luffing-slewing radial stackers mounted on the fixed dock. The radial stackers enable efficient loading of aggregate into vessel cargo holds without line-hauling the vessel, further reducing the terminal's footprint. Aggregate will move from the product stockpiles to the berth along the covered outbound shipping conveyors placed on the crest of the rubble mound approach. The outbound shipping conveyor system is designed to handle material at production rates suitable for the construction aggregate market. The rubble mound approach also supports service-based light vehicle access for inspection and maintenance, reducing reliance on marine access by boat and haul truck access to deliver oversized products (e.g., wind industry rock, rip rap) to the fixed dock for loading by a shore crane. The marine terminal's shore crane is designed to handle oversized products for offshore wind energy and shoreline protection applications.

The conveyors running along the length of the rubble mound approach will be covered, and the conveyor-to-conveyor and conveyor-to-radial stacker transfer points will likewise be within enclosed structures to provide year-round all-weather maintenance access. These enclosures are intended to prevent spillage of material into the marine environment, control fugitive dust, and reduce noise and light emissions during loading operations. The terminal is designed to accommodate 48,000 dwt bulk carriers (Ultramax-class, approximately 198 m in length and 32 m in beam) for shipment of various aggregate sizes to the U.S. East Coast and Gulf region construction market and 15,000 to 35,000 dwt specialized subsea rock installation bulk carriers or fall pipe bulk carriers (155 – 175 m in length and 26 – 28 m in beam) to supply offshore wind developments along the east coast of North America. Marine terminal operations are anticipated to average 1.4 vessels per week (71 vessels per year) at full production (year 7 of operation). The total loading cycle time per aggregate vessel call is estimated at approximately 24 hours including berthing, loading, and departure. Loaded Ultramax vessels are expected to depart at high tide, allowing for a maximum operating draft of approximately 12 m and specialized wind industry rock vessels can depart during any normal tidal condition. Tug assistance is not currently anticipated for vessel berthing or de-berthing under normal operating conditions; a small boat will assist with line-handling during berthing and de-berthing operations.

The marine terminal will not include refuelling infrastructure; all refuelling, provisioning, waste management, and related vessel services will be contracted to a third party.

During the closure phase, buildings, ship loaders, mooring buoys, conveyance equipment, structural towers, and other ancillary mechanical equipment associated with the marine terminal will be decommissioned and removed. To avoid disturbance of the marine environment, and as they provide fish habitat for lobster and other marine species, the rubble mound and the fixed dock will be left in place within Chedabucto Bay. Appropriate sediment and erosion controls will be implemented throughout closure activities. Additional details regarding Project closure and reclamation activities will be developed as part of Project permitting.

The marine terminal is not within an area of Chedabucto Bay that requires pilotage authority under the Atlantic Pilotage Authority (APA). The Project shipping vessels will be tied into the primary Transport Canada shipping lane situated approximately 4 km north of the terminal, which channels all vessel traffic into and out of the Chedabucto Bay and Strait of Canso. Navigational aids will be installed along both sides of the entrance and exit approach channels. Entrance and exit approach channels extend out from the terminal in which vessels will travel into and out of Chedabucto Bay and Strait of Canso are outlined herein. However, determination of how vessels will connect to the shipping lane is still in progress. Morien will engage with the APA, GCIFA, Canadian Coast Guard, and Transport Canada to confirm preferred vessel routes, suitable tie-in locations to the primary shipping lanes, and navigational aids along the approaches.

Marine transport of aggregate will be provided by either third-party bulk carriers or Carver-owned bulk carriers. Wind industry rock will be transported in customer provided special installation vessels. Carver maintains strict process controls to ensure that all vessels calling at its terminals comply with applicable regulatory requirements, including *Canada Shipping Act* provisions, pilotage, ballast water management, any in-force vessel speed restrictions, seasonal management measures, etc. along their routing.

2.3 Infrastructure, Structures and Physical Works

The primary components of the Project are detailed in the following sections.

– Marine Terminal
– Marine Transportation and Pilotage
– Access Road

Ancillary infrastructure including fuel storage, power supply, and waste management, all assessed under the provincial Environmental Assessment process.

2.3.1 Marine Terminal

The marine terminal begins at the overpasses over the outbound shipping conveyors and ends at the dock face of the fixed dock; it includes the twin radial stacker ship loaders. Major components of the marine terminal, which has been configured to minimize seafloor disturbance, as shown on Figure 2.2-1, include the following:

– A rubble mound approach to provide a protected marine corridor and support infrastructure.
– A fixed dock to provide a vertical dock face for secure vessel mooring, to support radial stackers and a shore crane to load aggregates and oversized products, respectively.
– Four floating buoys and deadmen that allow for safe vessel mooring.
– Two covered conveyors along the length of the rubble mound to facilitate material transfer from the finish product storage to the radial stackers for loading vessels. Two covered transfer points for moving aggregate from land-based dual shipping conveyors to the radial stacker ship loaders.
– Two radial stackers for loading aggregate products into cargo holds of the vessels without repositioning the vessels.
– One shore crane for loading oversized products to specialized vessels.

The marine terminal design has been developed to avoid in-water blasting. A marine geotechnical drilling program was completed in the summer 2026, outside the commercial fishing season in Chedabucto Bay (Lobster Fishing Area 31A), to confirm seafloor conditions and support detailed design of the marine terminal. Evaluation of the geotechnical results may support refinements to the terminal configuration, including the potential to bring the facility closer to shore or increase the depth of the berth, which could in turn require in-water dredging. Should such refinements be considered, the implications for design, construction methods, and the marine environment would be fully evaluated through detailed design and discussed with the GCIFA and other affected stakeholders before any change is advanced.

2.3.1.1 Rubble Mound

A single rubble mound approach will be constructed seaward approximately 270 m from the shoreline. The rubble mound will be approximately 70 m wide at the crest and form a protected marine corridor, structural support for the conveyor systems, service-based light vehicle access along the length of the mound for inspection and maintenance, as well as haul truck access for oversized loading operations as described herein.

The rubble mound will be constructed from blasted rock, including large quantities of 1-tonne, 2.5- to 4.5-tonne, and 7- to 11-tonne armour stone. The total quantity of blasted rock and armour stone required for construction of the marine terminal is estimated at approximately 570,000 tonnes, all of which will be sourced from material removed from

the landside processing plant area during construction. The material will be placed on a stable 2:1 slope to form a robust embankment providing structural support for the vessel loading conveyors and ensure long-term durability under marine conditions. Culverts will be incorporated within the rubble mound embankments to allow natural water circulation through the structure and to mitigate the potential for localized siltation accumulation along the edges of the mound. Over the long term, the rubble mound structure is expected to provide suitable habitat for lobster and other marine species.

2.3.1.2 Conveyor System

Aggregate will be moved from the landside processing plant finished product stockpile to the ship loading berth along the dual outbound shipping covered conveyors, constructed on top of the rubble mound.

The 48 to 60-inch-wide outbound shipping conveyors are expected to extend approximately 270 m from the overpasses over the marine terminal access road to the face of the fixed dock and be mounted 65 m apart on the rubble mound.

The dual outbound shipping conveyors will be fully covered and enclosed at all transfer drop points to control fugitive dust, reduce noise emissions, and limit light pollution during loading operations, and to prevent material loss to the marine environment. These dual covered conveyors extending the full length of the marine terminal will provide all-weather year-round shipping and conveyor maintenance access.

Dual conveyors enable higher loading rates for aggregates, minimize overall vessel time at berth, and reduce vessel emissions. The dual conveyors also provide redundancy for emergency vessel loading in the event of only one conveyor or radial stacker being operational.

The marine terminal begins at the overpasses crossing the marine terminal access road. Each outbound shipping conveyor will include a landside transfer tower, where material from the finished product stockpile reclaim conveyors is transferred onto the dual outbound shipping conveyors, and a waterside transfer point located on the fixed dock, where material is transferred from the outbound shipping conveyors to the radial stackers. Fully enclosed landside towers allow transfer from the finished product stockpile conveyors to the dual outbound shipping conveyors. The waterside transfer points will be supported by a fixed dock that will provide for transfers from the dual outbound shipping conveyors to the dual ship loading radial stackers.

2.3.1.3 Fixed Dock

The fixed dock will be capable of berthing, mooring, and supporting efficient loading of large vessels within full tidal range. The fixed dock measures approximately 120 m in length by 25 m in width, sized to accommodate berthing of the design vessel and to support the radial stackers and associated material handling equipment. The system will be designed for ocean-going vessels up to approximately 48,000 dwt, consistent with Handymax and Ultramax-class vessels measuring approximately 198 m in length and 32 m in beam and specialized wind industry rock vessels measuring approximately 155 – 175 m in length and with a 26 – 28 m beam.

At the seaward end of the rubble mound approach, the fixed dock will provide support for transfer points that transfer aggregates from the land-based finished product stockpile reclaim conveyors to the dual radial stackers mounted on the fixed dock. The fixed dock will be constructed using a series of five jacketed dolphins with infill sections between the dolphins connected to a structural steel deck frame. Precast concrete panels will be placed on the steel deck frame. A poured-in-place topping slab will be installed over the pre-cast deck sections to create a continuous concrete working surface for ship loading operations either by the dual radial stackers or the shore crane. The dual radial stackers mounted on the fixed dock will be able to efficiently load aggregate into the vessel’s holds. The fixed dock will provide structural support for the conveyance systems and the mechanical equipment interface between dual conveyors on the rubble mound and the dual radial stackers on the fixed dock as well as the shore crane. The fixed dock will serve as a breasting and mooring structure for vessels, support for conveyor equipment that transfers aggregate from the land-based material handling system to ship loading radial stackers, a temporary stockpile area for oversized product for loading via the shore crane, and support for the shore crane.

2.3.1.4 Vessel Mooring System

A robust vessel mooring system will provide for the safe berthing of vessels. The mooring system will include four mooring buoys — two for bow lines and two for stern lines — as well as multiple mooring devices for breasting lines mounted along the waterside edge of the fixed dock. The system will also incorporate a series of 10 to 12 fixed fenders on the waterside of the fixed dock positioned to allow berthing during normal tidal range. Each mooring buoy will be secured to the shoreline using an anchor chain connected to a landside concrete deadman, which provides a secure anchoring point. Anchor chains will connect the deadmen to the mooring buoys. Small positioning anchors will be placed offshore of the buoys to limit movement of the mooring buoys and provide easy access to the mooring buoys during vessel tie-up. Each mooring buoy will be rated to a minimum holding capacity of approximately 200 tonnes, sized to accommodate the mooring forces associated with the design vessel under prevailing wind and wave conditions. The concrete deadmen will be sized for a minimum holding capacity of approximately 200 tonnes each. Anchor chains and mooring lines are specified to applicable marine design standards.

Water depth and tidal conditions at the marine terminal have informed the design of the fixed dock. The water depth at the dock face is approximately 12 m at chart datum, with a tidal range of approximately 1.8 m between low and high tide. The system is designed to maintain a minimum under-keel clearance of 1 m at departure, with larger loaded vessels departing at high tide to allow for a maximum operating draft of approximately 12 m. Small specialized rock vessels can depart at any time and during any tidal condition.

2.3.1.5 Ship Loaders

The marine terminal will use two radial stacker ship loaders, mounted on the fixed dock at the end of the rubble mound approach, that deliver aggregate into the vessel's holds. Each radial stacker can rotate (slew), extend (telescope), and raise or lower (luff), allowing material to be placed precisely into the vessel holds while the ship remains stationary.

The ship loaders have luffing, slewing, and horizontal telescoping functions that enable these units to efficiently load a stationary vessel. This ship loader system is specifically designed to ensure proper placement of aggregates into the vessel holds and prevent cargo warping or vessel line hauling, thereby reducing the berth's marine footprint.

Ship loader units and radial drives slew the radial stackers on the fixed dock. The rotating, telescoping, and luffing functions of these ship loader units provide for full loading of a stationary vessel. The luffing function allows the marine terminal personnel to lower the stacker elevation and adjust the drop height of the aggregates to reduce product degradation and emissions.

The ship loaders will be controlled by marine terminal personnel to ensure accurate placement of loading material. Precise control helps prevent uneven vessel loading, reduces the need to reposition or line haul a vessel along the berth, and minimizes disturbance in the marine environment around the dock.

2.3.1.6 Shore Crane

The marine terminal will use a shore crane (i.e., Series 2000 or Series 3000 E Crane) to load oversized products (e.g., wind industry rock, rip rap) into specialized rock installation bulk carriers. The shore crane will be able to transit the entire area of the rubble mound approach and fixed dock, enabling loading of stationary vessels with oversized products without line-hauling of vessels. Oversized products will be transported from the process plant to the marine terminal by haul trucks and temporarily stored on the rubble mound. The haul trucks will be able to transit the entire rubble mound and the fixed dock to deliver oversized products to designated locations for handling by the shore crane during ship loading operations. When loading oversized products, the radial stackers will be in their stowed positions to allow unobstructed operating access for the shore crane. The shore crane will also provide maintenance support for the marine terminal and associated equipment.

2.3.2 Marine Transportation and Pilotage

In Canada, Vessel Traffic Services (VTS) Zones are established through the *Canada Shipping Act, 2001* (under the authority of Transport Canada) to facilitate safe, orderly, and environmentally responsible movement of marine traffic through mandatory vessel reporting, traffic monitoring, and provision of navigational safety information (CCG, 2026a). The system enhances maritime safety by reducing risk of vessel collisions and groundings, supporting emergency response coordination, and improving awareness of vessel movements. Vessel traffic in VTS Zones is administered by the Canadian Coast Guard's (CCG) Marine Communications and Traffic Services (MCTS) Centres, which also enforce compliance with measures to protect marine mammal species at risk such as North Atlantic Right Whale (CCG, 2026c).

Shipping vessels entering, leaving, and / or proceeding through a VTS Zone may be subject to the *Vessel Traffic Services Zones Regulations* under the *Canada Shipping Act, 2001*, which apply to vessels of 300 gross tonnage or more (Government of Canada, 2025; CCG, 2026c). As the marine terminal is maximally designed to accommodate 48,000 dwt bulk carriers (Ultramax-class), Project-related vessels that move through the Strait of Canso and Eastern Approaches VTS Zone may be subject to these Regulations and monitored by the MCTS program (CCG, 2026c). Prescribed vessels must report voyage information, maintain communications with MCTS, and provide advance notice before entering Canadian waters (Government of Canada, 2025).

All shipping vessels and associated materials and activities for the Project (e.g., crews, provisions, fuel, supplies, waste management) will be contracted to third-party operators. Larger ships serving the marine terminal will enter, leave, and / or proceed through the Strait of Canso and Eastern Approaches VTS Zone under the control of the Sydney MCTS Centre and Canso Traffic Service (Government of Canada, 2025; CCG, 2026c).

Chedabucto Bay is the primary ocean approach to Canso Canal, which connects to the Strait of Canso and Port Hawkesbury / Point Tupper industrial port (CGC, 2026b). Current marine traffic in Chedabucto Bay ranges from small recreational boats and inshore fishing vessels to larger cargo ships, tankers, tugs, and barges associated with industrial and marine terminal activities though limited information is available to indicate the current number of vessels. However, Project-related marine shipping is anticipated to be a small portion of vessel traffic in Chedabucto Bay with an average 1.4 vessels per week (i.e., 71 vessels per year) at full production. Vessels associated with the Project will leave the Chedabucto Bay shipping lane and transit to the berth in ballast through the western approach channel. The berthing face is aligned within approximately 5 degrees of both the western arrival channel and the eastern departure channel, giving a berth configuration in which vessels approach with headway on a near-parallel heading normal to the berth fender, drop anchor, come alongside with minimal lateral movement or velocity, and clear the berth on departure by proceeding ahead on the same axis to the departure channel. No turning basin is required in the terminal area. Loaded vessels depart, on the rising tide, within a departure window to be outlined in a Project-specific Terminal Marine Operations Manual to provide the required under-keel clearance along the designated eastern departure channel.

The berth lies approximately 1.5 nautical miles east of the eastern limit of the Cape Breton Compulsory Pilotage Area (Zone D). Vessels calling at Lazy Head will not enter Zone D, and the maximum vessel length stated above is below the 225.5 m threshold at which compulsory pilotage applies within that zone. The Proponent is not seeking any change to the boundaries or requirements of the existing compulsory pilotage area.

All vessels calling at the marine terminal will be conducted to and from the berth by a pilot. To support pilotage at the terminal, the Lazy Head Pilotage Association will be established for the life of the Project. The Association will engage, train, and roster pilots for the terminal, hold the terminal's pilotage procedures, and maintain the operational record of vessel movements. The Association will be in place before the first vessel call.

Pilots engaged by the Lazy Head Pilotage Association will hold a Transport Canada Master Mariner certificate of competency or equivalent, have command or pilotage experience on vessels of the size and type calling at the terminal, and will complete a Project-specific familiarization program covering the western approach channel, the eastern departure channel, the berth, the terminal's operating limits, and local recreational and commercial fishing activity. Pilots will board and disembark by pilot boat at a boarding station seaward of the approach channel. Boarding

arrangements will comply with relevant regulations and will be subject to weather limits set out in the Terminal Marine Operations Manual.

The Proponent has committed to completing a comprehensive marine navigation simulation study prior to operation of the terminal to verify that vessels can safely access, berth at, and depart from the terminal under the range of environmental conditions expected in Chedabucto Bay. Using a full-mission bridge simulator and site-specific bathymetric, meteorological, oceanographic, and terminal design data, the study will assess vessel approaches, departures, berthing, and unberthing operations under a range of operating conditions. The study will establish safe operating limits, determine any requirements for tug assistance or navigational aids, and inform terminal operating procedures. Findings will be shared with Transport Canada and the APA. Any required navigational aids will be installed before operations commence, and the results will be incorporated into a Project-specific Terminal Marine Operations Manual and ongoing navigation safety management framework developed in consultation with local marine stakeholders and the fishing community and established prior to construction. The Navigation Simulation Study is further described in Section 3.8.5.1.5.

Potential effects of marine transportation associated with the Project are further described in Section 5.

2.3.3 Access Road

The marine terminal will be accessed via a pre-existing access road developed as part of the quarry development, and assessed as part of the provincial Environmental Assessment, as noted in Section 1, extending from Route 16 (Marine Drive) to the quarry and associated processing infrastructure to allow for movement of Project personnel, equipment, and materials. The marine terminal access road refers to an approximately 195 m road segment extending from the pre-existing access road, as shown on Figure 2.2-1, to the marine terminal. Smaller access roads will connect the deadmen areas to the marine terminal access road. The access road will be designed at a 1% to 3% slope. A drainage swale will be located on the south side of the road for water management.

2.3.4 Ancillary Infrastructure, Structures, and Physical Works

2.3.4.1 Fuel Storage

Mobile equipment will be powered primarily by diesel fuel during construction of the access road and marine terminal. The Project will evaluate opportunities to transition mobile equipment to lower-emission alternatives, including battery-electric and hybrid technologies, as these become commercially viable. Diesel will also supply on-site generators during construction and initial operations.

Liquid petroleum and non-petroleum products, including antifreeze, will be maintained within the PA for routine equipment servicing. Project fuel storage is anticipated to include one to two diesel tanks ranging from 37,850 to 75,700 litres (L) (10,000 to 20,000 gallons) each, and a single 18,930-L (5,000-gallon) gasoline reservoir. Lubricating oils and maintenance fluids will be held in storage tanks.

All storage tanks will be either double-walled, self-contained units or fitted with secondary containment equipment. Any petroleum container at, or above, 150 L (40 gallons) will be housed within a dedicated contained area and managed in compliance with applicable federal and provincial regulations. The fuelling pad will be constructed on reinforced concrete or a lined containment surface, bordered by side curbs and graded to direct any spills or leaks toward a central collection point. An Emergency Response and Spill Contingency Plan will be designed per typical best management practices to provide secondary and tertiary containment in the case of a spill.

Fuel and maintenance fluids will be delivered by licensed suppliers experienced in transporting hazardous materials. All tank transfers will be supervised by the delivery driver to ensure potential spill risks are detected and addressed before an incident can occur. Diesel and other liquid petroleum products will be stored landside, in aboveground containers, as assessed under the provincial Environmental Assessment process.

2.3.4.2 Power Supply

Power for the Project will be provided either by diesel powered generators or by direct connection to the 69 kV NSPI transmission line that parallels the southern boundary of the Project, depending on operations, as described previously. As mentioned above the eventual build-out will require three-phase power to be routed from the local electrical power provider.

2.3.4.3 Waste Management

The Project will generate sewage and greywater waste, which will require treatment either on site using a standard wastewater treatment system, or offsite at a municipal wastewater treatment facility.

The Project will not have a conventional septic tank and soil absorption disposal field due to the shallow soil overlying the granite, which will not permit adequate treatment of the wastewater. As an alternative, it is anticipated that a large volume holding tank will be utilized during the construction phase of the Project. The sewage and greywater waste would be directed to the holding tank and pumped out by truck to be hauled by a licensed septic waste transport company for offsite treatment.

A conventional raised bed septic system will also be considered as a possible alternative on-site treatment method. The type of raised bed system suitable for the Project would be determined at a later date following the completion of test pits that would provide technical information about the soil profile at the proposed system location. In both cases, the magnitude of waste generated will be proportional to the number of workers employed. The volume of the holding tank or size of the raised bed septic system will be based on peak employment estimates.

It is expected that during the construction and early operations phases of the Project, portable sanitation units will be utilized. A permanent washroom and bathing facility may be constructed at a later date as the Project advances through the operation phase. Non-hazardous waste materials will be stored in bins to be collected and shipped off site to approved facilities. Any hazardous materials, or materials that require specific recycling, management and/or disposal will be appropriately stored and shipped off site for disposal.

2.4 Project Activities

This section provides a description of Project activities, the location of each activity, expected outputs, and an indication of each activity's magnitude and scale, as available. The Project involves three main phases – construction, operation, and closure, as outlined in Table 2.4-1. A Project schedule illustrating important milestones for Project phases is provided in Section 1.2.

Table 2.4-1 Overview of Project Activities

Project Phase	Project Activities
Construction (2 years)	– Implement sediment and erosion controls – Construct rubble mound – Install outbound shipping conveyor system, ship loading radial stackers, and fixed dock – Implement power supply / utilities installation – Clear vegetation, overburden, topsoil, and loose rock associated with marine terminal access road construction – Construct the access road
Operation (85 years)	– Transfer aggregate products via outbound conveyor system to marine terminal – Ship aggregates and wind farm armour stone products from marine terminal
Closure (1 year)	– Demolish and remove marine terminal conveyors, utilities and any infrastructure (rubble mound and fixed dock will remain in place) – Implement sediment and erosion controls – Grade and landscape access road

2.4.1 Construction

Construction of the marine terminal will commence two years prior to initial operations, by constructing the rubble mound and fixed dock structure, as well as installing utilities. Construction of the marine terminal will also include installation of the ship loading radial stackers and dual outbound shipping conveyors. Blasted fill and rock from the landside aggregate quarry will be used to construct the single rubble mound. Early construction activities include land clearing and earthworks using a dozer and/or track hoe equipment and off-road haul track, constructing the marine terminal access road, installing a power supply, and excavating rock to construct the rubble mound.

2.4.2 Operation

Operation is expected to begin within approximately two years after construction commences.

Aggregate will be conveyed along the outbound shipping conveyors within the marine terminal for loading onto bulk carriers. Loaded vessel departures are planned for high tide, allowing for a maximum operating draft of approximately 12 m. A small line handling boat will be used to assist with vessel berthing and de-berthing operations. Tugboats are not currently anticipated for vessel approach, berthing or de-berthing under normal operating conditions.

Operation activities include berthing, cargo loading and maintenance of the marine terminal. Assuming a generalized bulk cargo capacity of 48,000 dwt per vessel, marine terminal operations are anticipated to load an average of 1.4 vessels per week (71 vessels per year) at full production (year 7 of operation). The total time per vessel call is estimated at approximately 24 hours including berthing, loading, and departure.

2.4.3 Closure

All areas of the Project will be included in the Reclamation Plan. A closure plan will be submitted to regulators for review and approval prior to beginning operation. Reclamation Plans typically include the removal of all infrastructure. Appropriate sediment and erosion controls will be implemented throughout closure activities.

During the closure phase, the marine terminal access road will be regraded and vegetated.

To avoid disturbance of the marine environment, and as it provides fish habitat, the rubble mound and fixed dock will be left in place. All other infrastructure associated with the marine terminal, radial stackers, mooring buoys, conveyance equipment, structural towers, and other ancillary mechanical equipment, will be removed from the Project. During closure, appropriate sediment and erosion controls, such as the use of turbidity curtains, will be implemented.

2.5 Design Considerations and Alternatives

2.5.1 Alternatives to the Project

Alternatives to an undertaking are defined as functionally different ways of achieving the same end. The following section outlines the consideration of Project alternatives and design considerations that informed the Project. The assessment of alternatives to the Project focused on not undertaking the Project and on identifying other potential locations and opportunities within NS capable of meeting the Project purpose. An assessment of alternative means of carrying out the Project, including design considerations, was also completed, as detailed below.

2.5.1.1 Do Nothing

One alternative is a “do nothing” approach, where the Project is not advanced and no granite is shipped from this area to support the US East Coast markets and offshore wind energy developments along the US Gulf and East Coast of North America.

The “do nothing” alternative would not, however, meet the stated purpose and need for the Project. Long-term aggregate supply via marine transportation constraints in eastern North American markets, including those associated with offshore wind energy infrastructure, would continue to be addressed through alternative sources. These alternative sources may involve longer marine or overland transportation distances, resulting in greater overall greenhouse gas emissions, or extraction from operations with environmental performance standards less stringent than those proposed for the Project.

2.5.1.2 Alternative Site

An extensive evaluation of alternative locations was undertaken by Morien, which completed a province-wide desktop and field-based assessment of potential export aggregate opportunities across NS. This process evaluated a broad range of candidate sites using a consistent set of technical, environmental, logistical, and economic criteria. Factors evaluated related to the marine terminal included, but were not limited to:

– Proximity to deep water suitable for bulk carrier access.
– Proximity to electrical transmission infrastructure.
– Presence of or potential for environmental constraints such as SAR, fish habitat, and wetlands.
– Limited or no residential presence within or immediately adjacent to the proposed Project.
– Proximity to regional population centres to support workforce requirements.

A marine terminal to support export of aggregate carries substantially greater capital requirements than a land-based operation, and viability therefore depends on two non-negotiable conditions: the deposit must lie immediately adjacent to deep water, and the material must be transferable to vessel by conveyor. Any reliance on sustained long-distance truck or rail haulage between the quarry face and the wharf would render the Project uneconomical. No alternative sites were identified that satisfy both conditions.

The assessment by Morien concluded that Lazy Head represents the only currently known location within NS that satisfies the full suite of technical, environmental, logistical, and economic criteria required to support a viable, long-life marine export aggregate operation. While other sites were identified during the screening process, they were eliminated based on the identified screening criteria.

Based on the above, Lazy Head was identified as uniquely favourable for the construction of a marine terminal to export aggregate material due to the convergence of multiple advantageous characteristics, including:

– Direct access to deep, sheltered, ice-free marine conditions.
– No requirement to relocate or cross public roads.
– Limited residential presence within or immediately adjacent to the PA.
– Proximity to existing infrastructure, including a transmission line and regional labour force.

2.5.2 Mitigation by Design

Throughout the impact assessment preparation, several Project components have undergone design adjustments in response to collaboration with Carver, consultants, Rightsholders, stakeholders, and community members. The resulting changes to Project design and infrastructure layout are described in the following sections.

2.5.2.1 Design

Multiple alternative designs have been considered for the marine terminal.

Early stages of the terminal design evaluated a longer offshore configuration intended to access deeper water and accommodate vessels of 60,000 dwt (Panamax class). Following further engineering review, fisheries sector consultation, environmental consideration, this configuration was not advanced. The terminal layout was substantially shortened from 420 m to approximately 270 m to keep the terminal closer to shore. This design change reduced the

overall marine footprint and disturbance to the marine environment and also reduced the allowable vessel size from 60,000 dwt to 48,000 dwt (Ultramax class).

During preliminary engineering, the terminal configuration was changed from a single trestle approach to a rubble mound approach to accommodate dual radial stackers operating on the fixed dock. The rubble mound also allows for two fully covered outbound shipping conveyors, which contain fugitive dust, reduce noise emissions, and prevent material loss to the marine environment during loading. The dual stacker arrangement on the fixed dock increases vessel loading efficiency and eliminates the need to warp the vessel along the berth during loading, reducing the total time vessels spend at the terminal. Reduced berth occupancy correspondingly reduces the duration of interaction with commercial fishing activity in the terminal area, limiting the period during which vessel presence may affect fishing operations.

The selected terminal design does not require in-water blasting. The rubble mound will be founded on shot rock and armour stone. Armour stone will be sourced from the quarry proposed to be developed adjacent to the terminal, evaluated under the provincial Environmental Assessment.

Following feedback received from the GCIFA regarding sediment movement in Chedabucto Bay, culverts have been incorporated within the rubble mound embankment design to allow water circulation through the mounds and to mitigate the potential for localized siltation accumulation along the edges of the rubble mound over time.

A rubble mound approach was selected in preference to a steel or caisson structure primarily because it offers significantly improved occupational safety and superior structural durability over the operating life of the Project. The stable, accessible rubble mound surface enables routine inspection, maintenance, and repair of mechanical and electrical equipment to be carried out from land-based wheeled vehicles, eliminating the need for floating cranes or marine access during routine maintenance work. This design choice substantially reduces the safety risks associated with personnel transfers between vessels and fixed structures, work at height over water, exposure to marine weather conditions during maintenance, and emergency response in marine environments. The rubble mound configuration is also better suited to the wind, wave, and current conditions of Chedabucto Bay, providing greater resilience under harsh, exposed marine conditions than alternative steel or caisson-only designs, and supporting safe, reliable operations across all phases of the Project.

The selected rubble mound configuration also supports an efficient arrangement for loading larger diameter riprap material for offshore wind infrastructure projects. Over the long term, the rubble mound structures are expected to function as suitable habitat for lobster and other marine species, a benefit not typically associated with steel or caisson-based marine structures.

2.5.2.2 Location

Carver evaluated alternate locations for the marine terminal. Technical criteria used to determine the feasibility of alternative locations consisted primarily of navigational safety, operational efficiency, and local marine conditions. In particular, the bathymetric profile of the nearshore environment played a key role in constraining feasible terminal siting, as water depth, seabed slope, and proximity to navigable draft limited the range of locations capable of safely accommodating bulk carrier vessels without the need for extensive offshore infrastructure or the requirement for in-water blasting.

3. Part C: Location Information

The Project is located near Lazy Head, a coastal cape in the MODG, NS (Figure 1.1-1). It is approximately 3.8 km northeast of Fox Island Main, 3.0 km northwest of Hazel Hill, and 4.3 km west of Canso. Primary access is via Fox Island Main Road, which branches off NS-16: Marine Drive (the region's main provincial highway).

3.1 Geographic Coordinates

Project includes a coastal / marine portion for the development of the terminal (MSA) and an access road. Together the MSA and the marine terminal access road comprise the PA. The PA is centered at coordinates 5,023,542.01 m north, 652,486.42 m east (Universal Transverse Mercator (UTM) Zone 20 North American Datum (NAD) 83) (45°20'55.68", N latitude and -61°03'12.3" W longitude).

3.2 Site Maps

Mapping provided in this document includes:

Figure 1.1-1 – Project Location

Figure 1.1-2 – Project Study Area

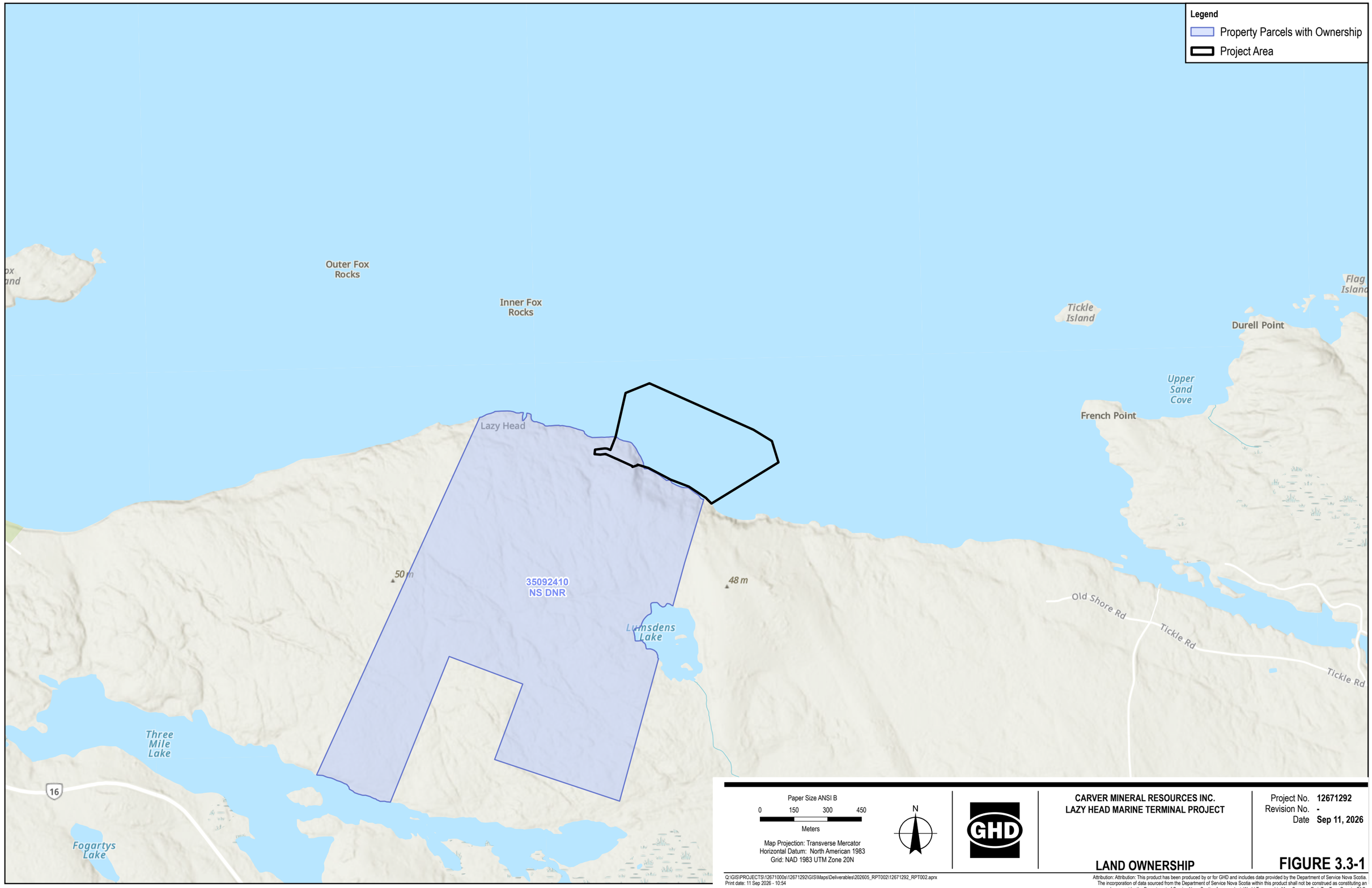
Figure 2.2-1 – Project Plan

3.3 Description of Lands and Ownership

Both Canada and the Province of NS have jurisdiction in coastal and marine areas depending on the location and proposed activity. Provincial ownership of Crown land generally ends at the ordinary high-water mark but also applies to the intertidal zone between the ordinary high-water mark and ordinary low-water mark (CanLII, 2026). Federal jurisdiction includes ownership of submerged land seaward of the low-water mark extending for 12 nautical miles to encompass the limits of Canada's Territorial Sea (Government of Canada, 2026).

The Proponent has confirmed through DNR Land Administration that the lands and submerged seabed surrounding the marine terminal (i.e., the MSA) fall under provincial jurisdiction for purposes of land ownership. The Proponent will engage with the appropriate authorities and parties to confirm jurisdictional requirements and obtain all necessary permits and approvals for construction and operation of the marine terminal. The landside access road to the marine terminal is located on a Crown land parcel (PID 35092410) administered by the Province of NS under the NS *Crown Lands Act*. The combination of Crown land and privately held lands provides a contiguous and suitable land base for the Project (Figure 3.3-1). No privately owned water lots have been identified in relation to the marine terminal. Property ownership for the Project is shown on Figure 3.3-1.

Carver has applied for a Crown land lease with the Province of NS to secure land required for the Project. Details of the proposed lease, including parcel boundaries, will be confirmed through consultation with appropriate parties and provincial agencies. Morien and Carver will coordinate to ensure appropriate land access rights and agreements are in place to support the Project.



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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

Project No. **12671292**
Revision No. **-**
Date **Sep 11, 2026**

LAND OWNERSHIP

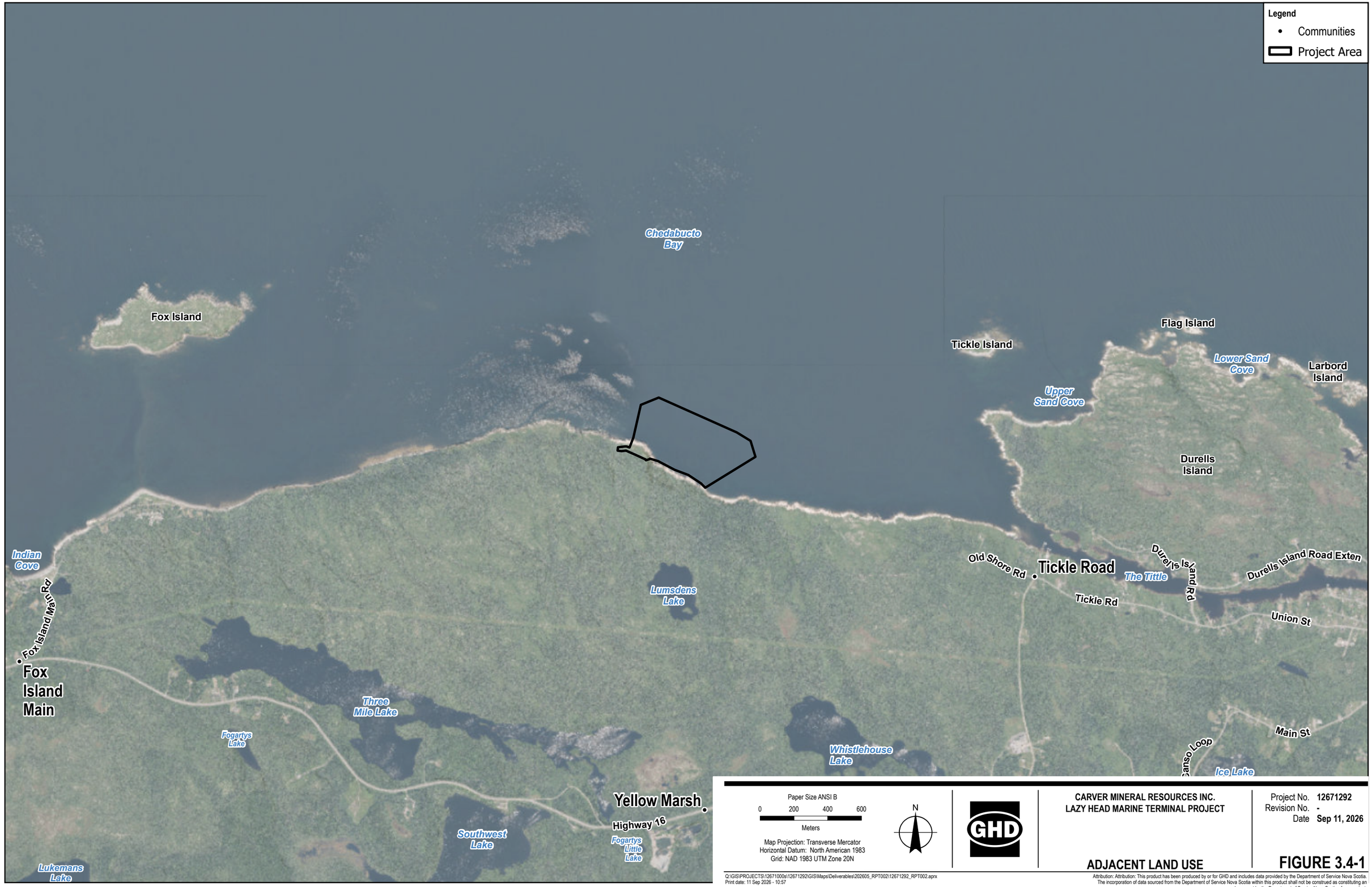
FIGURE 3.3-1

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World Hillshade: Esri, NASA, NGA, USGS

3.4 Proximity to Residences and Communities

The landside marine terminal access road location is characterized as an undeveloped coastal landscape. The community of Fox Island Main is approximately 3.8 km from the PA. The nearest permanent residential dwelling is on Route 16, approximately 1.9 km from the marine terminal. Adjacent land use is shown on Figure 3.4-1.



Paper Size ANSI B

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 20N

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LAZY HEAD MARINE TERMINAL PROJECT

ADJACENT LAND USE

Project No. 12671292
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FIGURE 3.4-1

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3.5 Proximity to Indigenous Land Use

The First Nations Reserve Lands closest to the Project are set aside for Potlotek First Nation (Indigenous Services Canada, 2026). Chapel Island 5 on Bras d'Or Lake, Cape Breton Island is approximately 45 km from the Project (Table 3.6-1). This section includes identification of Federal Indigenous Reserve Lands.

Indigenous land and resource use may occur within or beyond Reserve Lands. Based on the findings of the MEKS completed for the Project, Indigenous land and resource use occurs in or near the MEKS Study Area, which includes the PA. More information on Indigenous land and resource use is included in Section 3.8.2.

3.6 Proximity to Federal Lands

In Canada, Federal Lands include lands owned, administered, or controlled by the Government of Canada such as national parks, military bases, federal infrastructure (e.g., designated seaports or airports), and Indigenous Reserve Lands. No federal lands intersect the PA. The federal lands closest to the PA are listed in Table 3.6-1.

Table 3.6-1 Distances from Nearest Federal Lands

Nearest Federal Lands	Approximate Distance from PA (km)
Fox Island (potential future protected area)	2.4
Potlotek First Nation: Chapel Island 5	45
Cape Breton Highlands National Park	140
Halifax International Airport	196
Canadian Forces Base Shearwater	204
Halifax Port Authority	210

Source: Indigenous Services Canada, 2026; Parks Canada, 2025a; Transport Canada, 2025, 2020; DND, 2025; IAAC, 2026

3.7 Physical and Biological Environment Setting

Federal, provincial and local regulatory framework apply to the construction, operation and closure of the Project. Components of the physical and biological environmental setting are regulated under federal and provincial legislation, as described in the subsections below.

The Project is located in a largely undeveloped rural area of NS and is surrounded by forested landscape and the marine environment (Chedabucto Bay) to the north.

Baseline environmental studies for the Project were initiated in 2025, with select data collection programs including, but not limited to, Mainland Moose surveys, surface water and groundwater monitoring, and so on, continuing to present day to provide additional data to better characterize the environment and support future permitting. The physical and biological environmental setting has been informed by the baseline data collection programs completed to date.

3.7.1 Noise

Noise and vibration related to shipping vessels is governed by Transport Canada. Underwater noise is recognized as a physical disturbance and a form of habitat degradation under the *Fisheries Act*. The Marine Mammal Regulations under the *Fisheries Act* outline specific limits related to underwater noise, including vessel approach limits and exposure thresholds to mitigate the impacts of human made sound on marine life. Similarly, DFO leads the Ocean Noise Strategy which aims to mitigate impacts of underwater noise generated by human, and outlines mitigation measures for industrial development, implementation of guidelines, and best practices.

Underwater noise is indirectly regulated under SARA, which protects critical habitat of any listed species, which includes the acoustic space required for foraging and communicating.

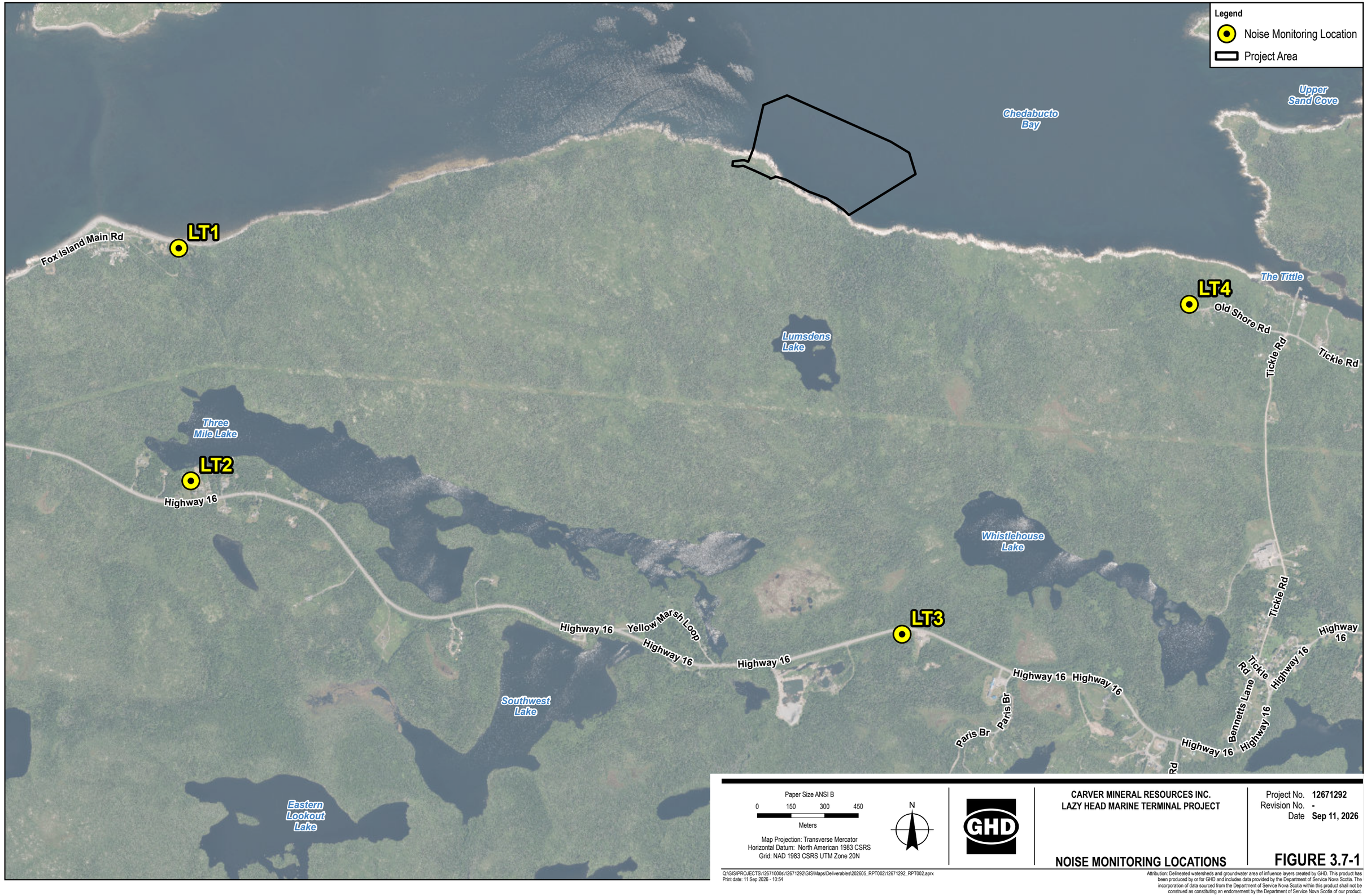
Noise is regulated at the federal level under the Health Canada Guidance for Evaluating Human Health Impacts in Environmental Assessment (Health Canada, 2017) provincial level under the NS *Workplace Health and Safety Regulations* and the ECC Guidelines for Environmental Noise Measurement and Assessment (ECC, 2023a). The Guidelines require noise levels to be met at locations where people normally live, work, or take part in recreational activities.

The Guidelines establish maximum permissible sound levels to be experienced at identified receptors, based on the classification of the Project environment (rural) during the day, evening, and nighttime hours.

Ambient noise levels were monitored at four identified receptors (LT1 through LT4) in the vicinity of the Project, ranging in distance from approximately 1.3 km to 2.9 km from the MSA (Figure 3.7-1). The measured ambient noise environment is representative of a rural coastal setting, with low background sound levels and limited anthropogenic influences, punctuated by intermittent natural and marine-related sound sources.

The average measured noise levels at monitoring location LT1 were recorded as: 37 dBA during the day (7am – 7pm, 1-hour A-weighted continuous equivalent sound level (LA_{eq})), 39 dBA during the evening (7pm – 11pm, 1-hour LA_{eq}), and 40 dBA during the night (11pm – 7am, 1-hour LA_{eq}). The average measured noise levels at monitoring location LT2 through LT4 were found to be: 35 - 44 dBA during the day (7am – 7pm, 1-hour LA_{eq}), 35 dBA during the evening (7pm – 11pm, 1-hour LA_{eq}), and 29 - 33 dBA during the night (11pm - 7am, 1-hour LA_{eq}). These data indicate that ambient sound levels in the area are generally low and within the Guidelines (GHD, 2026a).

The major contributor to noise levels near LT1 (Seabreeze Campground) was the ocean, due to its proximity to the coastline, generally consistent throughout the day, evening, and night. Noise levels in the areas of LT2 through LT4 were influenced by road traffic noise, where noise levels diminish into the night as periods of road traffic decline (GHD, 2026a).



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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N

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LAZY HEAD MARINE TERMINAL PROJECT

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NOISE MONITORING LOCATIONS

FIGURE 3.7-1

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3.7.2 Air

Air quality is regulated under the Canadian Environmental Protection Act (CEPA) which sets national standards for fuels, vehicles, and industrial emissions, where in NS air quality is regulated under the *Air Quality Regulations* of the NS *Environment Act*, which establish standards designed to protect worker health.

GHGs are studied by ECCC. The Greenhouse Gas Sources and Sinks in Canada: Executive Summary 2025 (ECCC, 2025) details provincial and national GHG emissions according to the released quantities of Mt CO2 eq (million tonnes of carbon dioxide equivalent). NS is reported to have released 14 Mt CO_2 eq in 2023, a 36% decrease from 2005 baseline conditions of 22 Mt CO_2 eq (ECCC, 2025).

The PA is located within ECC's Northern Air Quality Zone, where the ambient air quality monitoring station, also part of the National Air Pollution Surveillance (NAPS) reference network, is in Pictou, NS, approximately 131 km west of the PA. However, given the distance from the MSA, historical air quality data were sourced from the NAPS monitoring station located in Port Hawkesbury, NS, approximately 37 km north of the MSA. Although this station falls within the ECC's Eastern Air Quality Zone, it is considered more representative of conditions at the MSA due to its proximity. Port Hawkesbury station is located within a more developed area, in comparison to Canso; however, both communities are considered rural, allowing for the derivation of similar conclusions regarding air quality baseline conditions. Air quality is likely better at the PA and MSA in comparison to the Port Hawkesbury station.

Hourly datasets for fine particulate matter ($PM_{2.5}$), nitrogen oxide (NO), nitrogen dioxide (NO_2), nitrogen oxides (NO_X), sulphur dioxide (SO_2), and ozone (O_3) were obtained for the period January 2010 to December 2024 through NS's Open Data Portal (ECC, 2025a; 2025b; 2025c; 2025d). No total suspended particulate (TSP) data are recorded at this station. These datasets were subsequently averaged on an annual basis and are presented in Table 3.7-1.

Table 3.7-1 Average Concentration of PM 2.5, SO2, O3, NO, NO2 and NOx

Year	$PM_{2.5}$ (µg/m3)	SO_2 (ppb)	O_3 (ppb)	NO_X (ppb)	NO_2 (ppb)	NO (ppb)
2010	7.975	0.977	26.068	5.547	2.564	2.998
2011	6.813	0.790	30.511	3.372	2.281	1.034
2012	5.925	0.844	27.338	2.858	1.848	1.007
2013	6.325	0.755	23.884	6.250	4.792	1.500
2014	6.120	0.872	29.550	4.096	2.956	1.112
2015	5.971	0.869	28.210	3.346	2.191	1.155
2016	4.962	0.646	28.428	2.628	1.720	0.842
2017	5.572	0.705	28.610	3.365	2.339	1.164
2018	5.288	0.835	29.202	3.693	2.489	1.228
2019	5.315	0.565	29.689	4.214	2.750	1.465
2020	5.129	0.594	28.274	3.844	2.451	1.392
2021	5.521	0.786	28.379	3.233	2.214	1.019
2022	5.439	0.767	29.245	3.308	2.253	1.055
2023	5.483	0.655	29.451	3.348	2.098	1.249
2024	4.378	0.695	28.269	4.291	2.564	1.727

Note:
µg/m^3 – microgram per metre cubed
ppb – parts per billion

3.7.3 Light

Light levels are not directly regulated under provincial or federal legislation; however, The Institution of Lighting Professionals (ILP) Guidance Note 01/21 – The Reduction of Obtrusive Light (ILP Guideline) was used to evaluate existing light levels within the PA, and potential impacts from the Project lighting.

The Project is located near Lazy Head in Guysborough County, NS, in a predominantly rural setting approximately 4.3 km west of Canso, 3.0 km northwest of Hazel Hill, and 3.8 km northeast of Fox Island Main. According to the Environmental Zone Classification system developed by the ILP, the classification for rural areas, small villages, or relatively dark urban locations is “E2 Low district brightness areas”

In consideration of the rural setting of the surrounding area, this assessment conservatively assumes a relatively dark nighttime environment for the purpose of qualitatively assessing the potential for obtrusive light and light trespass beyond the Project footprint.

3.7.4 Geology, Soils and Sediment

Applicable provincial standards and regulations related to geology, soils and sediment include Guide to Developing Erosion and Sediment Control Plans (ECC, 2025), which outlines the requirements for development of erosion and sediment control plans, and best management practices to prevent sediment releases into waterways. In addition, the provincial Blasting Safety Regulations establish standards designed to protect worker health, and Environmental Assessment Registration Regulations also support the assessment of project impacts on geology, soils, and/or sediment. Federally, Canadian Water Quality Guidelines for the Protection of Aquatic Life outline guidelines to protect the quality of aquatic ecosystems.

Substrate in the MSA is characterized as coarse grain material, with a combination of exposed bedrock, boulders, and cobble. Finer substrate was observed in lesser quantities, and included gravel, pebbles, and coarse sand. Further north away from the coastline, the substrate transitions from coarse to fine grain substrates, eventually becoming sand dominant. Marine sediment quality samples were collected and assessed for metals, mercury, hexavalent chromium, polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), organochlorine pesticides, Total Petroleum Hydrocarbons (TPHs), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Concentrations of all measured parameters were within the applicable Canadian Council of Ministers (CCME) Sediment Quality Guidelines for the Protection of Marine Quality Life, and Probable Effects Levels, as well as the Risk Based Corrective Action (RBCA) Ecological Tier 1 Environmental Quality Standards (EQS) for sediment, marine pathway.

The likelihood and relative hazard of potential seismic activity is considered low for the PA.

3.7.5 Groundwater

Groundwater is regulated provincially through the *Environmental Assessment Regulations* and Industrial Approval, under the *NS Environment Act*. Groundwater drawdown resulting from Project development that has the potential to alter stream flows, impacting fish and/or fish habitat is federally regulated under the *Fisheries Act*.

Groundwater studies are not relevant to the natural environment around the marine terminal.

3.7.6 Surface Water

Surface water regulations are regulated federally by ECCC, under CEPA which provides guidelines to manage and assess the impact of toxic substances from entering surface water environments, as well as by DFO under the *Fisheries Act*. The *Fisheries Act* regulates activities that may result in an impact to fish and fish habitat and prohibits the deposit of deleterious substances into fish bearing waters.

Surface water is regulated provincially under through the *Environmental Assessment Regulations* and Industrial Approval, under the *NS Environment Act*. Groundwater drawdown resulting from project development that has the potential to alter stream flows, impacting fish and/or fish habitat is federally regulated under the *Fisheries Act*.

The MSA is located in Chedabucto Bay, within the waters of the Atlantic Ocean. Baseline conditions to the marine environment described herein are compiled from DFO oceanographic datasets, the Canadian Hydrographic Service (CHS) tide predictions, and the NS Coastal Monitoring Program (CMAR), which collectively provide representative data for coastal environments in NS.

The receiving marine environment is characterized by fully marine conditions, exposure to offshore Atlantic waters, and minimal physical confinement, resulting in relatively high flushing and dilute contaminant conditions compared to enclosed embayments.

The marine environment at Lazy Head is characterized by a semi-diurnal tidal regime, with two high tides and two low tides occurring daily. Predicted tidal elevations indicate:

– High water levels: approximately 1.6 to 1.9 m
– Low water levels: approximately 0.3 to 0.6 m
– Resulting tidal range: approximately 1.2 to 1.6 m

This range is typical of the exposed Atlantic coast of mainland NS and is considered moderate relative to other Canadian regions (e.g., Bay of Fundy macrotidal systems).

Storm surge is an important component of extreme water levels along the Atlantic coast of NS, resulting from wind setup and atmospheric pressure effects during storm events. Severe surges in Atlantic Canada can reach approximately 2 to 3 m above predicted tidal levels, particularly when coincident with high tide. Historical observations from Halifax Harbour indicate storm surges of up to approximately 2 m (e.g., Hurricane Juan, 2003). Regional monitoring and modelling programs indicate that typical storm surge magnitudes are on the order of 0.3 to 1.0 m for common events and 1 to 2 m for severe events, with larger values possible under rare conditions.

Baseline marine water quality conditions are defined based on NS CMAR datasets, DFO Marine Environmental Data and Atlantic Zone Monitoring Program, and regional oceanographic studies (e.g., Halifax Harbour and Atlantic coastal datasets). The following are the conditions identified in the general area of the MSA:

– Water temperature ranges from 0°C to 4°C in the winter and from 12°C to 18°C in the summer.
– Salinity is representative of offshore marine conditions ranging from 30 to 33 practical salinity units (PSU).
– Dissolved Oxygen (DO) is typically near saturation (>8 mg/L).
– Regular nutrient monitoring programs indicate that nutrient concentrations are low to moderate.
– pH ranges from approximately 7.8 to 8.2.
– Turbidity and suspended solids are typically low under baseline conditions with short-term increases during storm events or wave-induced sediment resuspension.

Freshwater surface water studies are not relevant to the natural environment around the marine terminal.

3.7.7 Wetlands

Wetlands provide important ecological value and functions, such as habitat for aquatic and terrestrial flora and fauna (including priority species), managing water storage and flow, and improving water quality.

The Federal Policy on Wetland Conservation aims to sustain the ecological and socioeconomic functions of wetlands. The government works with provinces, territories, Indigenous communities, and the private sector to conserve wetlands through leadership, partnerships, research, and sustainable management of federal lands and programs. The policy supports national and international conservation agreements and outlines goals, principles, and strategies to guide wetland protection across Canada. In NS, wetlands are protected under the *Activities Designation Regulation* of the *Environment Act* and the Wetland Conservation Policy (ECC, 2019). The *Environment Act* defines a wetland as “land referred to as a marsh, swamp, fen, or bog that either periodically or permanently has water table at, near, or above the land surface or that is saturated with water, and sustains aquatic processes as indicated by the presence of poorly drained soils, hydrophytic vegetation, and biological activities adapted to wet conditions”.

The Wetland Conservation Policy applies to all freshwater and select tidal wetlands with the objectives to prevent a net loss of wetland area or function, particularly Wetlands of Special Significance (WSS), promote wetland protection, and enhance impact mitigation efforts (ECC, 2019). Under this policy and the *Environment Act*, approvals are required to alter wetlands, with certain exceptions.

No wetlands were identified in the natural environment around the marine terminal, or access road.

3.7.8 Fish and Fish Habitat

The *Fisheries Act* is the primary legislation dedicated to managing and protecting fisheries resources, fish and fish habitat.

The MSA contains marine fish habitat consisting of the nearshore area of Chedabucto Bay, which is connected to the Atlantic Ocean. Characterization of the marine habitat was conducted across the MSA in Chedabucto Bay. The marine terminal study area encompassed the zone targeted for the construction and development of the marine terminal and the adjacent marine habitat, totalling 21.3 ha.

An endobenthic fauna survey was conducted to characterize the community of benthic invertebrates living within the sediment on the seafloor, establishing baseline conditions for the ecological health and biodiversity of the marine habitat. During surveys, species of interest to the commercial fishing industry on the Atlantic coast of NS were observed, including American Lobster (*Homarus americanus*), Atlantic Rock Crab (*Cancer irroratus*), Blue Mussel (*Mytilus edulis*), and Sea Scallop (*Placopecten magellanicus*). No federally listed SAR were observed within the marine terminal study area.

Multiple opportunistic observations of marine fauna were made during the different marine and ecological surveys. Shells of the American Lobster and the Atlantic Rock Crab were seen on the rocks along the coast of the PA, indicating predation of these species in the bay. Two unidentified whales were observed in the bay approximately 1 km from the coast, a Grey Seal was observed near the coast, and two other seals were observed to the northeast of the PA.

Marine sediment quality was assessed to determine if the aquatic habitat showed signs of degradation by anthropogenic contamination and determine baseline concentrations. Grain size was also measured to quantify and confirm the visual description of sediment types. Characterization of marine sediments is included in Section 3.7.4.

The marine environment appears to be healthy, functioning, and of high quality due to high benthic diversity and abundance, heterogenous substrate, high macroalgal cover, good sediment quality, and evidence of trophic interactions. This habitat is highly suitable for common and commercially important marine species.

Habitats within the MSA may support SAR known to inhabit the area, including Lumpfish (*Cyclopterus lumpus*), Northern Wolffish (*Anarhichas denticulatus*), and Spotted Wolffish (*Anarhichas minor*) for feeding purposes. Known prey of the Northern and Spotted Wolffish (fish, shellfish, sand dollars) were identified during the endobenthic invertebrate surveys, which may attract them to the MSA. Wolffish species may use some habitats for spawning as they are thought to use gravel and sand habitats, but they will also look for sites near rocky areas to use for shelter. Lumpfish may be present due to the presence of suitable habitat observed within the MSA, however spawning habitat may be limited due to a lack of eelgrass for young to attach to after hatching. However, if eelgrass beds exist outside of the MSA, some rocky habitats within the MSA may be suitable for nest building and, if they are close enough to eelgrass beds, may be used by Lumpfish for spawning.

3.7.9 Terrestrial Habitat and Flora

The federal *Species at Risk Act* (SARA; Canada, 2002) and the NS *Endangered Species Act* (NSESA; Nova Scotia, 1998) establish legal protections for plant and lichen species identified as being at risk. Both Acts prohibit killing or otherwise disturbing listed SAR, as well as damaging or disrupting their residences or designated critical/core habitat. SAR are considered any species listed under either SARA or the NSESA. SOCI are not legally listed under federal or provincial legislation but are recognized by the Committee on the Status of Endangered Wildlife in Canada

(COSEWIC) as Endangered, Threatened, or of Special Concern, and/or are ranked S1, S2, or S3 (including combined ranks such as S3S4) by the ACCDC.

Terrestrial habitat is not relevant to the natural environment around the Project, with the exception of the natural environment surrounding the marine terminal access road extending from the processing plant finish product stockpiles to the marine terminal, extending a length of approximately 195 m.

3.7.10 Terrestrial Fauna

Terrestrial fauna and SAR are protected under federal land provincial legislation including SARA, the NS *Wildlife Act* (1989) and Regulations, and provincial *Endangered Species Act*.

Terrestrial fauna with the potential of occurring within or in the vicinity of the PA was assessed via desktop analysis. Wildlife surveys were conducted opportunistically throughout all baseline biophysical surveys, with a focus on identification of SAR and SOCI.

Terrestrial fauna is not relevant to the natural environment around the marine terminal.

3.7.11 Avifauna

Migratory birds and avian SAR are protected under federal and provincial legislation, including the *Migratory Birds Convention Act, 1994* (MBCA; Canada, 1994) and the *Migratory Birds Regulations, 2022* (MBR 2022), SARA, and the NS *Wildlife Act* (1989).

Avifauna field surveys were conducted in June, August, and September 2025, as well as in April and May 2026. The objectives of the avifauna field surveys were to identify species and habitat usage with a focus on potential SAR and SOCI within and surrounding the PA, and to determine trends in species composition and bird group usage throughout different seasons, where possible. Avifauna survey stations are shown on Figure 3.7-2.

The proximity of the Project to the Chedabucto Bay allows for support of seabird and shorebird avifauna species, in addition to landbirds associated with terrestrial habitats. The variety of habitat types identified within the PA further support diverse landbird use, with some species occupying forests while others prefer shrublands such as those found in Black Huckleberry heaths.



Paper Size ANSI B

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Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

Project No. **12671292**
Revision No. **-**
Date **Sep 24, 2026**

AVIFAUNA SURVEY STATIONS

FIGURE 3.7-2

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Based on a review of information from online resources, including available geo-spatial site data and the ACCDC report, the following avifauna surveys were completed for the Project:

– Breeding bird survey (June 2025).
– Nightjar survey (June 2025). Focused surveys were conducted due to the likely presence of nightjars within the PA (based on desktop analyses) and because nightjars cannot be reliably detected during morning migration and breeding surveys.
– Coastal bird and migration surveys (June, August, and September 2025, April and May 2026). These surveys targeted species using the coastal habitat of the PA, as well as the late summer, fall and spring migration periods along the coast.
– Spring migration surveys (April and May 2026).
– Nocturnal owl survey (April 2026).

Two coastal bird and migration survey stations were established along the coastline in the northern portion of the PA, with assessments occurring over four seasonal periods to document the presence of coastal and migratory bird species. This area was targeted for coastal bird survey given the vast available open barren habitat found along the coast of the PA and the possibility to have a wide view over the whole coast, the Chedabucto Bay, and Fox Island. Open barren and low bush habitat, as well as the steep rocky coast allows for nesting of marine birds and shorebirds such as ducks, gulls, sandpipers, and cormorants. Moreover, the proximity with the northern forest edge of the PA allows monitoring of a wide variety of forest bird species that transit to and from their nesting habitats during the migration.

A total of 18 marine bird and shorebird species were identified during the migration surveys. The rocky coastlines along the Chedabucto Bay allows for nesting sites protected from predators, coupled with immediate access to coastal food sources. The most common marine bird and shorebird species observed were the Common Eider (*Somateria mollissima*), Double-crested Cormorant (*Nannopterum auritum*), the Herring Gull (*Larus argenatus*), and the Northern Gannet (*Morus bassanus*). These species commonly nest near open water, with the Common Eider and the Northern Gannet specifically preferring to nest in rocky coastlines.

3.7.12 Species at Risk and Species of Conservation Interest

SAR are protected under the federal SARA. SOCI are species whose populations are currently or potentially threatened by natural or anthropogenic factors, but do not have protections under SARA. They are designated by COSEWIC as Endangered, Threatened, or of Special Concern, and/or are ranked S1, S2, or S3 species or any combination thereof by ACCDC.

3.7.12.1 Aquatic Species at Risk

The DFO Aquatic SAR Map was reviewed to develop a list of SAR protected under SARA that may occur near the MSA, including presence of Critical Habitat for any species. For the area of the Atlantic Ocean, DFO has published a specific document that lists species and locations for Critical Habitat for the Scotian Shelf, Gulf of St. Lawrence, and Grand Banks (DFO 2025b) that includes Chedabucto Bay. DFO aquatic SAR mapping does not have records for SAR in any of the freshwater watercourses within the PA. According to DFO, there is no Critical Habitat within the MSA; however, the species listed in Table 3.7-2 may be present in the Atlantic Ocean near the Project.

No aquatic SOCI was identified during the desktop review or baseline surveys for the MSA.

Table 3.7-2 Aquatic SAR Under SARA Potentially Present Near the MSA According to DFO Aquatic SAR Map

Common Name	Scientific Name	SARA Status	COSEWIC Status	Likelihood of Presence near the MSA
Fish				
Atlantic Wolffish	*Anarhichas lupus*	Special Concern	Special Concern	Occupies the nearshore area up to 918 m deep in complex areas of rocks and prefers no algae growth. Spawning occurs on stoney bottoms (DFO, 2020a). While potential suitable habitat is present in the PA, the high concentration of algae growth within the MSA likely limits presence of species.
Lumpfish	*Cyclopterus lumpus*	Not listed on Schedule 1 (under consideration for addition to Schedule 1)	Threatened	Occupies a variety of habitats from <20 m up to 1,000 m deep. Spawning occurs in crevices near rocky areas with individuals returning annually to their spawning grounds (COSEWIC, 2017). This species uses eelgrass beds or floating seaweed near shore for rearing habitat. While the region contains potential suitable habitat for this species, rearing habitat was not observed in the MSA.
Northern Wolffish	*Anarhichas denticulatus*	Threatened	Threatened	Occupies depths from 38 m to 1,504 m over all substrates with highest concentrations over sand and shell hash. Spawning occurs on rocky bottoms (DFO, 2020a). This species may occur near the MSA due to the presence of suitable habitat.
Spotted Wolffish	*Anarhichas minor*	Threatened	Threatened	Occupies depths from 56 m to 1,046 m over all substrates with highest concentrations over sand and shell hash. Spawning occurs on stony bottoms (DFO, 2020a). This species may occur near the MSA due to the presence of suitable habitat.
White Shark – Atlantic	*Carcharodon carcharias*	Endangered	Endangered	The Canadian Atlantic waters are the northernmost extent of the Atlantic population's distribution. They are known to use inshore, continental shelf, pelagic, and mesopelagic habitats with the waters surrounding NS being high use areas. Most habitat use near Canada is seasonal and tends to occur in the summer and autumn (DFO, 2025a). This species may be present near the MSA seasonally; however, it is unlikely to be a permanent resident.
Marine Mammals				
Blue Whale – Atlantic	*Balaenoptera musculus*	Endangered	Endangered	Tend to inhabit coastal and pelagic waters of the Canadian Atlantic mainly in the summer to feed on krill. Most feeding areas have been identified near the head of the Laurentian Channel in the St. Lawrence Estuary with other areas near Honguedo Strait, the north shore of the Gaspé Peninsula and the Emerald Basin in NS (Beauchamp et al., 2009). Unlikely to be present within or near the MSA due to a lack of prey, and that no known feeding areas occur near the MSA.

Common Name	Scientific Name	SARA Status	COSEWIC Status	Likelihood of Presence near the MSA
Fin Whale – Atlantic	*Balaenoptera physalus*	Special Concern	Special Concern	Tend to inhabit areas with high prey concentrations primarily associated with herring and krill) concentrations. Most of the prey concentrations are found near eastern NS (COSEWIC, 2005). Potential to be present within or near the MSA due to nearby observations; however, this species is unlikely to be a permanent resident.
North Atlantic Right Whale	*Eubalaena glacialis*	Endangered	Endangered	Calving occurs in Georgia and Florida with migration north arriving in Atlantic Canada in June and July. Southerly migrations begin in October. The majority of sightings have occurred near southern NS and the Bay of Fundy. While in Atlantic Canada, they are primarily found in coastal and shelf waters (DFO 2014). This species is unlikely to occur within or near the PA as the population is known to spend most of its time near western NS.
Sowerby's Beaked Whale	*Mesoplodon bidens*	Special Concern	Special Concern	This species prefers to inhabit the deep waters of continental shelf breaks and open ocean and is occasionally found in coastal waters. Most Canadian documentation of the species has occurred on shelf edges with surveys on the shelf resulting in no detections (COSEWIC, 2019). This species is unlikely to occur within or near the MSA due to its preference for shelf breaks and lack of historical observations in the area.
Reptile				
Leatherback Turtle – Atlantic	*Dermochelys coriacea*	Endangered	Endangered	Nests in the southern Atlantic and moves north after laying eggs. Studies have shown that Leatherback Turtles occupy the continental shelf waters off the east coast of Canada and are associated with productive areas that provide opportunities to feed on soft-bodied prey, particularly jellyfish (Atlantic Leatherback Turtle Recovery Team, 2006). This species is unlikely to occur within or near the MSA as the habitat is not continental shelf, and jellyfish were not observed near or within the MSA.
Loggerhead Sea Turtle	*Caretta caretta*	Endangered	Endangered	Loggerhead Sea Turtle use of Canadian waters has not been estimated, but sightings have indicated they occur along the continental shelf and further offshore. Nesting occurs in tropical and sub-tropical latitudes south of Canada (DFO, 2020b). This species is unlikely to occur within or near the MSA due to its distance from the continental shelf.

3.7.12.2 Terrestrial SAR and SOCI

Based on a review of available information, an inventory of avifauna SAR and SOCI that may be present within the PA was developed, as outlined in Table 3.7-3 and Table 3.7-4. No SAR weas observed during field surveys of the PA.

Table 3.7-3 SAR Potentially Present According to ACCDC Report No. 8875

Common Name	Scientific Name	SARA Status	COSEWIC Status	Likelihood of Presence near the MSA
Barn Swallow	*Hirundo rustica*	Threatened	Special Concern	Although Barn Swallow continues to nest in traditional natural conditions, it is now largely closely associated with human settlements in rural areas. These nesting sites include a variety of artificial structures that offer either a horizontal surface for the nest (e.g., a ledge) or a vertical surface, often with some kind of overhang that provides shelter (COSEWIC 2021). Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Evening Grosbeak	*Coccothraustes vespertinus*	Special Concern	Special Concern	The optimal nesting habitat for the Evening Grosbeak typically includes mature, open mixed forests dominated by fir or white spruce species and where spruce budworms are abundant. Outside the breeding season, the species appears to rely heavily on seeds produced by various trees, such as fir and spruce in the boreal forest, and is also attracted to ornamental trees that produce seeds or fruit and to bird feeders containing sunflower seeds (COSEWIC 2016). Based on this species' habitat preferences and the site characteristics, this species may occur within the PA.
Eastern Wood-Pewee	*Contopus virens*	Special Concern	Special Concern	Eastern Wood-Pewee nests primarily in mature and intermediate-aged deciduous and mixed forests with open areas (less often in coniferous forests) and a sparse understory. It is frequently associated with forests dominated by sugar maple (*Acer saccharum*), elm (*Ulmus sp.*), and oak (*Quercus sp.*). It typically frequents clearings and the forest edge near its nest (COSEWIC 2012). Based on this species' habitat preferences and the environmental site characteristics, this species may occur within the PA.

The province considers a number of species "location sensitive". Concern about exploitation of location-sensitive species precludes inclusion of precise coordinates. Per the ACCDC report, bat hibernaculum or bat species have been reported within 5 km of the PA. Per the same report, Little Brown Myotis (*Myotis licifugus*) have been identified approximately 17 km from the PA, and Northern Myotis (*Myotis septentrionalis*) and Tricoloured Bat (*Perimyotis subflavus*) were identified at distances greater than 45 km from the PA. However, none were observed during field assessments, and no bat hibernacula or mapped critical habitat are located within the Project boundary.

The ACCDC report lists SOCI within an approximate 5-km radius of the Project (Table 3.7-4).

Table 3.7-4 SOCI Potentially Present Near the PA According to ACCDC Report

Common Name	Scientific Name	Likelihood of Presence Near the PA
Coastal Avifauna Species		
Arctic Tern	*Sterna paradisaea*	Arctic Terns typically nest in open areas with little to no ground cover, in open boreal forests, and on small islands and barrier beaches along the northern Atlantic Coast, and can be found foraging over streams, basins, lakes, estuaries, and the open ocean. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Common Tern	*Sterna hirundo*	Common Terns are found across much of Canada, and breed primarily on freshwater and marine islands from the subarctic to the U.S. This species was observed within the PA during field surveys.
Common Eider	*Somateria mollissima*	The Common Eider inhabits Arctic and subarctic coastal marine habitats in a circumpolar distribution that includes Russia, northern Europe, Alaska, Canada, and Greenland. The species spends its entire life cycle in marine environments: it nests in large colonies, mostly on marine islands, and forms large aggregations in inshore coastal regions outside of the breeding season (Wildlife Species of Canada, 2015). Based on this species' habitat preferences and the site characteristics, this species may congregate and forage within the coastline, but is not anticipated to breed within or near the PA.
Leach's Storm-Petrel - Atlantic Population	*Hydrobates leucorhous pop. 1*	Leach's Storm-Petrel breeds on vegetated islands generally free of mammalian predators and prefers well-drained habitats suitable for excavating underground burrows, such as low forest and meadow. Leach's Storm-Petrel breeds mainly in the Northern Hemisphere on offshore islands of the Atlantic (south to ~41° N) and Pacific (south to ~25° N) oceans. The species breeds most abundantly along Newfoundland's east and south coasts and NS's Atlantic coast. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Purple Sandpiper	*Calidris maritima*	Purple Sandpipers are a non-breeding, migrating visitor to NS, which nest in arctic tundra, including stony plateaus, moorlands, upland ridges, and wetter lowlands. Migrants typically forage and roost within rocky areas along coastlines, not often seen inland during migration. Much of the population winters along rocky marine shorelines, often visiting muddy or sandy shorelines during the spring migration period. Although they do not breed within NS, the Purple Sandpipers may occur along the PA shoreline during the winter months.
Spotted Sandpiper	*Actitis macularius*	Spotted Sandpipers are the most widespread sandpiper in North America, and they are common near most kinds of freshwater, including rivers and streams, as well as near the seacoast. Breeding territories generally need to have a shoreline, a semi-open area where the nest will be, and patches of dense vegetation for sheltering the chicks (Cornell University, 2026). Based on its habitat preferences and the Project site characteristics, this species may occur within the PA.
Willet	*Tringa semipalmata*	Willets (east coast subspecies) typically breeds in the coastal marshes, barrier islands and barrier beaches of Atlantic Canada, but can also be found foraging open beaches, bayshores, marshes, mudflats, and rocky coastal zones. This species was observed during field surveys; however, based on the Willet's habitat preferences, it is unlikely to breed within the PA.
Forest and Upland Species		
American Kestrel	*Falco sparverius*	American Kestrels prefer open areas with short ground vegetation and sparse trees, such as meadows, grasslands, deserts, parks, and farm fields. Kestrels require at least a few trees or structures that provide appropriate cavities for nesting. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.

Common Name	Scientific Name	Likelihood of Presence Near the PA
Bay-breasted Warbler	*Setophaga castanea*	Bay-breasted Warblers breed mostly in mature boreal forests of spruce and fir, but less frequently in other coniferous trees such as hemlock or pine, or in mixed forests with birch or maple. Typically, they prefer older forests, often near water. This species was observed within the MSA during field surveys.
Black-backed Woodpecker	*Picoides arcticus*	Black-backed Woodpeckers are year-round residents of NS, occurring in forests of pine, spruce, fir, hemlock, tamarack or larch, white cedar, and sometimes aspen; however, it prefers recently burned areas, including not just coniferous forest but occasionally also burned or insect-infested deciduous forest. Based on its habitat preferences and the Project site characteristics, this species may occur within the PA.
Boreal Chickadee	*Poecile hudsonicus*	Boreal Chickadees inhabit mostly mature coniferous forests, usually spruce and balsam fir, often near water. During late fall and winter irruptions, they tend to be found mostly in areas dominated by coniferous trees (Cornell University, 2026). This species was observed within the PA during field surveys.
Brown-headed Cowbird	*Molothrus ater*	The Brown-headed Cowbird has a breeding range from the west to the east coast of Canada, preferring grasslands with low and scattered trees, as well as woodland edges, brushy thickets, prairies, fields, pastures, orchards, and residential areas. Brown-headed Cowbirds generally avoid forests. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Canada Jay	*Perisoreus canadensis*	The Canada Jay typically breeds in boreal and subalpine forests associated with black or white spruce trees. Other tree species often found in its habitat include aspen, white birch, balsam fir, sugar maple, lodgepole pine, jack pine, and red spruce, among others. This species was observed within the PA during field surveys.
Northern Mockingbird	*Mimus polyglottos*	The Northern Mockingbird reaches the northern limits of its distribution in Canada, primarily southern Ontario, Québec, Manitoba, and the Maritimes. This species prefers open habitats with scattered bushes or trees, often close to human habitation. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Pine Grosbeak	*Pinicola enucleator*	Pine Grosbeaks are a non-breeding resident of NS, preferring to breed in open evergreen forests with spruce, pine, or fir across Canada, in mountainous regions in the West, and in subalpine forests in Eurasia. In the winter they either stay in similar habitat, move to lower elevations, or to areas with abundant mountain ash, maple, and ash fruits and seeds. Based on this species' habitat preferences and the site characteristics, presence within the PA is unlikely.
Pine Siskin	*Spinus pinus*	Pine Siskins generally nest in open coniferous or mixed forests, but can also be commonly found in parks, cemeteries, and suburban woodlands, where they breed in ornamental conifers or deciduous trees. They prefer feeding in open forest canopies where cone seeds are abundant, but will also forage in deciduous forests, thickets, meadows, grasslands, weedy fields, roadsides, chaparral, and backyard gardens and lawns (Cornell University, 2026). Based on this species' habitat preferences and the landscape characteristics, this species may occur within the PA.
Rose-Breasted Grosbeak	*Pheucticus ludovicianus*	Rose-Breasted Grosbeaks breed in moist, deciduous forests, deciduous-coniferous forests, thickets and semi-open habitats across the northeastern United States and Canada. They generally prefer second-growth forests, suburban areas, parks, gardens, orchards, and shrubby forest edges next to streams and ponds. Based on this species' habitat preferences and the landscape characteristics, this species may occur within the PA.
Wilson's Warbler	*Cardellina pusilla*	Wilson's Warblers breed across Canada and the western U. S., preferring willow, alder, and shrub thickets near streams. They also use forest edges or openings with a dense understory of flowering plants such as aspen stands. Wilson's Warblers key in on forests and scrubby areas along streams to fatten up during migration. Based on this species' habitat preferences and the landscape characteristics, this species may occur within the PA.

In addition to the above-noted SOCI identified in the ACCDC report, SOCI listed in Table 3.7-5 were identified in the PA during field surveys.

Table 3.7-5 SOCI Identified in the PA during Field Surveys

Common Name	Scientific Name	Likelihood of Presence
Coastal Avifauna Species		
Common Eider	*Somateria mollissima*	The Common Eider inhabits Arctic and subarctic coastal marine habitats in a circumpolar distribution that includes Russia, northern Europe, Alaska, Canada, and Greenland. The species spends its entire life cycle in marine environments: it nests in large colonies, mostly on marine islands, and forms large aggregations in inshore coastal regions outside of the breeding season (Wildlife Species of Canada, 2015). Based on this species' habitat preferences and the site characteristics, this species may congregate and forage within the coastline, but is not anticipated to breed within or near the PA.
Common Tern	*Sterna hirundo*	Common Terns are found across much of Canada, and breed primarily on freshwater and marine islands from the subarctic to the U. S. Based on this species' habitat preferences and the site characteristics, this species may congregate and forage near the coastline, but is not anticipated to breed within or near the PA.
Great Cormorant	*Phalacrocorax carbo*	Great Cormorants only breed in small regions of the eastern seaboard, in colonies on cliffs or rocky outcrops overlooking the water. No known colonies are in proximity of the Project. Although this species may be observed foraging offshore, presence within the PA is unlikely.
Northern Gannet	*Morus bassanus*	Northern Gannets may be observed close to shore feeding or foraging, but there are only 6 well-established breeding colonies, none of which are in proximity to the Project. Although this species may be observed foraging offshore, presence within the PA is unlikely.
Red-breasted Merganser	*Mergus serrator*	Red-breasted Mergansers are diving ducks that often are observed fishing near shorelines. This species breeds in vegetation near water within the boreal forest region, including northern NS/Cape Breton.
Semipalmated Sandpiper	*Calidris pusilla*	Semipalmated Sandpipers breed in coastal tundra in subarctic and the Low Arctic, migrating through Atlantic Canada. During migration, these birds stop in large colonies at coastal mudflats to feed and gather strength. This species was observed during field surveys; however, based on this species' habitat preferences, it is unlikely to breed within the PA.
Willet	*Tringa semipalmata*	Willets (east coast subspecies) typically breed in the coastal marshes, barrier islands, and barrier beaches of Atlantic Canada, but can also be found foraging open beaches, bayshores, marshes, mudflats, and rocky coastal zones. This species was observed during field surveys; however, based on the Willet's habitat preferences, it is unlikely to breed within the PA.
Forest and Upland Avifauna Species		
American Goshawk	*Astur atricapillus*	The American Goshawk is a hawk with short, broad wings and long tail, which typically inhabits large tracts of forest with more than 60% closed canopy, away from populated areas, and is known for fiercely defending its nest. It preys on a variety of birds, mammals and reptiles, occasionally carrion and insects.

Common Name	Scientific Name	Likelihood of Presence
Bay-breasted Warbler	*Setophaga castanea*	Bay-breasted Warblers typically inhabit mostly mature boreal forests of spruce and fir, or in mixed forests, often near water. Their primary source of food is insects and small spiders.
Blackpoll Warbler	*Setophaga striata*	Blackpoll Warblers typically inhabit boreal forests of black spruce and tamarack, eating spiders and insects as their chief source of food. They will also eat fruits during migration.
Boreal Chickadee	*Poecile hudsonicus*	Boreal chickadees inhabit mostly mature coniferous forests, usually balsam fir and spruce and often near water, where they feed primarily on insects and seeds.
Canada Jay	*Perisoreus canadensis*	This species inhabits boreal and subalpine forests, usually where black or white spruce trees are common. Canada Jays eat arthropods, berries, carrion, nestling birds and fungi, and have adapted to the presence of humans, recognizing and foraging for human food.
Cape May Warbler	*Setophaga tigrine*	Similar to the Blackpoll and Bay-breasted Warblers, the Cape May Warbler breeds in forests of mature spruce and fir, especially where spruce budworm is present along forest edges.
Northern Harrier	*Circus hudsonius*	Northern Harrier typically inhabits undisturbed tracts of wetland and grassland with low, thick vegetation. They breed in freshwater, brackish marshes, lightly grazed meadows, fields, tundra, and riverside woodlands.
Flora Species		
Highbush Blueberry	*Vaccinium corymbosum*	Highbush Blueberry is a perennial, deciduous woody shrub that was developed by selective breeding from the native lowbush blueberry in the first half of the 20th century, and which prefers organic-rich sandy loam soils, but can tolerate a wide range of habitats.
Purple False-foxglove	*Agalinis purpurea*	The Purple False-foxglove is a small annual herbaceous plant which prefers moist sandy fields, rocky shores and serpentine barrens, and can grow in sunny, shaded, or partly shaded sites.
Lichen		
Finger Ring lichen	*Arctoparmelia incurva*	This lichen typically prefers sun-exposed siliceous rocks.

3.8 Socioeconomic Environment

The human environment includes both Indigenous Peoples and non-Indigenous communities. Mi’kmaq language and terminology are used throughout this report. Based on best knowledge, Mi’kmaq is the plural, non-possessive form, while Mi’kmaw is the singular form. Despite this convention, the names of organizations and direct quotes are as stated by the organization providing the information.

3.8.1 Mi’kmaq of Nova Scotia

Baseline information on Mi’kmaq First Nations and communities is drawn from publicly available sources such as the 2021 census and Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) First Nations profiles. Reports and websites of organizations with relevant information were also accessed for the baseline.

The Project is within Mi'kma'ki, the traditional homeland of the Mi'kmaq which includes all of NS along with all or portions of Prince Edward Island, New Brunswick, Newfoundland, and Quebec (Parks Canada, 2025b; Canadian Encyclopedia, 2024). The Mi’kmaw language is part of the Algonquian language family, specifically within the Eastern Algonquian subgroup (Government of Canada, 2025). In 2022, the Government of NS adopted *The Mi’kmaq Language Act*, officially recognizing Mi’kmaw as the original language of NS (Office of the Commissioner of Official Languages, 2022).

Thirteen Mi’kmaq First Nations in NS occupy one or more parcels of reserve lands in NS (CIRNAC, 2025; CIRNAC, 2026). No reserve lands are in the PA (Figure 3.8-1). The following First Nations have been identified as having reserve lands most relevant to the Project: Potlotek First Nation, We'koqma'q L’nue’kati, Paq’tnkek Mi’kmaw Nation, Millbrook First Nation, Sipekne’katik First Nation, and Eskasoni First Nation.



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Map Projection: Transverse Mercator
Horizontal Datum: North American 1983 CSRS
Grid: NAD 1983 CSRS UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

FIRST NATIONS RESERVE LANDS

Project No. **12671292**
Revision No. **-**
Date **Sep 24, 2026**

FIGURE 3.8-1

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Data source: ESRI Topographic Basemap, Accessed 2026; ESRI Data & Maps 2008 Data Distribution Application (DDA); GHD.

3.8.1.1 Potlotek First Nation

Potlotek First Nation has two Reserves: Chapel Island 5 and Malagawatch 4 (CIRNAC, 2026). The nearest Potlotek First Nation Reserve Land is approximately 45 km from the Project.

As of December 2025, the total registered membership of Potlotek was 867 (Table 3.8-1) (CIRNAC, 2026). Approximately 78% of registered members of Potlotek were living on Reserve Lands, whereas 22% were living off Reserve, as summarized in Table 3.8-1.

Table 3.8-1 Registered Population of Potlotek First Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	326	317	643	74
Living on Other Reserves	19	18	37	4
Living on Own Crown Land	0	0	0	0
Living on Other Band Crown Land	0	0	0	0
Living on Non-Band Crown Land	0	0	0	0
Living Off Reserve	90	97	187	22
Total	435	432	867	100

Source: CIRNAC, 2026

In the 2021, Chapel Island 5 had a population of 405 with 94% identifying as Indigenous. No census data were identified for Malagawatch 4 (Statistics Canada, 2023).

3.8.1.2 We'koqma'q L’nue’kati

We'koqma'q L’nue’kati has two Reserves: Whycocomagh 2 and Malagawatch 4 (CIRNAC, 2026). The nearest We'koqma'q L’nue’kati First Nation Reserve Land is Malagawatch 4 at approximately 58 km from the Project. As of December 2025, the total registered membership of We'koqma'q L’nue’kati was 1,142 (Table 3.8-2). Approximately 89% of the registered members were living on Reserve Lands, whereas only 8% were living off Reserve (CIRNAC, 2026).

Table 3.8-2 Registered Population of We'koqma'q L’nue’kati First Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	484	527	1,011	86%
Living on Other Reserves	16	19	35	3%
Living on Own Crown Land	1	1	2	0%
Living on Other Band Crown Land	0	0	0	0%
Living on Non-Band Crown Land	0	0	0	0%
Living Off Reserve	40	54	94	8%
Total	541	601	1142	100%

Source: CIRNAC, 2026

In the 2021 census, Whycocomagh 2 had a population of 877 with 97% identifying as Indigenous (Statistics Canada, 2023). Malagawatch 4 had a small population of approximately 20.

3.8.1.3 Paq’tnkek Mi’kmaw Nation

Paq’tnkek Mi’kmaw Nation has three Reserves: Paq’tnkek-Niktuek 23, Welnek 38 and a portion of Franklin Manor 22 (CIRNAC, 2026). The nearest Paq’tnkek Mi’kmaw Nation Reserve Land is Paq'tnkek-Niktuek 23 at approximately 58 km from the PA. As of December 2025, the total registered membership of Paq’tnkek Mi’kmaw Nation was 613 (Table 3.8-3) (CIRNAC, 2026). Approximately 74% of members were living on Reserve lands and 25% lived off Reserve.

Table 3.8-3 Registered Population of Paq’tnkek Mi’kmaw Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	200	225	425	69
Living on Other Reserves	11	22	33	5
Living on Own Crown Land	0	0	0	0
Living on Other Band Crown Land	0	0	0	0
Living on Non-Band Crown Land	0	0	0	0
Living Off Reserve	66	89	155	25
Total	276	337	613	100

Source: CIRNAC, 2026

The 2021 census showed no data for Franklin Manon 22 and Welner 38. Paq’tnkek-Niktuek 23 had a population of 372 of whom 95% identified as Indigenous (Statistics Canada, 2023).

3.8.1.4 Millbrook First Nation

Millbrook First Nation has eight Reserves: Millbrook 27, Sheet Harbour 36, Beaver Lake 17, Cole Harbour 30, Truro 27A, Truro 27B, Truro 27C, and Tufts Cove Indian Reserve (CIRNAC, 2026). The nearest Millbrook First Nation Reserve Land is Sheet Harbour 36 at approximately 121 km from the PA. As of December 2025, more than half (59%) of the registered population of Millbrook First Nation resided off Reserve, whereas 41% were living on Reserve Lands (Table 3.8-4).

Table 3.8-4 Registered Population of Millbrook First Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	480	490	970	39
Living on Other Reserves	21	18	39	2
Living on Own Crown Land	0	1	1	0
Living on Other Band Crown Land	1	1	2	0
Living on Non-Band Crown Land	1	0	1	0
Living Off Reserve	720	744	1,463	59
Total	1,223	1,254	2,477	100

Source: CIRNAC, 2026

The 2021 census included population data for the first four Millbrook First Nations Reserves listed above and none for the latter four. Millbrook 27 had the largest population overall at 921 with 84% identifying as Indigenous. Cole Harbour 30 had a 2021 population of 208, though only 19% identified as Indigenous. Beaver Lake 17 and Sheet Harbour 36 had small populations of approximately 20 and 10, respectively (Statistics Canada, 2023).

3.8.1.5 Sipekne'katik First Nation

Sipekne'katik First Nation has five Reserves: Indian Brook 14, Pennal 19, New Ross 20, Shubenacadie 13, and Wallace Hills 14A (CIRNAC, 2026). The nearest Sipekne'katik First Nation Reserve Land is Indian Brook 14 at approximately 187 km from the PA. As of December 2025, Sipekne'katik First Nation had a registered population of 3,116 with approximately 46% living on Reserve Lands and 53% were living off Reserve (Table 3.8-5).

Table 3.8-5 Registered Population of Sipekne'katik First Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	652	731	1,383	44
Living on Other Reserves	31	33	64	2
Living on Own Crown Land	0	0	0	0
Living on Other Band Crown Land	2	1	3	0
Living on Non-Band Crown Land	8	6	14	0
Living Off Reserve	770	882	1,652	53
Total	1,463	1,653	3,116	100

Source: CIRNAC, 2026

In 2021, Indian Brook 14 had a population of 2,739 with 43% identifying as Indigenous (CIRNAC, 2026)). Pennal 19 had a small population of approximately 30 (Statistics Canada, 2023). No census data were available for Wallace Hills 14A.

3.8.1.6 Eskasoni First Nation

Eskasoni First Nation has three Reserves: Eskasoni 3, Eskasoni 3A, and Malagawatch 4 (CIRNAC, 2026). The nearest Eskasoni First Nation Reserve Land is approximately 200 km from the PA. As of December 2025, the total registered membership of Eskasoni Nation was 4,830 (Table 3.8-6). Approximately 85% of the registered members of Eskasoni First Nation were living on Reserve Lands, whereas 15% were living off Reserve (CIRNAC, 2026).

Table 3.8-6 Registered Population of Eskasoni First Nation (December 2025)

Registered Population	Male	Female	Total	%
Living on Own Reserve	2,021	2,057	4,078	84
Living on Other Reserves	17	19	36	1
Living on Own Crown Land	0	0	0	0
Living on Other Band Crown Land	1	0	1	0
Living on Non-Band Crown Land	0	0	0	0
Living Off Reserve	339	376	715	15
Total	2,378	2,452	4,830	100

Source: CIRNAC, 2026

In 2021, the census population of Eskasoni 3 was listed as 3,521 with 99% identifying as Indigenous (Statistics Canada, 2023). The 2021 census did not include population data for Eskasoni 3A and Malagawatch 4 Reserves.

3.8.2 Indigenous Rights and Title

In Canada, Indigenous Peoples' Aboriginal Rights and Treaty Rights (referred to as Section 35 Rights) are protected under Section 35 of the *Constitution Act, 1982* (Government of Canada, 2021). Aboriginal Rights include the right to hunt, fish, and gather for food, social, and ceremonial (FSC) or traditional purposes, and Treaty Rights (stemming from

historic treaties) allow harvesting to support a moderate livelihood. These Rights have been upheld in various decisions of the Supreme Court of Canada (SCC).

The Right to fish for food, social, and ceremonial (FSC) purposes is protected under Section 35 as a collective Right rather than an individual one (DFO, 2022). The FSC Right allows Indigenous harvesters to catch what is needed for themselves and/or their community but not for sale.

NS is within the area encompassed by various historic Peace and Friendship Treaties (1725/1726 to 1779) between the Mi'kmaq, Wolastoqiyik (Maliseet), and Passamaquoddy Indigenous groups and the British government to facilitate trade of goods and enduring alliances (CIRNAC, 2025a). Generally, the Indigenous Peoples agreed to accept established colonial settlements, while the British agreed to continued Indigenous use of traditional fishing, hunting, and planting grounds. However, the historic treaties included limited information on implementation. As colonial settlement increased and competition for resources grew, Indigenous groups became marginalized and have long petitioned governments to uphold the treaties, especially around resource harvesting.

3.8.2.1 Comprehensive and Specific Land Claims

Canada has signed 27 modern treaties (comprehensive land claims and/or self-government agreements), none of which is in NS (Government of Canada, 2026). In 1976, the Mi'kmaq Grand Council (Mi'kmaq Santé Mawiomi) and the Union of Nova Scotia Indians, representing the Mi'kmaq First Nations in Nova Scotia, submitted a comprehensive land claim asserting Aboriginal title to lands throughout NS to the provincial and federal governments (KMK, 2020). This claim has not been accepted for negotiation by the Crown. Thus, no land subject to an active comprehensive land claim agreement or self-government agreement intersects the PA.

The Government of NS would prefer to resolve legal uncertainty around Rights through negotiation rather than court challenges (NS Office of L'nu Affairs, 2011). Discussions among the parties have resulted in agreements such as the 2010 Terms of Reference for a Mi'kmaq – Nova Scotia – Canada Consultation Process (CIRNAC, 2010).

The Government of Canada has committed to settling specific claims, which relate to administration of land and other First Nation assets as well as fulfilment of historic treaties and other agreements. In NS, six specific claims are in progress, 23 specific claims have been successfully concluded, and eight specific claims have been closed (CIRNAC, 2025b). Limited information was available on the location of specific claims though none has been identified in relation to the PA, namely the landside area associated with the access road.

3.8.2.2 Indigenous Land and Resource Use and Mi'kmaq Ecological Knowledge Study

The lands now known as NS have been home to the Mi'kmaq and their ancestors for more than 10,000 years and since time immemorial. Prior to European contact and colonialization, the Mi'kmaq used the land widely though site-specific land use may be difficult to ascertain. Historic records indicate that Chedabucto Bay, including the lands and waters surrounding the PA, has long been occupied and used by the Mi'kmaq. An 1822 report describes how Mi'kmaq who regularly used the area adjacent to Fox Island for fishing, fur trapping, planting, and other activities were violently attacked and dispossessed of their lands as colonial land grant policies facilitated non-Indigenous settlement (Bromley, 1822).

Historic European documentation, information on known cultural and heritage resources, and interviewing Indigenous harvesters can be used to better understand past and current use of lands and resources. To identify and document Indigenous land and resource use around the PA, Carver commissioned MGS to prepare an MEKS in accordance with the Mi'kmaq Ecological Knowledge Study Protocol. The MEKS is based on background research as well as spring 2026 interviews with key knowledge holders and a site visit of the Project. The MEKS indicates resource use activities have occurred and continue to occur within the MEKS Study Area, which is a regional area including the Project and a 5-km buffer surrounding it. The MEKS is included as Appendix C.

Traditional use findings indicate that the MEKS Study Area has historically and continues to support a variety of Mi'kmaq harvesting activities, with documented use primarily associated with marine and land-based resource harvesting. Frequently reported resources include mackerel, clam, oyster, lobster, eel, trout, gaspereau, deer, rabbit, and a variety of berries and other plant resources. Documented use is primarily associated with the Historic Past and

Recent Past, while a smaller proportion of Current Use demonstrates the area's importance to Mi'kmaq traditional land and resource use.

Spatial analysis indicates that traditional use occurs throughout both the PA and the broader MEKS Study Area. While the PA contains a relatively limited number of documented use areas, the surrounding MEKS Study Area reflects a greater diversity of traditional activities distributed across marine, coastal, and inland environments. The generalized mapping presented in the MEKS illustrates broad patterns of land use while maintaining the confidentiality of interview participants.

The Mi'kmaq Significant Species Analysis determined that the documented resources are generally common or locally available within the region. Although no concerns regarding resource scarcity were identified during the interview process, these resources continue to support traditional harvesting practices and maintain cultural, social, and subsistence connections to the land and waters of the area.

Overall, the MEKS confirms that the PA and surrounding MEKS Study Area form part of a broader cultural landscape that has supported Mi'kmaq use over many generations. While the MEKS provides a representative summary of documented traditional knowledge gathered through interviews and historical research, it is recognized that additional traditional use may exist beyond what has been recorded in the MEKS.

3.8.3 Indigenous Health Status and Health Care

The Mi’kmaq in Nova Scotia (along with other Indigenous Peoples where present) have access to public health care facilities. However, Indigenous Peoples in Canada experience persistent health disparities relative to non-Indigenous populations, including higher rates of chronic disease, poorer mental health outcomes, and reduced access to timely and culturally appropriate health care (CPHA, 2026; NCCIH, 2025; Indigenous Services Canada, 2025a). These disparities are associated with socioeconomic conditions, including systemic racism, inadequate housing, and barriers to accessing services (CPHA, 2026; NCCIH, 2025).

In Nova Scotia, Mi’kmaq communities experience health outcomes broadly consistent with national Indigenous health disparities (UNSI, 2016; NS Health, n.d.). In 2023-2024, the Union of Nova Scotia Mi’kmaq[1] (UNSM) reported increased demand for mental health and community health services, with staffing constraints resulting in pressures on community-based health systems (UNSM, 2024). CMM has also identified challenges in relation to health disparities, unequal access to services, and pressures on community infrastructure (CMM, 2020).

The Tajikeimɨk, Indigenous-led health and wellness organization leading health transformation for Mi’kmaq communities in NS, was established to improve health outcomes through culturally grounded, community-based care (Indigenous Services Canada, 2023e). In 2023–2024, the UNSM Health Branch delivered community health and wellbeing programs through Jordan’s Principle[2], Mental Wellness, Dietitian Services, Home and Community Care, Healing Our Nations, and Early Learning and Child Care governance. In addition, the CMM delivers health and wellness services (e.g., Aboriginal Diabetes Initiative, Mental Wellness program) and initiatives to improve care (CMM, 2020; UNSM, 2024). Mi’kmaw Kina’matnewey (MK) also delivers a range of programs, services, and supports aimed at accessing college education, strengthening cultural identity through language, and reducing harm to youths from substance use.

While programs and services for Indigenous people living on and off reserves in Canada are improving, limited public health care facilities are located in Indigenous communities in Nova Scotia. Regional health care infrastructure in Guysborough County is discussed in Section 5.3.12.

[1] Union of Nova Scotia Mi’kmaq represents and supports all Mi’kmaq First Nations in Nova Scotia and serves the five First Nations in Cape Breton: Eskasoni, Membertou, Potlotek, Wagmatcook, and We'koqma'q (UNSM, 2026a).
[2] Unama’ki Jordan’s Principle is a child first initiative developed to ensure First Nations children receive equitable services in the areas of education, health, social development, and culture (UNSM 2024).

3.8.4 Physical and Cultural Heritage

Cultural and heritage resources are identified as a VC, as known and unknown archaeological, historical, and paleontological sites and artifacts are protected through the NS *Special Places Protection Act* due to their value to society and their importance to understanding and interpretating heritage.

In 2025-2026, CRM Group conducted an ARIA under Heritage Research Permit Number: A2025NS184. The ARIA included background research, Mi'kmaq input, field investigations, and landscape analysis for the ARIA Study Area, which includes the entirety of the PA. Systematic visual inspections and strategic shovel testing were conducted along spaced transects to identify archaeological resources, and landscape analysis was used to classify land for archaeological potential.

While no physical evidence of pre-contact Mi'kmaq use was identified in the PA, nearby place names and traditional resource harvesting sites suggest historic activity outside the PA. A 1.22-ha section of relatively flat, dry, elevated terrain along the coastline of Chedabucto Bay was identified as having high archaeological potential due to its sweeping views and the presence of natural resources (e.g., cranberries) that may have supported past use.

Modelling of Holocene sea level change suggests the marine component of the Project would have once been coastal terrain that may have been accessed by the Mi'kmaq for use and habitation before becoming flooded. Any pre-contact archaeological features within this terrain before inundation likely would have been impacted and disturbed by waves and tidal currents. However, deeper features such as hearth pits, lying beneath upper sediments of the present seafloor, may have remained intact as any artifacts of non-perishable materials such as stone would have survived. Even if displaced by erosion, any features and artifacts would be of archaeological significance and cultural value.

3.8.5 Socioeconomic Conditions

The description of socioeconomic conditions includes data and information mainly obtained through desktop research. Information on land and resource use was obtained from provincial and municipal data sources, and through various other websites and reports. Data related to population and demographic characteristics were obtained from Statistics Canada's 2016 and 2021 censuses. As discussed in previous sections, the Project is in the MODG and the nearest communities to the PA include Upper Fox Island, Fox Island Main, Hazel Hill, Tickle Road, and Canso. As limited census data are available for small, unincorporated communities, regional information is used to describe socioeconomic conditions.

The following information describes socioeconomic conditions in Guysborough County. The high-level information addresses topics such as population, labour force, economy, recreation, services and infrastructure, and traffic where data were available from publicly accessible sources.

In 2021, the population of Guysborough County showed a decrease over the previous census though population gain was experienced in NS generally. Also in 2021, Guysborough County had a higher median age than NS (Statistics Canada, 2023). Between 2016 and 2021, Guysborough County experienced a slight increase in the portion of its population aged 65 years and older (3.2%), while its younger population (15-64 years) declined by 3.3%. Population ageing in rural areas is generally due to outmigration of young people and a low birth rate.

Table 3.8-7 Population of Guysborough County and Nova Scotia (2021)

Jurisdiction	Population			Median Age
	2016	2021	Change (%)	Years
Guysborough County	7,625	7,373	-3.3	58.0
Nova Scotia	923,598	969,383	5.0	45.6

Source: Statistics Canada, 2023

The MODG (to which Canso was amalgamated in 2012) provides municipal services, including land use planning, development permitting, and recreational amenities. Essential service providers include Eastern Memorial Hospital, Fanning Education Centre/Canso Academy, Canso Public Library, Canso & Area Arena, and other community organizations (Nova Scotia Health, 2026; Nova Scotia Education and Early Childhood Development, 2026; Nova Scotia Provincial Library, 2026). Safety and emergency services are provided by the Royal Canadian Mounted Police and a volunteer fire department (RCMP, 2026; MODG, No Date). Other government and non-profit organizations provide support for families, seniors, and those with disabilities. Housing in the MODG is primarily single detached homes, with an average household size of two people, which is slightly lower than in NS (Statistics Canada, 2023). Household sizes are typically smaller in rural areas.

3.8.5.1.1 Economy and Employment

The local economy is supported by industry groups such as GCIFA (GCIFA, 2014). Commercial and sport fisheries are active in inshore and offshore areas for species such as American lobster, sea scallops, bluefin tuna, shark, mackerel, flounder, cod, haddock and pollock. Aquaculture sites (e.g., American oysters, blue mussels) exist in nearby coastal areas such as West Arichat and Tor Bay (Centre for Marine Applied Research, 2026).

The MODG experienced a 2020 unemployment rate of 18.6%, higher than the provincial average of 12.7%. In 2021, Guysborough County's largest economic sectors in terms of employment were "Agriculture, forestry, fishing and hunting", "Health care and social assistance", "Manufacturing", "Retail trade", "Educational services", "Construction", and "Public administration", which together accounted for nearly 75% of employment (Statistics Canada, 2023). The province shared these sectors as the most important employers with two exceptions. "Agriculture, forestry, fishing and hunting" did not employ as large a portion of the provincial labour force, which reflects its importance in rural areas such as Guysborough County. "Manufacturing" employed a slightly greater portion of the labour force in Guysborough County than the provincial workforce. For both jurisdictions, women+ (Women + includes women [and/or girls] as well as some non-binary persons) showed strongest employment in "Health care and social assistance" and "Educational services", while men+ (Men+ includes men [and/or boys] as well as some non-binary persons) were more likely to be employed in "Construction" and "Mining, quarrying, and oil and gas extraction" (Statistics Canada, 2023).

Carver is committed to maximizing recruitment and employment, labour market training, procurement, and service opportunities in the MODG throughout all Project phases. Carver is committed to providing equal opportunities and a safe, respectful, inclusive, and rewarding workplace where employees are treated fairly and given options for career advancement. This environment will be achieved through the implementation of comprehensive policies, including anti-harassment, anti-bullying, anti-discrimination, and anti-violence policies that include gender appropriate and culturally sensitive processes and support services.

The Project will adopt a workplace drug and alcohol policy which prohibits the use or influence of illicit substances during working hours for all Project personnel, provide mandatory cross-cultural awareness training for all Project personnel and contractors, and establish a worker code of conduct outlining behavioural expectations and related policies. In addition, a process will be established to ensure the implementation of a fair and timely investigative process to resolve identified employee incidents and complaints.

3.8.5.1.2 Health Status and Health Care

While specific information was not available for Nova Scotia, rural communities across Canada often face health care challenges associated with ageing populations, geographic dispersion, and limited availability of services (Canadian Institute for Health Information, 2026). Compared to urban residents, rural populations generally have limited access to health care providers and services and may require additional travel to obtain care. Rural health systems also face ongoing recruitment and retention challenges for health professionals, which can affect service availability and continuity of care.

Information on the health status of the population of Guysborough County was not available. However, Nova Scotians experience a high burden of chronic disease, particularly among older adults (Nova Scotia Health, 2026 [community health snapshot]). Life expectancy is lower than the Canadian average, and more than one-third of adults aged 40 years and older live with multiple chronic conditions. Health outcomes are influenced by factors such as age, socioeconomic conditions, and other social determinants of health.

Guysborough County is part of Nova Scotia Health's Eastern Zone (Nova Scotia Health Community Health Boards, 2025). The Eastern Zone community health plan identifies social determinants of health priorities as income, housing, and food security. Health care infrastructure includes Guysborough Memorial Hospital in Guysborough and Eastern Memorial Hospital in Canso, which provide emergency, diagnostic, rehabilitation, mental health, and continuing care services (Nova Scotia Health, 2026 [locations and facilities]).

3.8.5.1.3 Municipal Land Use Planning

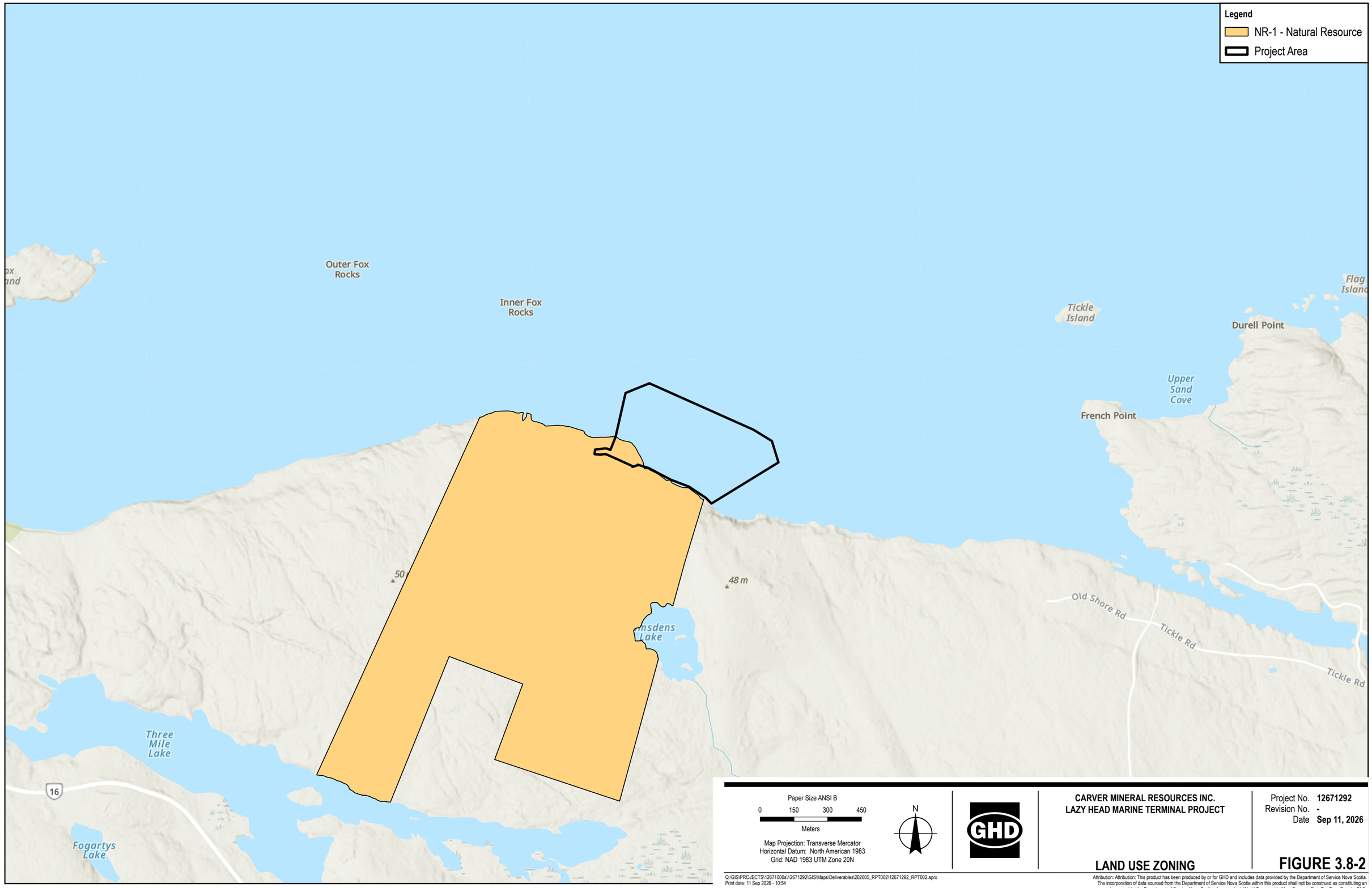
The MODG governs land use activities through its Municipal Planning Strategy and Land Use Bylaw (MODG, 2022). The 2022 Land Use Bylaw indicates the PA is on lands currently zoned as Natural Resource (NR-1) and Mixed Use Rural Residential (MRR-1) (Figure 3.8-2). Table 3.8-8 shows permitted land uses in each zone.

Table 3.8-8 Land Use Zoning and Permitted Uses

Mixed Use Rural Residential (MRR-1)	Natural Resource (NR-1)
Agriculture	Accessory use – shipping containers (subject to the general provisions requirements)
Bed and Breakfasts	Aeronautics, Spaceports and Related Uses (as per *Federal Aeronautics Act*)
Boarding or Rooming Houses	Agriculture
Campgrounds or Recreational Vehicle Parks	Cemeteries
Cemeteries	Commercial Recreation, Outdoor
Commercial (C-1) uses, maximum building size of 112 m^2 (1,200 ft^2) of floor space and/or 112 m^2 (1,200 ft^2) of outdoor storage space provided these uses comply with the general and special lot requirements for the C-1 zone	Electric Vehicle Charging, Commercial
Community Centres	Fishery Uses and Structures
Daycare Centres	Forestry uses and Structures
Daycares, Home-Based	Government Offices or Facilities
Dwellings, Duplex	Home-Based Businesses
Dwellings, Mobile Home	Home-Based Offices
Dwellings, Multiple Unit with a maximum of four (4) units	Hunting or Fishing Lodge, Camp or Cottage
Dwellings, Semi-Detached	Large-Scale Solar Collector Systems
Dwellings, Single Detached	Large-Scale Wind Turbines and Wind Farms
Dwellings, Tiny Home	Marinas
Dwellings, Townhouse with a maximum of four (4) units	Parks and Playgrounds
Fishery Uses and Structures	Pits, Quarries and Mineral Extraction
Forestry Uses and Structures	Public Recreation
Institutions	Trails and Conservation
Kennels	Waste Management Facilities
Large-Scale Solar Collector Systems	

Mixed Use Rural Residential (MRR-1)	Natural Resource (NR-1)
Lawfully Existing Uses	
Light Industrial (I-1) uses, maximum building size of 112 m^2 (1,200 ft^2) of floor space and/or 112 m^2 (1,200 ft^2) outdoor storage space provided these uses comply with the general and special lot requirements for the I-1 zone	
Nursing Homes	
Parks and Playgrounds	
Places of Worship	
Recreation Uses	
Residential Care Facilities	
Schools	
Short-Term Rentals	
Lawfully Existing Uses	

Source: MODG, 2022



Paper Size ANSI B

0 150 300 450

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

Project No. **12671292**
Revision No. **-**
Date **Sep 11, 2026**

LAND USE ZONING

FIGURE 3.8-2

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World Hillshade: Esri, NASA, NGA, USGS

The Project may be partially non-conforming with the current MODG Land Use Bylaw (MODG, 2022). Not all identified Project activities fit entirely within permitted uses as defined for zoning categories NR-1 and MRR-1. The MRR-1 zone permits various uses including commercial and industrial. The NR-1 zone permits resource uses and resource industries including rock quarries, subject to restrictions designed to protect the natural environment and abutting land uses (MODG, 2022), as shown on Table 3.8-8.

The Proponent, through Morien acting as its agent, is in discussions with the MODG around regulatory requirements for the Project. If required, the MODG may consider amendments to the Municipal Plan and/or Land Use Bylaw. The MODG has potentially suitable land use zoning, such as Commercial General (C-1), Industrial Light (I-1), Industrial Heavy (I-2), Industrial Resource (I-3), and Marine Industrial (I-5), that can accommodate the needs of the Project (MODG, 2022).

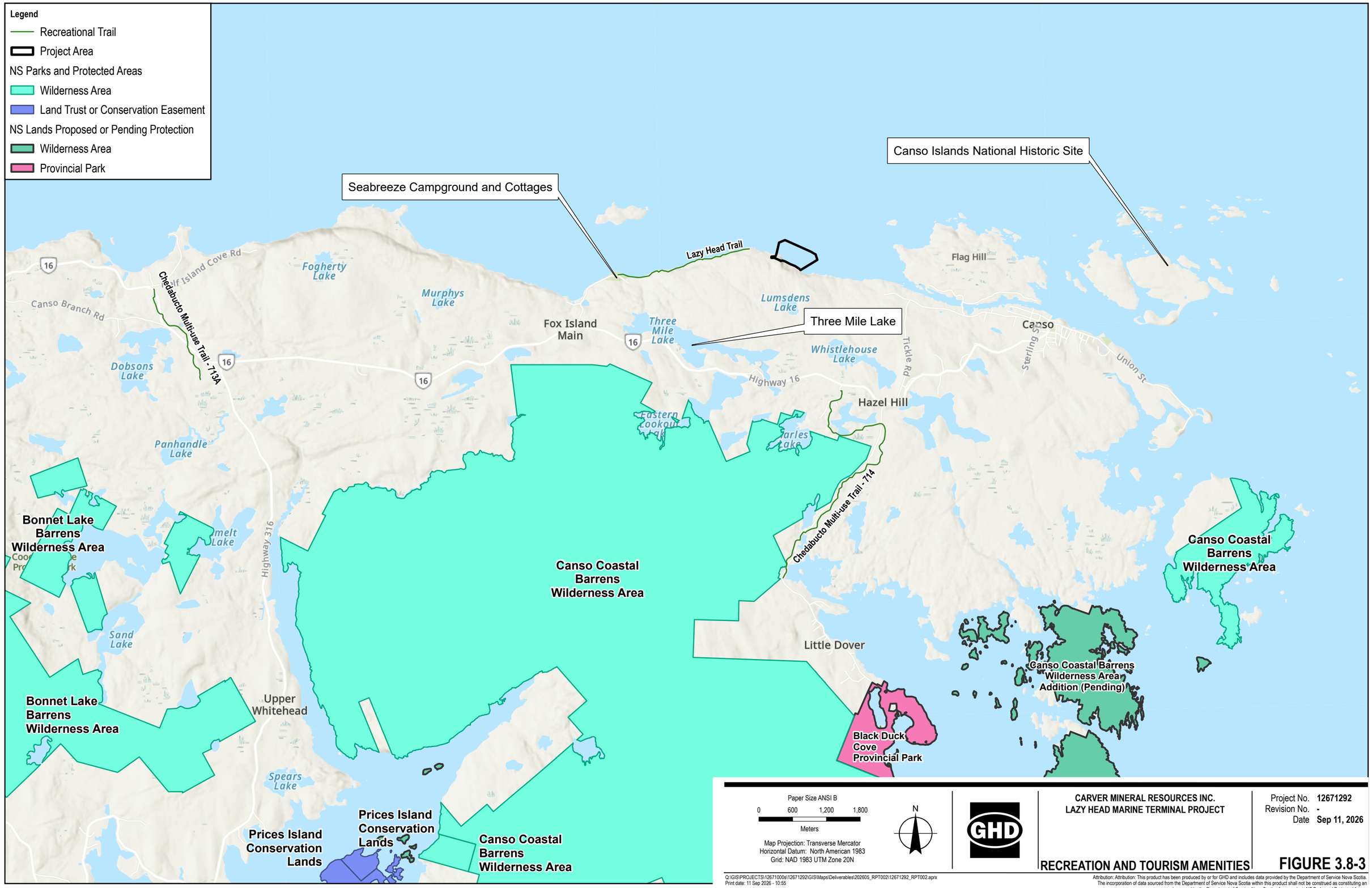
3.8.5.1.4 Recreation and Tourism

Recreation amenities near Lazy Head have a coastal focus including beaches (e.g., Fox Island Main Beach). Seabreeze Campground at Fox Island Main offers four cottages, two camping domes, 53 overnight recreational camp sites, camp sites for tents or camper vans, and hiking trails (Seabreeze Campground and Cottages, 2025). Guest services also include kayaking and ocean fishing. Seabreeze Campground is 2.5 km from the PA boundary. Recreation and tourism amenities are shown in Figure 3.8-3.

Recreational land use likely occurs around the Lazy Head area though publicly available information does not provide details on level of use. The 5-km Lazy Head Trail begins east of Fox Island Main and follows the coast to Lazy Head (Mussio, 2023) along the north side of the PA. Three Mile Lake, located 48 m south of the PA, is noted as popular for angling brook trout, especially in spring when the season opens.

The Chedabucto Multi-Use Trails Association, a club within the ATV Association of Nova Scotia, accesses the surrounding forested areas for outdoor activities (ATVANS, 2025). Two trails are identified connecting to Route 16: Marine Drive: one east and one west of the PA. Neither of the trails intersects the PA.

Tourism attractions and destinations near Lazy Head include Canso Islands National Historic Site and Grassy Island Fort National Historic Site, which are located on islands off Canso approximately 5.8 km east of the PA (Parks Canada 2025a). Regional attractions also include Canso Museum and Tourist Bureau, Commercial Cable Trans-Atlantic Municipal Park, and Queensport Lighthouse (Visit Guysborough, 2026). The nearest provincial park, protected area, or wilderness reserve is Canso Coastal Barrens Wilderness Area at approximately 535 m from the PA (NS Parks and Protected Areas, No Date). The nearest federally identified protected or special area is Fox Island, which is federal Crown land under the custodianship of ECCC with potential future protection as part of the proposed Atlantic Archipelago NWA (IAAC, 2026). Fox Island is approximately 2.4 km from the PA. None of these sites is in the PA.



Paper Size ANSI B

0 600 1,200 1,800

Meters

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 20N

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CARVER MINERAL RESOURCES INC.
LAZY HEAD MARINE TERMINAL PROJECT

Project No. 12671292
Revision No. -
Date Sep 11, 2026

RECREATION AND TOURISM AMENITIES

FIGURE 3.8-3

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3.8.5.1.5 Transportation

3.8.5.1.5.1 Local Traffic

No traffic studies have been completed for the Project as the Project is not expected to result in significant changes to local traffic levels, where aggregate product will be shipped via marine transportation.

In 2023, a traffic count on Highway 16 from Half Island Cove to Dover Road (Hazel Hill) recorded an average daily traffic (ADT) of 1,015 vehicles, whereas the traffic count from Dover Road (Hazel Hill to Canso Town Line recorded an ADT of 1,347 vehicles (Government of Nova Scotia, 2025). Project-related traffic (i.e., contractors, Project personnel) will not significantly contribute to local traffic levels throughout the life of the Project.

3.8.5.1.5.2 Marine Traffic and Navigation

The marine terminal will be located in Chedabucto Bay. Chedabucto Bay is the primary ocean approach to Canso Canal, which connects to the Strait of Canso and Port Hawkesbury / Point Tupper industrial port (CGC, 2026b). Current marine traffic in Chedabucto Bay ranges from small recreational boats and inshore fishing vessels to larger cargo ships, tankers, tugs, and barges associated with industrial and marine terminal activities though limited information is available to indicate the current number of vessels. The marine terminal will be serviced by ocean-going vessels up to approximately 48,000 dwt, consistent with Handymax and Ultramax-class vessels. Project-related marine shipping is anticipated to be a small portion of vessel traffic in Chedabucto Bay with an average of 1.4 vessels per week (i.e., 71 vessels per year) at full production.

A vessel simulation study will be commissioned before construction of the marine terminal begins. The study will be carried out using a real-time, full-mission bridge simulator with a Project-specific model of Chedabucto Bay built from the Proponent's acquired multibeam bathymetry, a Project-specific metocean study (wave climate, water levels, and wind hindcast) and the terminal design layout prepared by the Proponent. The Proponent has requested proposals from experienced marine simulation providers and expects to award the study before the end of 2026. The study will evaluate transit from the shipping lane to/from the approaches, passage through the approach channel, berthing, unberthing, and transit through the departure channel, for the design vessel in ballast and loaded conditions and across the range of wind, wave, and visibility conditions expected at the site. It will determine the environmental limits within which vessels can berth and depart, whether tug assistance is required and under what conditions, and any aids to navigation required to mark the approach and departure channels. The findings will be made available to the APA and Transport Canada.

Any aids to navigation identified by the simulation study as required to mark the approach and departure channels will be installed as private aids to navigation, before the terminal opens, with the approval of the relevant authorities, and inspected and maintained by the terminal.

The Proponent will prepare a Terminal Marine Operations Manual before the terminal opens. The Manual will be a controlled document, held by the terminal and the Lazy Head Pilotage Association, and reviewed annually. It will set out items such as: vessel acceptance criteria for the terminal; pre-arrival, arrival, berthing, loading, unberthing, and departure procedures, including the tidal window for departure; environmental operating limits for pilot boarding, berthing, remaining alongside, and departure, as determined by the simulation study; mooring arrangements; communications procedures, including notification of vessel movements to fishers; emergency procedures; and fishing vessel interaction protocol developed in cooperation with the GCIFA.

A Navigation Safety Committee will be established before the terminal opens, with membership drawn from the GCIFA, the Canso Harbour Authority, the MODG, the Lazy Head Pilotage Association, and the Proponent. The Committee will meet at regular intervals, before and after the commercial fishing seasons, and otherwise as required. The Committee's first task will be to develop a fishing vessel interaction protocol with the GCIFA. The protocol will set out the precise vessel approach and departure channels; the seasons and areas in which fixed fishing gear is set within and adjacent to those channels; the advance notice the terminal will give of vessel movements and the means by which it is given; the very high frequency (VHF) channel and calling procedures for communication between vessels, the pilot boat, and fishing vessels; and the arrangement for reporting and resolving fishing gear interactions.

The protocol will form part of the Terminal Marine Operations Manual and will be reviewed by the Committee each year.

4. Part D: Federal, Provincial, Territorial, Indigenous and Municipal Involvement and Effects

This section describes federal, provincial, territorial, Indigenous, and municipal involvement in the Project. Section 4.3 describes where authorities have jurisdiction over aspects of the Project or where potential effects of the Project are anticipated on matters under the jurisdiction of various authorities. This overview includes powers, duties, or functions in relation to the assessment of the Project's potential effects and various anticipated permits, licenses, or other authorizations that may be required for the Project.

Potential Project effects on aquatic and marine fish and fish habitat are addressed in Section 5.1.1 and potential impacts on migratory birds in Section 5.1.2. Potential effects on relevant Indigenous Peoples are described in Section 5.2. Such effects include anticipated changes to physical and cultural heritage, current use of lands and resources for traditional purposes, and any structure, site or thing of historical, archaeological, paleontological, or architectural significance to Indigenous Peoples.

4.1 Federal Funding Support

No public or government funding is required for the Project. Project funding is discussed in Section 2.1.2.

4.2 Federal Lands

No changes to the environment resulting from the Project are anticipated to occur on federal lands, in a province other than NS, or outside of Canada.

The nearest federal land is at Fox Island, a potential future protected area as part of the proposed Atlantic Archipelago National Wildlife Area (NWA) (Government of Canada, 2026; IAAC, 2026. Fox Island is located 2.4 km from the boundary of the PA, approximately 2.2 km from the nearest vessel approach pathway, and approximately 2.9 km from the established Transport Canada shipping route in Chedabucto Bay, which the vessels departing from the marine terminal will be tying into. Although not currently designated as an NWA, ECCC's Canadian Wildlife Service (CWS) conducts research at Fox Island as it provides important habitat and critical functions for migratory birds. Fox Island is located more than 2 km from both the PA and the Project's proposed vessel routes. At these distances, airborne noise and light associated with marine terminal operations and vessel traffic would be substantially attenuated prior to reaching the island. While vessel transit noise may occasionally be audible under favourable atmospheric conditions, such events would be intermittent and temporary in nature. Vessel navigation and operational lighting associated with the marine terminal may occasionally be visible during nighttime operations and under favourable viewing conditions. Similar to noise effects, effects associated with lighting would be temporary, infrequent, and restricted to vessel transit periods.

Given the separation distance, the absence of permanent human receptors, the existing marine acoustic environment within Chedabucto Bay, the intermittent nature of vessel movements, and proposed mitigation measures, Project-related noise and light is not expected to result in any significant adverse effects to terrestrial species, largely migratory bird habitat and migratory birds on Fox Island. Potential effects to migratory birds and mitigation measures are further discussed in Section 5.1.2.

The submerged seabed and lands of the MSA are on Crown Lands under provincial jurisdiction, as confirmed by the Proponent through DNR Land Administration. The proposed marine terminal access road includes Crown land administered by the Province of NS under the NS *Crown Lands Act*, which will be obtained for Project activities through the Crown Land Lease process.

4.3 Jurisdictional Involvement

The applicable federal, provincial, and local regulatory frameworks required for Project construction, operation, and closure are outlined in Table 4.3-1. Potential adverse Project impacts within federal jurisdiction will be addressed through robust federal regulatory review and permitting processes, as identified in Table 4.3-1. An Industrial Approval authorized under the NS *Environment Act* (*Activities Designation Regulations* and *Approval and Notification Procedure Regulations*) will be required following receipt of the provincial Environmental Assessment approval. All associated work programs must be carried out in compliance with legislation and additional requirements such as the Workplace Health and Safety Regulations and the Labour Standards Code of NS.

The Lazy Head Marine Terminal Project is a designated Project pursuant to the *Physical Activities Regulations* under the IAA. As defined in Section 2.2, the Project includes the construction, operation, and closure of a new marine terminal, designed to accommodate ships larger than 25,000 dwt. Based on the size of the vessels proposed to be utilized (48,000 dwt), the marine terminal triggers the requirement for assessment under Section 52 of the Schedule to the *Physical Activities Regulations*.

The Proponent has confirmed through DNR Land Administration that the lands and submerged seabed surrounding the marine terminal are on Crown Lands under provincial jurisdiction.

Canada and NS ratified the *Co-operation Agreement between Nova Scotia and Canada on Environmental and Impact Assessment* in March 2026. The Agreement sets forth the mutual commitment to achieve “one project, one review”. The agreement establishes a framework for coordinated federal and provincial environmental and impact assessments in NS, with the objective of following a single assessment process for projects that trigger both assessment processes under the relevant legislation. The Agreement acknowledges the robustness of the provincial EA regime, informed by science and Indigenous and community knowledge. The approach promoted by the Agreement reflects the ancillary nature of Project components and allows for a comprehensive, transparent evaluation of potential environmental effects, mitigation measures, and engagement activities across the full scope of Projects, while avoiding duplication of information and supporting an efficient review by both provincial and federal authorities.

In addition to the impact assessment processes, other federal, provincial, and municipal authorizations, permits, licences, and approvals will be required for Project construction and operation, as outlined in Table 4.3-1.

It is anticipated that federal and provincial regulatory requirements will be met through a streamlined, coordinated process, consistent with the principle of “one project, one review” and with current initiatives at the federal and provincial levels to improve the effectiveness and efficiency of regulatory reviews.

Table 4.3-1 Applicable Regulatory Framework

Legislation	Requirements and/or Prohibitions	Regulatory Authority
Federal		
Impact Assessment Act and *Physical Activities Regulations*	Assessment of marine terminal under Section 52 of the Schedule to the *Physical Activities Regulations.* Paragraph 31(1)(b) of the IAA allows to substitute the federal assessment for a harmonized process.	IAAC
Fisheries Act	Authorization is required for direct or indirect disturbance of any fish or fish habitat from Project activities.	DFO

Legislation	Requirements and/or Prohibitions	Regulatory Authority
Migratory Birds Convention Act, 1994 – Migratory Birds Regulations	It is prohibited to kill, harm, capture, possess, or trade migratory birds or their nests or eggs, to destroy or disturb nests containing live birds or viable eggs, or to deposit harmful substances in waters or areas migratory birds frequent, except as authorized by regulation or permit.	ECCC
Canada Wildlife Act and Regulations	Activities that have the potential to adversely affect wildlife are prohibited in National Wildlife Areas and Migratory Bird Sanctuaries.	ECCC, CWS
Species at Risk Act	Physical disturbance and/or destruction of SAR and/or habitats are prohibited.	DFO/ECCC
Canadian Environmental Protection Act	Pollution prevention measures are required to protect the environment and associated risks to human health.	ECCC
Transportation of Dangerous Goods Act and Regulations	Anyone handling, offering for transport, or transporting dangerous goods must classify the goods, ensure employees are trained and certified, use approved means of containment, apply required safety marks and placards, prepare compliant shipping documents, maintain Emergency Response Assistance Plans where required, report releases, and comply with inspection and enforcement provisions.	Transport Canada (TC)
Explosives Act and Regulations	Use of explosives must be authorized and applicable licences, permits, or certificates must be obtained for their manufacture, storage, transport, import/export, and use. Compliance is mandatory for storage, security screening, training, transportation, reporting, and inspection requirements.	Natural Resources Canada
Canadian Navigable Waters Act	Approval required for construction of a marine terminal.	TC
Canada Shipping Act	Applies to marine safety, navigation, and environmental protection in Canadian waters.	TC
Marine Transportation Security Act – Marine Transportation Security Regulations	Applies to safe operation of marine vessels and facilities.	TC
Canada Labour Code, Part II – Maritime Occupational Health and Safety Regulations	Provides health and safety standards.	TC
Atlantic Pilotage Act	Establishes a legal framework for safe marine navigation and pilotage services within Canada.	Federal Minister of Transport
Provincial		
Environment Act – Activities Designation Regulations	Water approval and/or notifications are required for watercourse or wetland alterations resulting from development of the access road	ECC
Endangered Species Act and Regulations	Prohibits killing, injuring, disturbing, taking, or interfering with endangered or threatened species and/or their habitats.	DNR
Wildlife Act and Regulations	Prohibits taking, hunting, killing, or possessing protected wildlife species (e.g., eagles, osprey, falcons, hawks, owls).	DNR

Legislation	Requirements and/or Prohibitions	Regulatory Authority
Crowns Lands Act	Any occupation or use of Crown land must be authorized by DNR, comply with prescribed terms and conditions, protect boundaries and environmental values, and align with the Act's objectives of sustainable land management, biodiversity protection, and public interest, with enforcement measures for unauthorized use.	DNR
Occupational Health and Safety Act (1996) and Regulations	Projects must operate under regulated labour standards.	NS Department of Labour, Skills and Immigration
Environment Act – On-site Sewage Disposal Systems Regulations	In unserviced areas, sewage waste is managed through private on-site septic systems, which are governed by provincial legislation.	ECC
Environment Act – NS Drinking Water Standards and Guidelines	In unserviced areas, drinking water quality, testing, and treatment requirements are regulated by provincial legislation.	ECC
Public Highways Act	Driveway access must be approved for public safety.	NS Department of Transportation
Municipal		
Municipal Planning Strategy	Ensure consistency with applicable Municipal Planning Strategy policies. Industrial facilities and resource extraction are governed by the MODG Municipal Planning Strategy and Land Use By-law.	MODG
Collection of Solid Waste & Recyclables By-law (By-law #4, amended 2022)	Businesses are subject to mandatory separation of garbage, recyclables, and compostables, container weight and size limits, animal-proof storage, private disposal of construction, demolition, and prohibited wastes.	MODG
Noise Control By-law (originally adopted as By-law #16, amended)	Prohibition of noise or combination of noises exceeding thresholds of 65 A-weighted dBA from 6:00 AM to 11:00 PM and 55 dBA from 11:00 PM and 6:00 AM.	MODG
Municipal Building Bylaw	Building / development permits are required for all types of construction including new buildings and structures. Occupancy permit is also required. Public Works Department must approve connections to municipal sewer and / or water systems.	MODG

5. Part E: Potential Effects of the Project

This section outlines the potential changes the Project may cause in both the natural and human environment. To inform IAAC's decision-making, it also describes the mitigation measures planned to be implemented for the Project to address potential adverse effects. These mitigation measures are well-established, widely used, and expected to effectively reduce the Project's potential negative impacts.

5.1 Potential Changes to Federally Regulated Environmental Components

5.1.1 Fish and Fish Habitat

Fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*, and aquatic species, as defined in subsection 2(1) of *SARA*, may be affected directly and indirectly by Project development.

Fish species that may occur within the MSA include a variety of pelagic, demersal, and migratory fishes known to utilize coastal waters of NS. Species that may be affected by the Project include Atlantic cod (*Gadus morhua*), Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), pollock (*Pollachius virens*), Atlantic halibut (*Hippoglossus hippoglossus*), winter flounder (*Pseudopleuronectes americanus*), and lumpfish (*Cyclopterus lumpus*). Benthic species known to occur within the area include American Lobster, Atlantic Rock Crab, Blue Mussel, Sea Scallop, Common Sand Dollar, and Sea Stars. These species may utilize habitats within the MSA for foraging, spawning, migration, nursery habitat, and other life processes. Marine plants identified within the MSA include filamentous and branched red algae, serrated wrack (*Fucus serratus*), brown kelp seaweed, whip weed, and other brown algae, including laminar, branched and ribbon-like forms.

Aquatic SAR identified through ACCDC records and DFO aquatic SAR and critical habitat mapping include Atlantic Salmon, Southern Uplands populations (*Salmo salar*), Atlantic Sturgeon (*Acipenser oxyrinchus*), American Eel (*Anguilla rostrata*), Striped Bass (*Morone saxatilis*), Leatherback Sea Turtle (*Dermochelys coriacea*), Harbour Porpoise (*Phocoena phocoena*), Fin Whale (*Balaenoptera physalus*), Northern Wolffish (*Anarhichas denticulatus*), and Spotted Wolffish (*Anarhichas minor*) as species of conservation concern potentially occurring within the broader marine environment of Chedabucto Bay. Eelgrass (*Zostera marina*), an ecologically significant marine plant species which provides habitat structure and nursery habitat for a variety of fish and invertebrate species, was identified a potentially occurring within coastal areas of the Chedabucto Bay. However, National Eelgrass Dataset for Canada (NETForce) habitat mapping and Project-specific underwater habitat surveys did not identify eelgrass within the MSA. Eelgrass-associated habitat functions, including habitat that may be used by juvenile lumpfish, are therefore considered limited within the MSA and the Project is not expected to result in any loss or alteration of eelgrass habitat or ecological function. No other ecologically significant marine plant habitats are known to potentially occur within the MSA.

The Project footprint represents a small proportion of the marine habitat available in the region and is not expected to result in the loss or alteration of regionally important aquatic habitat features. Project-related interactions with fish, fish habitat, aquatic SAR, and other species of conservation concern are expected to be incidental, localized, and unlikely to result in measurable adverse effects on regional populations or habitat functions.

Potential effects of the Project on fish and fish habitat, including SAR, proposed mitigation measures, and applicable regulatory review mechanisms are summarized in Table 5.1-1.

Table 5.1-1 Potential Effects on Fish and Fish Habitat

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Direct habitat loss	Design marine terminal to minimize footprint to the extent possible	FAA
Death of fish	Fish rescue in advance of in-water work may be required, dependent on construction activities	Apply DFO's Interim Standard: Fish capture and relocation
Changes to water quality	Project-specific Erosion and Sediment Control Plan related to in-water work during marine terminal construction	FAA

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on fish and fish habitat.

5.1.1.1 Potential Effects Pathways

Project construction and operation have the potential to result in direct and indirect effects to fish and fish habitat for the marine terminal, as further explained below.

Fish and fish habitat and aquatic SAR are protected under federal legislation by the *Fisheries Act* and SARA. Any Harmful Alteration, Disruption, or Destruction (HADD) of fish habitat will require authorization under Section 35 of the *Fisheries Act*. DFO will review impacts to aquatic SAR as part of the FAA.

Construction of the marine terminal has the potential to cause direct and indirect effects to fish and fish habitat through direct loss of fish habitat, increased noise levels resulting in disturbance to fish, and changes to water quality from sediment deposition during in-water works construction.

The Project may result in impacts to fish, fish habitat, and marine mammals due to noise and vibration caused by terminal construction and vessel traffic. Noise from construction and operation may impact fish, fish habitat, and marine mammals through underwater noise from construction activities, vessel traffic during operation, or vibrations transmitted through the ground during construction of the terminal. Construction of the terminal may result in underwater noise from placement of materials in the water and pile driving activities. Noise caused by vessel traffic may impact marine mammals when present near the terminal. Underwater noise can impact fish and marine mammals by causing avoidance of habitats while the noise occurs, which could result in preventing individuals from accessing habitat required to carry out life processes, or interfering with communication between individuals which may result in changes to behaviour, or difficulty communicating, finding prey or avoiding predators.

A geotechnical program was initiated in summer of 2026. Geotechnical results may support dredging to minimize the footprint of the marine terminal or increase the depth at the berth. If dredging is required, this would result in the alteration of fish habitat through removal of cover provided by large substrate materials and vegetation, along with deepening near shore habitats. This may result in the alteration of potential spawning and rearing habitat for species that utilize the near shore areas. While the habitat may be altered as a result of dredging, the habitat would still be available to fish in the area and would continue to function as habitat for fish and other marine life to carry out life processes. Dredging would result in less of an impact to fish and fish habitat in comparison to direct impact where habitat would be permanently lost. Dredging would allow for the habitat to continue to function as fish habitat where direct loss would remove the habitat's function resulting less near shore habitat for the species utilizing the area.

Marine shipping activities associated with the Project may affect fish and fish habitat through generation of underwater noise, vessel wake, propeller wash, routine operational discharges, and accidental events. Potential effects on fish include behavioural disturbance, masking of biologically important sounds, habitat avoidance, altered migration patterns, and physiological stress. Potential effects on fish habitat include increased turbidity, sediment resuspension, shoreline erosion, disturbance of benthic and marine plant communities, degradation of water quality, and introduction of aquatic invasive species. Accidental spills or vessel incidents may result in direct effects on fish and habitats that support feeding, spawning, nursery, migration, and overwintering functions.

5.1.1.2 Proposed Mitigation

The location of Project infrastructure, including the marine terminal and access road from the processing plant to the terminal, have been optimized in the PA. As detailed in Section 2.5.2, the current iteration of the Project design has reduced impacts to the extent possible. Where avoidance of impacts to fish and fish habitat is not feasible, other mitigation measures must be employed to further reduce impacts to fish and fish habitat.

Direct and indirect impacts to fish and fish habitat will be offset and compensated for in accordance with the *Fisheries Act* and the DFO Fish and Fish Habitat Protection Program. A fish habitat offset plan will be developed in consultation with DFO, the Mi'kmaq of Nova Scotia, and relevant stakeholders.

A Project-specific Environmental Management Plan (EMP) will be developed and implemented prior to Project development. The EMP will be implemented during construction, operation, and closure phases of the Project. It will be designed to ensure the Project complies with the permits and licenses under which the Project will operate (*e.g.*,

Fisheries Act, FAA, Industrial Approval, ECC wetland and watercourse approvals). The focus of the EMP will be to ensure regulatory compliance, monitor the effectiveness of mitigation measures, and verify effect predictions.

Mitigation for the development of the marine terminal will focus on avoiding and minimizing effects on fish and fish habitat, including implementation of buffer zones during in water disturbances, and management of activities that may affect water quality (e.g., sedimentation, runoff, accidental release). Additional measures will include timing restrictions for in-water works, sediment and erosion controls, and monitoring programs to verify effectiveness, with adaptive management applied as needed to ensure compliance with the *Fisheries Act*.

Project planning included adjustments of the marine terminal location and design to reduce impacts to fish and fish habitat to the extent possible. Fish will be protected during the construction of the marine terminal through the implementation of site-specific Erosion and Sediment Control Plan (ESCP). The ESCP will be developed, in advance of any in water disturbance, and reviewed by a qualified aquatic ecologist or equivalent professional. Appropriate measures will be incorporated to protect fish and fish habitat from sedimentation risks, in accordance with applicable regulatory guidelines and best practices.

Dependent on the construction activities associated with the marine terminal (i.e., use of turbidity curtain to define active work area), a Fish Rescue may be completed as per the DFO Interim Standard: Fish Capture and Relocation (DFO, 2026). While the requirement for a rescue and specific capture methods, if required, will be finalized during permitting, the general approach could involve a combination of passive trapping, seine netting, dip netting, and electrofishing in habitats and for species where each is effective. Timing of fish rescue activities will be closely coordinated with habitat dewatering or other water diversion/infilling activities during construction.

Proposed mitigation to the acoustic environment is discussed in Section 5.3.1 and the recommended mitigation measures are anticipated to reduce impacts to fish and marine mammals. Impacts resulting from underwater noise can be mitigated by monitoring for presence of marine mammals prior to construction activities, allowing for planning of work to avoid impacting marine mammals when present near the MSA, and consideration of sensitive timing windows, such as breeding. If required through the Project permitting process, hydroacoustic monitoring during construction would be used to measure underwater noise levels. Noise thresholds, developed in consultation with DFO and other stakeholders, would be established to trigger additional mitigation measures where necessary to further reduce potential impacts on fish and marine mammals.

Appropriate mitigation measures regarding construction activities within Chedabucto Bay will be determined in consultation with DFO during Project permitting. The Project will be designed and managed with consideration of appropriate standard IAAC mitigations for protection of fish and fish habitat. Mitigation measures applicable to the Project include, but are not limited to, the following:

- Isolate in-water works from fish-bearing waters, where possible, to minimize the extent, duration, and intensity of sedimentation.
- Implement measures to protect fish and fish habitat, including adherence to fisheries timing windows, maintenance of fish passage, and the safe capture and relocation of fish from isolated work areas.
- Implementation of mitigation measures applicable to pile driving, including the following:
- Use vibratory methods over impact pile driving, where feasible.
    - Use sound attenuation measures and soft-start procedures to reduce underwater noise.
    - Monitor underwater noise levels, where deemed required through consultation with DFO. If noise thresholds are exceeded or fish mortality is observed, work will be halted and additional mitigation measures will be implemented, as required.
- Develop a Marine Mammal Detection and Response Plan to prevent and/or minimize effects to marine mammals from pile driving, dredging, and/or other activities during construction that could produce noise levels harmful to marine mammals. The Marine Mammal Detection and Response Plan will be developed in consultation with DFO, and consider the following:
    - Identify, in consultation with DFO, the underwater noise thresholds that are protective of marine mammals;

- If deemed required through consultation with DFO, employ a marine mammal observer who is a qualified individual to detect and report the presence of marine mammals within the established acoustic boundaries, starting 30 minutes prior to and throughout the duration of activities generating underwater noise. Carver will develop appropriate mitigation measures, in consultation with DFO if marine mammals are detected in the vicinity of the marine terminal construction.
- Not start or immediately stop activities if marine mammals are detected within their respective acoustic boundaries. Activities may resume only once the marine mammals have left the boundary area or have not been sighted for at least 30 minutes.

– Overprinting of fish habitat and other activities that cause residual harmful alteration, disruption, or destruction of fish habitat, and death of fish that cannot be otherwise mitigated, the following measures will be taken:
  - Develop and implement a DFO-approved fish habitat offsetting plan, in consultation with Mi'kmaq of Nova Scotia and DFO to compensate for residual impacts to fish and fish habitat that cannot be avoided or mitigated.
  - Ensure any offsetting measures include additional mitigation to address potential adverse effects associated with the offsetting activities, as required.
– Installation of structures in fish habitat:
  - Use only non-treated wood materials (e.g., pre-cast concrete, steel, plastic) for construction in fish bearing waters, where feasible. If the use of non-treated materials is not feasible, only use wood treated with water-based preservatives.

5.1.1.3 Regulatory Review

The *Fisheries Act* prohibits the carrying out of any work, undertaking, or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or otherwise mitigate the death of fish or HADD of fish habitat, then an authorization (e.g., an FAA under Subsection 35(3) of the *Fisheries Act*) is required for the Project to proceed. In an FAA application, proponents are required to detail the potential effects of a project on fish and fish habitat, as well as measures proposed to avoid and otherwise mitigate those effects, and to provide a plan for offsetting any remaining effects.

SARA prohibits killing, harming, harassing, capturing, or taking an individual of an aquatic SAR listed under SARA, and damaging or destroying the habitat of one or more individuals of aquatic SAR. If a project is unable to avoid or mitigate harmful effects on aquatic SAR or habitats, then an application for a SAR permit under SARA is required before the Project may proceed. DFO is responsible for aquatic SAR and will review potential impacts during the FAA process. In the application, proponents are required to describe potential effects of the project on SAR, measures to minimize and monitor the effects impacts, and monitoring of the effects of the Project on the SAR.

The Proponent will follow the recommendations and other mitigation measures to minimize impact to fish SAR and their habitat outlined by DFO in the Measures to Avoid Causing Harm to Fish and Fish Habitat (DFO, 2018).

5.1.2 Migratory Birds

Migratory birds, as defined in subsection 2(1) of the MBCA, may be directly or indirectly impacted by the Project. Potential impacts on migratory birds, proposed mitigation measures, and applicable regulatory review mechanisms are summarized in Table 5.1-2.

The pathway through which potential effects on migratory birds are conveyed depends on the physical characteristics of the site along with the behavioural adaptability, presence and interaction with the species limiting factor (e.g., habitat supporting staging, nesting, roosting, foraging) and population resilience. The diverse terrestrial habitat types found within the PA, primarily the rocky shoreline of Chedabucto Bay, provide potential suitable nesting habitats for a wide variety of bird species, such as passerines, arboreal birds, coastal species, and nightjars. Table 5.1-2 provides the complete list of avifauna which may be impacted by the Project, based on a review of each species' habitat requirements and a comparison with the habitat characteristics of the MSA.

Table 5.1-2 List of Avifauna that may be Impacted by the Project

Common Name	Scientific Name	Ranking	Description
Alder Flycatcher *	*Empidonax alnorum*	S5B	Alder Flycatcher typically inhabits wet thickets, brushy meadows, shrubby wetlands, overgrown beaver ponds, or in thickets of alder as well as buckthorn, willow, maple and other wetland trees. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
American Crow	*Corvus brachyrhynchos*	S5	The American Crow is a habitat opportunist, highly adaptable to living in any variety of habitats, including close to humans, provided some trees are present for nesting. Interactions between this species and the Project may occur.
American Goldfinch	*Spinus tristis*	S5	Goldfinches are highly adaptable to living near humans, and prefer openings such as weedy fields, floodplains and other overgrown areas, feeding exclusively on seeds. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
American Goshawk	***Astur atricapillus***	**S3S4**	The American Goshawk is a hawk with short, broad wings and long tail, which typically inhabits large tracts of forest with more than 60% closed canopy, away from populated areas, and is known for fiercely defending its nest. It preys on a variety of birds, mammals and reptiles, occasionally carrion and insects.
American Redstart *	*Setophaga ruticilla*	S5B	The American Redstart prefers moist, deciduous woodlands with abundant shrubs, often near water including alder and willow thickets in treefall gaps within old-age forests. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
American Robin *	*Turdus migratorius*	S5B, S3N	The American Robin is a habitat opportunist, inhabiting areas as diverse as residential properties, city parks, to wild places such as woodlands and forests. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
Bay-breasted Warbler*	***Setophaga castanea***	**S3S4B, S4S5M**	Bay-breasted Warblers breed mostly in mature boreal forests of spruce and fir, but less frequently in other coniferous trees such as hemlock or pine, or in mixed forests with birch or maple. Typically, they prefer older forests, often near water. This species was observed within the PA during field surveys. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Black-and-white Warbler *	*Vermivora cyanoptera*	S5B	Black-and-white Warblers are typically found inhabiting deciduous or mixed forests of deciduous trees and conifers. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
Black-capped Chickadee *	*Poecile atricapillus*	S5	Black-capped Chickadees can be found in all forest types, as well as open woods, parks, thickets, and disturbed areas. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
Black Guillemot *	*Cepphus grylle*	S4B	Black Guillemots breed along rocky ocean coasts and islands, where they seek out crevices in the rocks for nesting, and usually forage in shallow marine waters near the nest during breeding season. Based on this species' habitat preferences and the characteristics of the PA, and the observation of a (likely) breeding pair, interactions between the project and this species may occur.
Black-throated Green Warbler *	*Setophaga virens*	S4B	The Black-throated Green Warbler can be found inhabiting a wide variety of forest habitats, including conifer forests, mixed-hardwood forests, and swamps. Based on this species' habitat preferences and the characteristics of the PA, interactions between the project and this species may occur.
Blackpoll Warbler *	***Setophaga striata***	**S3?B, S5M**	Blackpoll Warblers typically inhabit boreal forests of black spruce and tamarack, eating spiders and insects as their chief source of food. They will also eat fruits during migration. Based on this species' habitat preferences and the characteristics of the pA, interactions between the project and this species may occur.
Black-backed Woodpecker	*Picoides arcticus*		Black-backed Woodpeckers are year-round residents of NS, occurring in forests of pine, spruce, fir, hemlock, tamarack or larch, white cedar, and sometimes aspen; however, it prefers recently burned areas, including not just coniferous forest but occasionally also burned or insect-infested deciduous forest. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Boreal Chickadee *	***Poecile hudsonicus***	**S3**	Boreal chickadees inhabit mostly mature coniferous forests, usually balsam fir and spruce and often near water, where they feed primarily on insects and seeds. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Canada Jay	*Perisoreus canadensis*	S3	The Canada Jay typically breeds in boreal and subalpine forests associated with black or white spruce trees. Other tree species often found in its habitat include aspen, white birch, balsam fir, sugar maple, lodgepole pine, jack pine, and red spruce, among others. This species was observed within the MSA during field surveys. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Cedar Waxwing *	*Bombycilla cedrorum*	S5B	Cedar Waxwings prefer deciduous, coniferous, and mixed woodlands along streams, as well as grasslands, old fields, and desert washes. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Chipping Sparrow *	*Spizella passerina*	S4B, S5M	Chipping sparrows occupy a wide variety of forest types, including grassy forests, woodlands, parks, forest edges, and tree-lined backyards. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Cape May Warbler *	*Setophaga tigrina*	S3B, SUM	Similar to the Blackpoll and Bay-breasted Warblers, the Cape May Warbler breeds in forests of mature spruce and fir, especially where spruce budworm is present along forest edges. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Common Eider	*Somateria mollissima*		The Common Eider inhabits Arctic and subarctic coastal marine habitats in a circumpolar distribution that includes Russia, northern Europe, Alaska, Canada, and Greenland. The species spends its entire life cycle in marine environments: it nests in large colonies, mostly on marine islands, and forms large aggregations in inshore coastal regions outside of the breeding season (Wildlife Species of Canada, 2015). This species may congregate and forage within the coastline but is not anticipated to breed within or near the MSA.
Common Grackle	*Quiscalus quiscula*	S5B	Common Grackles are well-adapted to a variety of landscapes, including open forests, grasslands, forest edges, meadows and swamps. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Common Tern *	*Sterna hirundo*	S3B	Common Terns are found across much of Canada, and breed primarily on freshwater and marine islands from the subarctic to the U. S. Based on this species' habitat preferences and the site characteristics, this species may congregate and forage near the coastline but is not anticipated to breed within or near the MSA. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Common Yellowthroat*	*Geothlypis trichas*	S5B	This small songbird prefers wet areas with dense low vegetation but can also be found in dry upland habitats such as pine forests, hedgerows, orchards and river edges. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Dark-eyed Junco *	*Junco hyemalis*	S4S5	Dark-eyed Juncos inhabit coniferous or mixed-wood forests and are frequent guests to backyard feeders. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Double-crested Cormorant	*Nannopterum auritum*	S5B	Double-crested Cormorants are colonial waterbirds. In addition to fishing waters, cormorants need perching areas for the time they spent resting each day, usually in high, airy perches to dry off and digest their meals—rocks, wires, tops of dead trees, ship masts. Although it is unlikely that the MSA contains suitable breeding habitat, interactions between the project and migrating or fishing cormorants may occur.
Downy Woodpecker *	*Dryobates pubescens*	S5	The Downy Woodpecker is typically found in open woodlands, particularly deciduous woods and along streams, as well as orchards, parks, suburbs and backyard feeders. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Eastern Wood-Pewee	*Contopus virens*	SARA Special Concern	Eastern Wood-Pewee nests primarily in mature and intermediate-aged deciduous and mixed forests with open areas (less often in coniferous forests) and a sparse understory. It is frequently associated with forests dominated by sugar maple (Acer saccharum), elm (Ulmus sp.), and oak (Quercus sp.). It typically frequents clearings and the forest edge near its nest (COSEWIC 2012). Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Evening Grosbeak	*Coccothraustes vespertinus*	SARA Special Concern	The optimal nesting habitat for the Evening Grosbeak typically includes mature, open mixed forests dominated by fir or white spruce species and where spruce budworms are abundant. Outside the breeding season, the species appears to rely heavily on seeds produced by various trees, such as fir and spruce in the boreal forest, and is also attracted to ornamental trees that produce seeds or fruit and to bird feeders containing sunflower seeds (COSEWIC 2016). Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Golden-crowned Kinglet *	*Regulus satrapa*	S5	Golden-crowned Kinglets breed in boreal or montane coniferous, deciduous and mixed forests, wooded bogs, conifer plantations, hemlock groves, and groves in urban sites. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Hairy Woodpecker *	*Dryobates villosus*	S5	Hairy Woodpeckers can commonly be found in mature conifer and deciduous woodlands with medium to large trees, as well as near urban areas such as parks and cemeteries. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Hermit Thrush *	*Catharus guttatus*	S5B	Hermit Thrushes can be found in a wide variety of habitats, including boreal forests in the north, and open deciduous woods in the southern part of their range. Preferred habitats include forest openings, pond edges, glades and areas opened by falling trees. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Herring Gull *	*Larus argentatus*	S5	Herring Gulls can inhabit a wide variety of environments, such as open water, intertidal zones, mud flats, landfills, fields, and food processing plants. They generally prefer to breed in open areas with good visibility for predators. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Magnolia Warbler *	*Setophaga magnolia*	S5B	This songbird prefers dense stands of young conifers, particularly spruce. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Nashville Warbler *	*Leiothlypis ruficapilla*	S4B, S5M	The Nashville Warbler prefers mixed-species forests, as well as tamarack and spruce-dominant forests. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Northern Flicker *	*Colaptes auratus*	S5B	Northern Flickers can be found in a variety of habitats, including woodlands, forest edges, open fields with scattered trees. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Ovenbird *	*Seiurus aurocapilla*	S5B	Ovenbirds generally inhabit large, mature broadleaf or mixed forests with deep leaf-litter, preferring larger tracts of uninterrupted forest. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Palm Warbler *	*Setophaga palmarum*	S5B	Palm Warblers prefer boreal forests with thick ground cover. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Pileated Woodpecker *	*Dryocopus pileatus*	S5	Pileated Woodpeckers prefer mature deciduous or mixed deciduous-coniferous forests of every type, including hemlock stands to beech and maple forests. They can also be found in younger forests that have scattered, large, dead trees or a ready supply of decaying, downed wood. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Pine Siskin	*Spinus pinus*		Pine Siskins generally nest in open coniferous or mixed forests, but can also be commonly found in parks, cemeteries, and suburban woodlands, where they breed in ornamental conifers or deciduous trees. They prefer feeding in open forest canopies where cone seeds are abundant, but will also forage in deciduous forests, thickets, meadows, grasslands, weedy fields, roadsides, chaparral, and backyard gardens and lawns (Cornell University, 2026). Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Purple Finch *	*Haemorhous purpureus*	S5B, S4N	Purple Finches generally prefer moist, cool evergreen forests, but will also inhabit mixed forests, along wooded streams, and in tree-lined suburbs. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Purple Sandpiper	*Calidris maritima*		Purple Sandpipers are a non-breeding, migrating visitor to NS, which nest in arctic tundra, including stony plateaus, moorlands, upland ridges, and wetter lowlands. Migrants typically forage and roost within rocky areas along coastlines, not often seen inland during migration. Much of the population winters along rocky marine shorelines, often visiting muddy or sandy shorelines during the spring migration period. Although they do not breed within NS, the Purple Sandpiper may occur along the MSA shoreline during the winter months.
Red Crossbill*	*Loxia curvirostra*	S4	Red Crossbills prefer mature coniferous forests, especially spruce, pine, fir, hemlock, or larch with recent cone crops. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Red-breasted Nuthatch *	*Sitta canadensis*	S4S5	Red-breasted Nuthatches live and breed primarily in coniferous forests of spruce, fir, pine, hemlock, and larch. Eastern populations use more deciduous woods, including aspen, birch, poplar, oak, and maple. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Ruby-crowned Kinglet *	*Corthylio calendula*	S4B, S5M	Ruby-Crowned Kinglets are commonly found in spruce-fir forests across Canada, as well as mixed woods, coniferous and deciduous forests. These birds nest high in trees, and so prefer older, taller, and denser stands to younger ones. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Spruce Grouse	*Canachites canadensis*	S4	Spruce Grouse inhabit only coniferous forests; red spruce, black spruce, white spruce, and balsam fir, sometimes with a component of larch, form most of its habitat. Bogs and forest edges also hold this species. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Swainson's Thrush *	*Catharus ustulatus*	S4B, S5M	Swainson's Thrush breed mainly in coniferous forests throughout most of its range. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
White-throated Sparrow *	*Zonotrichia albicollis*	S4S5B, S5M	White-throated Sparrows inhabit coniferous or deciduous forests up to treeline elevations, especially around openings with low, dense vegetation; regenerating forests following harvesting, fires, or insect damage, as well as edges of ponds, meadows, and bogs. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Yellow-bellied Flycatcher *	*Empidonax flaviventris*	S4B, S5M	Yellow-bellied Flycatchers breed in boreal coniferous forests, bogs, swamps, and peatlands with a thick cover of moss and an understory of shrubs and saplings. Frequently found in black spruce-dominant stands with heath, blueberries, laurel, rhododendron, and Labrador tea in the understory, as well as wet boreal forests and deciduous patches near streams. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Yellow-rumped Warbler *	*Setophaga coronata*	S5B	Yellow-rumped Warblers breed in mature coniferous and mixed coniferous-deciduous woodlands. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Great Black-backed Gull *	*Larus marinus*	S4S5	This gull forages for food over the open ocean, along shorelines, and at landfills and fishing docks, breeding in isolated places such as small islands, rocky islets, saltmarshes, and barrier beaches. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Herring Gull *	*Larus argentatus*	S5	Herring Gulls can inhabit a wide variety of environments, such as open water, intertidal zones, mud flats, landfills, fields, and food processing plants. They generally prefer to breed in open areas with good visibility for predators. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Red-breasted Merganser *	***Mergus serrator***	**S3S4B, S4N**	Red-breasted Mergansers are diving ducks that often are observed fishing near shorelines. This species breeds in vegetation near water within the boreal forest region, including northern Nova Scotia/Cape Breton. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.

Common Name	Scientific Name	Ranking	Description
Willet *	*Tringa semipalmata*	S3B	Willets (east coast subspecies) typically breeds in the coastal marshes, barrier islands and barrier beaches of Atlantic Canada, but can also be found foraging open beaches, bayshores, marshes, mudflats, and rocky coastal zones. Based on this species' habitat preferences and the characteristics of the MSA, interactions between the project and this species may occur.
Note: Bold – denotes SOCI avifauna * – Avian species protected under the MBCA			

The Project footprint represents a small proportion of the avifauna habitat available in the region and is not expected to result in the loss or alteration of regionally important aquatic habitat features. Project-related interactions with avifauna are expected to be incidental, localized, and unlikely to result in measurable adverse effects on regional populations or habitat functions.

Potential effects of the Project on migratory birds, including SAR, proposed mitigation measures, and applicable regulatory review mechanisms, are summarized in Table 5.1-3.

Table 5.1-3 Potential Effects on Migratory Birds

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Habitat loss and alteration	Reduce the shoreline disturbance associated to minimize potential effects to migratory bird habitat. Implement Environmental Emergency Response and Spill Contingency Plan.	Guidelines to Avoid Harm to Migratory Birds - Establishing Buffer Zones and Setback Distances (ECCC, 2023)
Sensory disturbance	Implement sound and dust suppression. While meeting all regulatory, operational, and safety requirements, minimize light attraction and disorientation of migratory birds through the following measures: 1. Directional lighting- illuminate only areas where light is essential. 2. Optimized lighting design- reduce the total amount of lighting required. 3. Shielded fixtures- minimize glare and prevent light spillage into non-essential areas.	Guidelines to Avoid Harm to Migratory Birds - Establishing Buffer Zones and Setback Distances (ECCC, 2023)
Injury and mortality	Clear vegetation outside of nesting season or conduct pre-clearing nest surveys. Establish setback distances from known or identified nests. Manage stockpiles to discourage ground and nesting and burrow-nesting birds. Maintain speed limits. Install bird deterrents, where appropriate. Collect and treat all contact water prior to discharge. Before initiating relevant project activities: 1. Survey for nests and residences (under the direction of a qualified individual), using non-intrusive, habitat-appropriate methods to determine the presence or likely presence of migratory bird nests and SAR residences. 2. Establish setback distances (under qualified direction), delineate no-work buffers around all confirmed or likely nests and residences, in accordance with ECCC's Guidelines on buffer zones and setback distances, maintaining buffers for as long as nests/residences are legally protected.	Guidelines to Avoid Harm to Migratory Birds - Establishing Buffer Zones and Setback Distances (ECCC, 2023)

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Accidental Release of Hazardous Substances	Carver will ensure that contractors implement appropriate measures to prevent fuel leaks from equipment. An Emergency Response and Spill Contingency Plan will be developed and implemented for the Project. The Proponent will ensure that contractors are aware of and comply with the requirements of the MBCA, which prohibits the deposit, or permitting the deposit, of oil, oil wastes, or other substances harmful to migratory birds in waters or areas frequented by migratory birds. To reduce the risk of environmental contamination, biodegradable alternatives to petroleum-based chainsaw bar oils and hydraulic fluids for heavy equipment will be considered wherever practicable. The use of such products, which are readily available from major manufacturers, will be incorporated as a best management practice whenever feasible. Fuelling and servicing of equipment will not take place within 30 m of environmentally sensitive areas, including shorelines.	MCBA, 1994 s. 5.1

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on migratory birds and habitat. These include Guidelines to Avoid Harm to Migratory Birds - Establishing Buffer Zones and Setback Distances.

5.1.2.1 Potential Effects Pathways

Migratory birds are protected under federal legislation by the MBCA and through provincial legislation. Migratory birds and their habitats may be directly or indirectly affected due to Project activities as outlined below.

Fox Island is located approximately 2.4 km northwest of the PA, 2.2 km from the nearest vessel approach pathway, and 2.9 km from the established shipping route. At these distances, airborne noise and light impacts associated with marine terminal operations and vessel traffic would be substantially attenuated prior to reaching the island. While vessel transit noise and light may occasionally be audible under favourable atmospheric conditions, such events would be intermittent and temporary in nature.

Given the separation distance, the absence of permanent human receptors, the existing marine acoustic environment within Chedabucto Bay, and the intermittent nature of vessel movements, Project-related noise and light impacts are not expected to result in any significant adverse effects to migratory bird habitat and migratory birds on Fox Island. Any response by birds would be expected to be limited to short-term behavioural reactions during isolated vessel pass-by events, with no anticipated measurable effect on habitat availability, breeding success, or population persistence.

Habitat loss and alteration due to shoreline disturbance during marine terminal construction, including placement of materials along the marine shoreline. Sensory disturbance due to the increase of noise, lighting, and vibration during construction, operation, and closure. Injury and mortality of birds and destruction of nests due to shoreline disturbance associated with marine terminal construction. Injury and mortality may occur from accidental releases of hazardous material. Marine shipping activities may affect migratory birds through vessel presence, noise, artificial lighting, air emissions, habitat disturbance, and accidental events. Potential effects include behavioural disturbance, habitat avoidance, displacement from feeding or resting areas, increased energy expenditure, attraction or disorientation associated with vessel lighting, collision risk, and changes in habitat quality. Accidental spills may result in direct mortality, injury, and degradation of habitats and food resources used by migratory birds. Repeated exposure may contribute to cumulative effects when combined with other anthropogenic stressors in the marine environment.

5.1.2.2 Proposed Mitigation

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on migratory birds and their habitats, including protection of key habitats (e.g., nesting, foraging, and staging areas), establishment of buffers, and management of activities that may cause disturbances such as noise, lighting, and vessel traffic. If construction disturbance would occur during shorebird nesting periods, nest sweeps would be implemented for any shoreline

disturbance associated with the marine terminal. Additional mitigation measures could include implementation of lighting management practices to reduce attraction/disorientation, where practicable, and monitoring with adaptive management to ensure compliance with the MBCA.

Carver will avoid destruction of active nests identified on the shoreline prior to any disturbance for the marine terminal construction. Nest surveys will be completed prior to any disturbance on the shoreline to ensure the absence of active nests.

Carver will implement noise and light reduction mechanisms for the marine terminal to be implemented during construction, operation, and closure of the Project, including covered marine terminal conveyors. Project lighting design and operation will meet regulatory, operational, and health and safety requirements to mitigate attraction and disorientation of migratory birds and will consider the Convention on Migratory Species International Light Pollution Guidelines for Migratory Species. Effects of the Project on noise and light are discussed in Section 5.3.1 and 5.3.3, respectively.

Bird deterrents will be used to keep the birds away from infrastructure, where applicable.

Carver will implement an Environmental Emergency Response and Spill Contingency Plan to protect birds and their habitat from accidental spills. Restoration plans will be implemented to restore natural habitat to support migratory birds.

5.1.2.3 Regulatory Review

The federal MBCA and its regulations protect migratory birds and their eggs and prohibit the disturbance, damage, destruction, or removal of migratory bird nests that contain a live bird or a viable egg. Migratory birds are protected at all times; all migratory bird nests are protected when they contain a live bird or viable egg; and the nests of 18 species listed in Schedule 1 of the MBR 2022 are protected year-round. These general prohibitions apply to all lands and waters in Canada, regardless of ownership.

Section 5.1 of the MBCA describes prohibitions related to depositing substances harmful to migratory birds:

“5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

(2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, result in a substance – in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area – that is harmful to migratory birds.”

Carver acknowledges that it is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

For species listed in Schedule 1 of the Migratory Birds Regulations, 2022, certain nests may be subject to conditional management provisions. Removal or disturbance of these nests may only occur where a written notice has been provided to the Minister of the Environment within the period specified in Schedule 1, and where the nest has not been used by migratory birds since the notice was received. Such nests may be registered in the Abandoned Nest Registry to initiate the applicable waiting period.

Studies have been undertaken, as detailed in Section 3.7 to characterize the marine environment and to predict potential changes within the PA. Marine waters within the PA are subject to various regulatory requirements, of which those of federal jurisdiction apply to aquatic SAR and fish and fish habitat.

5.1.3 Potential Changes to Jurisdictional Waters

As described in Section 3.3, the MSA and thus the marine terminal component of the Project is located within provincial waters, as confirmed through DNR Land Administration. To the Proponent’s knowledge, no other province has laid claim to waters within Chedabucto Bay, and as such the Project will not be located within interprovincial or federal waters. As described in Section 2.3.1, the main structure of the marine terminal (i.e., the rubble mound)

extends approximately 270 m from the shoreline, with some additional length added by the fixed dock; the marine terminal does not extend beyond the mouth of Chedabucto Bay and is therefore solely within NS's jurisdiction.

The submerged seabed surrounding the marine terminal (i.e., the MSA) falls under provincial jurisdiction for purposes of land ownership; however, Canada maintains jurisdiction over certain aspects of coastal waters. As listed in Section 4.3, this jurisdiction is related to the potential impacts of the marine terminal on navigable waters under the *Canadian Navigable Waters Act*, to fish and fish habitat under the *Fisheries Act*, and to SAR under SARA. These impacts, if any, would be addressed through the appropriate approvals processes enabled by each of the Acts, based on detailed designs to be developed at that stage.

5.2 Potential Impacts to Indigenous Peoples: Mi'kmaq of Nova Scotia

As discussed in Section 3.8, the Project is within Mi'kmaq of Nova Scotia traditional territory, and the Mi'kmaq likely participate in current use of land and resources for traditional purposes in the PA and surrounding areas. The Project does not intersect with any Indigenous Reserve Lands, active comprehensive land claim agreements, nor with specific land claims to the best of the Proponent's knowledge.

5.2.1 Indigenous Land and Resource Use

The Mi'kmaq of Nova Scotia have historically used lands and resources throughout NS for traditional purposes. As discussed in Section 3.8.2, a MEKS was completed and results indicate Indigenous harvesting occurs in coastal areas of Chedabucto Bay and possibly in the PA.

Current use of lands and resources for traditional purposes may be affected directly and indirectly by Project development due to activities undertaken for construction, operation, and closure, due to exclusion from secured areas, reduction in available natural resources, and changes to landscapes and viewscapes. Table 5.2-1 provides a summary of potential effects pathways, proposed mitigation, and regulatory requirements for addressing effects on current use of lands and resources for traditional purposes.

Table 5.2-1 Potential Effects on Current Use of Land and Resources for Traditional Purposes

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Reduction in availability of fish resources	Incorporate ecological and traditional knowledge from MEKS into Project planning where feasible to mitigate impact to traditional fishing grounds, where possible. Implement measures (noted in other sections) to address potential effects on fish, (e.g., from dust deposition, disturbances due to noise or light) on availability of resources for use. Work with Indigenous groups on vessel routing to identify Indigenous harvesting areas and culturally significant marine use areas for application of low-impact shipping corridors and, where appropriate, designated areas to be avoided during peak harvesting periods. Prohibit employees and contractors associated with the Project from fishing, hunting, trapping, gathering plants, and using off-road vehicles for recreational purposes within the PA, or from using the PA to access surrounding areas for these purposes, unless such access is granted specifically to enable the exercise of Indigenous rights.	Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) Government of Nova Scotia Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act IAAC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Altered landscape/viewsheds supporting traditional use and cultural practices	Incorporate ecological and traditional knowledge from MEKS into Project planning to avoid any identified important sites where feasible. Implement a post-closure reclamation plan during Project operation to reduce the duration of disturbance and alteration. Reduce artificial light outside of daytime hours where practical. Direct light downwards and internal to the Project site. Utilize design of marine terminal lighting and natural topography to reduce light spill where practical. Conduct progressive reclamation of areas temporarily disturbed by the Project to progressively return them to a state as close as possible to, or better than, baseline once they are no longer required for the Project, including: – Identify plant species of interest in consultation with Indigenous groups for use in establishing self-sustaining vegetation communities; – Invite Indigenous groups to participate in the reclamation activities.	Mi'kmaq Ecological Knowledge Study Protocol 2nd Edition by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (no date) Government of Nova Scotia Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act IAAC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on current use of lands and resources for traditional purposes. These include measures to reduce recreational use of lands and resources by Project workers and for progressive reclamation.

5.2.1.1 Potential Effects Pathways

Current Mi'kmaq resource use activities, such as fishing, will be constrained within the MSA. The various activities listed in Table 5.2-2 as physical works for construction, operation, and closure may affect Mi'kmaq of Nova Scotia Rights concerning access to land and resources used for traditional harvesting and other cultural activities.

Sensory disturbances from the Project, including elevated noise and light levels, may potentially alter marine mammals and fish, as well as the experience of traditional land use activities during Project construction, operation, and closure. The surrounding viewscape may be affected with the development of the marine terminal. The post-closure marine environment will be altered with the rubble mound and fixed dock remaining within Chedabucto Bay.

5.2.1.2 Proposed Mitigation

The MEKS provided valuable information regarding current use of lands, waters and resources for traditional purposes. Carver will incorporate ecological and traditional knowledge from the MEKS into Project planning and design to avoid and/or minimize Project interactions with identified traditional use sites where feasible.

Mitigation for the proposed Project will focus on avoiding and minimizing effects on current use of lands and resources for traditional purposes, including fisheries and traditional harvesting activities, through early and ongoing engagement with Indigenous groups and incorporation of traditional knowledge in Project planning and implementation.

To mitigate potential effects on fish and fish habitat Carver will incorporate ecological information and traditional knowledge from the MEKS into Project planning, design, and implementation where feasible. Where available, this information will be used to identify environmentally and culturally sensitive areas and to inform appropriate avoidance and mitigation measures.

Ongoing engagement with the Mi'kmaq will inform identification of other potential mitigation measures relative to the marine terminal.

5.2.1.3 Regulatory Review

Carver has considered ecological and traditional knowledge from the MEKS into Project design as a best management practice to reduce Project effects on Indigenous Peoples, where applicable. Carver is also committed to continued engagement with the Mi'kmaq of Nova Scotia throughout the life of the Project.

Relevant provincial and federal guidance documents include the Proponents' Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia (2011), IAAC Guidance: Protecting Confidential Indigenous Knowledge Under The Impact Assessment Act, IAAC Guidance on Indigenous Knowledge Under the Impact Assessment Act: Procedures for Working With Indigenous Communities, and IAAC Indigenous Policy Framework for Project Reviews and Regulatory Decisions. These are being used to guide discussions with the Mi'kmaq and to inform Project personnel about Indigenous engagement and management of Indigenous knowledge.

Effects on the Mi'kmaq of Nova Scotia land and resource use are also addressed indirectly through federal legislation regarding fish and/or wildlife, as well as regulatory controls related to dust, vibration, noise, light, and other matters.

5.2.2 Physical and Cultural Heritage

Project activities have the potential to result in damage or removal of physical and cultural heritage resources, including any structure, site, or thing of historical, archaeological, paleontological, or architectural significance. As discussed in Section 3.8.4, no Indigenous or non-Indigenous heritage resources have been identified in the PA. One area of high archaeological potential for Indigenous heritage resources was identified along the coastline based on natural landscape features. Additionally, subsea coastal areas may also have potential for the presence of unknown archaeological features.

Heritage resources may be affected directly and indirectly by Project development from activities such as clearing and grubbing, and construction of infrastructure. Potential effects on archaeological resources, proposed mitigation measures, and applicable regulatory review mechanisms are summarized in Table 5.2-2.

Table 5.2-2 Potential Effects on Physical and Cultural Heritage

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Loss of Mi'kmaq archaeological resources (cultural landscapes, sites, features, and artifacts)	Reduce infrastructure footprint where feasible. Avoid areas of elevated potential for Mi'kmaq archaeological resources where feasible. If seafloor ground disturbance cannot be avoided in any part of the MSA, identified as having elevated archaeological resource potential, it is recommended that it be accompanied by archaeological monitoring. If Project development plans will not result in observable sediment displacement, archaeological monitoring will not be required. Implement mitigation measures to protect and manage chance finds for any previously unidentified heritage resources discovered in the PA: – Immediately halt work at the location of a discovery; – Delineate an area around a discovery as a no-work zone; – Notify Indigenous groups and IAAC within 24 hours of a discovery and allow Indigenous groups to monitor archaeological works; – Develop mandatory training on chance finds, which includes the identification of sensitive locations within the PA and the implementation of the above measures; and deliver training to all employees and contractors associated with the Project.	Mi'kmaw Archaeological Protocols by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (2024) Statement of Principles Regarding Archaeological Resources Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs (2016) NS *Special Places Protection Act* (1989)

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological or architectural significance. These include measures to address chance finds in line with the NS *Special Places Act.*

5.2.2.1 Potential Effects Pathways

Activities listed in Table 5.2-2, such as physical works for construction of the marine terminal, could result in disturbance and/or removal of heritage resources. No Project-related interactions are predicted beyond construction, as operation and closure of the marine terminal are not predicted to result in further disturbance.

5.2.2.2 Proposed Mitigation

Carver will comply with the NS *Special Places Protection Act* for management of heritage resources. If previously unidentified archaeological resources are encountered, all work in the associated area(s) will be halted. Carver officials will contact the Coordinator of the Special Places Program of the Department of Communities, Culture, Tourism and Heritage and the Mi'kmaq, as appropriate, to determine next steps.

Mitigation for the marine terminal will focus on avoiding and minimizing effects on physical and cultural heritage resources, including archaeological sites and areas of cultural significance, through Project design that avoids known heritage resources. Additional measures will include archaeological monitoring during disturbance, and chance-find procedures, whereby work will cease, and appropriate authorities engaged if previously unidentified resources are encountered, to ensure protection of heritage resources.

The Project will be designed and managed with consideration of appropriate standard IAAC mitigations for protection of physical and cultural heritage and structures, sites or things of historical, archaeological, paleontological, or architectural significance, where applicable.

In addition, Carver will follow the recommendations provided in the ARIA, which advises archaeological monitoring to occur by qualified archaeologist during ground disturbance within the MSA, if disturbance cannot be avoided as part of Project development. If development activities in the marine environment will not result in observable sediment displacement, archaeological monitoring is deemed as not required.

5.2.2.3 Regulatory Review

Effects on the Mi'kmaq of Nova Scotia and physical and cultural heritage are addressed through provincial legislation, including the *Special Places Protection Act*. This Act protects known and unknown heritage objects, which it defines as archaeological, historical, or palaeontological objects or remains. Carver will comply with the Act and coordinate with the NS Special Places Program as appropriate.

The Mi'kmaw Archaeological Protocols published by Maw-lukutijik Saqmaq Assembly of Nova Scotia Mi'kmaw Chiefs defines Mi'kmaq archaeological resources as cultural landscapes, sites, features, and artifacts. Carver will consider Indigenous cultural heritage in Project decision-making to help minimize, and where possible eliminate, effects on physical and cultural heritage. The Proponent's engagement program on behalf of Carver with the Mi'kmaq of Nova Scotia is described in Section 1.4.2.

5.2.3 Indigenous Health, Social and Economic Conditions

Indigenous health, social, and economic conditions are linked to general socioeconomic conditions as described in Section 3.8.3. Limited publicly available information was found to specifically describe the health, social, and economic conditions of the Mi'kmaq in Nova Scotia. However, the health and wellbeing of Indigenous Peoples is connected to potential effects on air quality, light, noise and vibration, water quality, and effects on country foods (e.g., fish, birds, animals, plants). This Section addresses potential health, social and economic impacts of the Project on the Mi'kmaq in Nova Scotia.

Impacts may be experienced through effects on Aboriginal and Treaty Rights (e.g., current use of lands and resources for traditional purposes, including the ability to make a modest living) and reduced ability to undertake cultural practices (e.g., ceremonies, knowledge transfer) as well as physical and cultural heritage (e.g., loss or disturbance of archaeological and spiritual sites). These impacts are discussed in other sections of this report and not repeated in this section.

Table 5.2-3 Potential Effects on Health, Social, and Economic Conditions of the Mi'kmaq in Nova Scotia

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Health and Social Wellbeing: – Effects on health (e.g., changes in access to traditional lands and waters, country foods, harvesting activities, cultural continuity, environmental quality) – Effects on social determinants of health (e.g., community wellbeing, socioeconomic conditions)	Maintain ongoing engagement with the Mi'kmaq in Nova Scotia. Maintain access to harvesting areas where feasible. Implement air quality, noise, vibration, traffic, marine safety, and emergency response plans. Coordinate with health and emergency service providers. Participate in monitoring and adaptive management programs. Enhance opportunities for employment, procurement, training, capacity building, and participation in Project monitoring to support improvements to social determinants of health and promote positive health and wellbeing.	Impact Assessment Act IAAC Guidance on Indigenous Participation in Impact Assessment. Analyzing Health, Social and Economic Effects under the Impact Assessment Act by Impact Assessment Agency of Canada (2020). Interim Guidance: Health Impact Assessment of Designated Projects under the Impact Assessment Act by Health Canada (2024). A Quick Guide to Indigenous-Led Health Impact Assessment by Centre for Indigenous Environmental Resources (2026). Indigenous Health Impact Assessment: Systematic Review of the Literature by National Collaborating Centre for Indigenous Health (2026) Understanding Indigenous Health Inequities Through a Social Determinants Model by National Collaborating Centre for Indigenous Health (2022).
Economy / Employment: – Economic benefits (e.g., changes in employment, income, economic, and business growth) – Effects on other sectors (e.g., changes in marine access, shipping activity, labour availability)	Pursue partnerships and MBAs to provide sustainable and long-term socioeconomic benefits based on input from the Mi'kmaq. Implement the following mitigation measures to create and enhance opportunities for the Mi'kmaq (including Indigenous women and Indigenous businesses) to obtain and retain employment, procurement or contracting opportunities related to the Project, as appropriate: – Identify and communicate prerequisite skills and training, both certified and uncertified, required to be employed by the Project; – Identify existing gaps in relation to the prerequisite skills and training that may be employed by the Project and describe additional measures (under Carver's control) for filling gaps, including provision of on-the-job training and apprenticeship programs; – Inform, using targeted communication procedures, of skills and training prerequisites and measures to achieve prerequisites; – Inform of Project-related employment and procurement opportunities, using targeted communication procedures designed in consultation with the Mi'kmaq; – Promote equitable hiring and promotion processes; – Support transition of Indigenous employees through the decline in employment and contracting opportunities during Project decommissioning and post-closure.	

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
	Implement the following mitigation measures to promote safe, respectful, and inclusive conduct in the workplace and community, as appropriate: – Implement a workplace anti-harassment, anti-bullying, anti-discrimination, and anti-violence policy that incorporates gender appropriate, gender-specific, and culturally appropriate policies and processes; – Implement a workplace policy on use and possession of drugs and alcohol to prohibit the use of, or being under the influence of, illicit drugs or alcohol during work hours; – Develop mandatory cross-cultural awareness training and provide training to all employees and contractors associated with the Project; – Establish a worker code of conduct that outlines expectations and requirements in relation to measures developed to promote safe, respectful, and inclusive conduct in the workplace and the community while incorporating above policies; – Implement a fair and timely process to investigate and resolve incidents and complaints from Project employees.	

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on health, social and economic conditions of Indigenous Peoples. These include measures to address air quality, noise and vibrations in line with management of these issues through provincial legislation and standards in NS, as well as measures to create employment and business opportunities and to promote safe, respectful and inclusive workplaces and communities for Indigenous Peoples.

5.2.3.1 Potential Effects Pathways

Various activities listed, such as physical works for construction, operation, and closure, all contribute to employment and economic opportunities for the Mi'kmaq of Nova Scotia, as well as non-Indigenous communities. Project spending and employment are outlined in Section 2.1.1. Potential positive effects of the Project include employment opportunities, construction and operations jobs, skills training, contracting opportunities, MBAs, and community capacity building.

The health of Indigenous Peoples, including the Mi'kmaq, is intrinsically linked to access to traditional lands that support cultural practices such as hunting, fishing, and gathering of country foods – not only as sources of nutrition, but as foundations of identity, mental wellness, and intergenerational knowledge transmission. Restricted access to traditional lands can disrupt cultural continuity and contribute to adverse health outcomes, and result in other effects such as land dispossession, food insecurity, and loss of cultural connection. These effects are also discussed in Section 5.2.1.

Potential effects on Indigenous health care may occur through changes in demand for health, emergency, mental health, and community support services associated with Project activities, workforce requirements, and population changes. Adverse effects could occur if increased demand places pressure on existing health care resources or affects access to services both on and off reserves. Conversely, positive effects may result from enhanced emergency response capacity, community partnerships, economic opportunities, and investments that support the improvements to the social determinants of health.

The Project may have indirect adverse implications for Mi'kmaq communities. Shift or rotational employment with natural resource projects may restrict the ability to participate in traditional activities that support community wellness.

While individuals and families would gain financial and other benefits, employment with a project may contribute to labour shortages in other sectors within the community. In addition, increases in temporary or permanent population could result in competition for resource-based activities (e.g., fishing, hunting, gathering).

Natural resource projects may result in boom-bust economic cycles with short-term benefits followed by economic decline. However, the Project has a timeline of nearly 100 years with the potential of resulting in long-term benefits and opportunities for community investment through increased municipal and regional revenues. Also, development projects may result in issues such as higher cost of living (e.g., increased cost of housing due to population increase), especially important for those not participating in a project or gaining from its benefits. However, it is unlikely that non-Indigenous Project-related workers would temporarily or permanently move into Indigenous communities due to regulations regarding possession or occupation of land on a reserve (Government of Canada, 2026) and local policies regarding who may occupy reserve housing.

5.2.3.2 Proposed Mitigation

Mitigation for the Project will focus on avoiding and minimizing adverse effects on Indigenous health, social, and economic conditions, through early, ongoing, and meaningful engagement with Indigenous groups to identify community priorities, incorporate traditional knowledge, and inform Project planning and implementation. Additional measures will include management of Project-related activities (e.g., marine traffic, PA access, workforce interactions), and provision of employment and training opportunities, to reduce potential adverse effects while supporting positive socio-economic outcomes and the continued well-being of Indigenous communities over the life of Project.

Carver will mitigate potential effects on Indigenous health and health care through ongoing engagement with Indigenous communities, maintenance of access to harvesting areas where feasible, implementation of environmental protection measures, coordination with health and emergency service providers, and participation in monitoring and adaptive management programs. Enhancement measures, including Indigenous employment, procurement, training, capacity building, and participation in Project monitoring, will be implemented to support the social determinants of health and promote positive health and wellbeing outcomes.

All phases of the Project will provide direct and indirect employment and procurement opportunities for the Mi'kmaq of Nova Scotia. Specific benefits from construction, operation, and closure spending will depend on any agreements between the Mi'kmaq of Nova Scotia and Carver, availability of the Mi'kmaq labour force, opportunities for Mi'kmaq-owned businesses, and capacity of Mi'kmaq enterprises to provide needed services.

Carver will pursue partnerships and/or MBAs with the Mi'kmaq of Nova Scotia to support sustainable, long-term socioeconomic benefits. Partnerships and agreements will be informed by Mi'kmaq input and priorities and may include provisions related to employment, training, capacity development, and ongoing collaboration.

Carver will engage with the Mi'kmaq of Nova Scotia to develop and implement mitigation measures, which may include targeted employment, training programs, apprenticeships, and focused roles to support Mi'kmaq participation in the workforce and capacity building, and to explore development of a Mi'kmaq procurement strategy to create opportunities for Mi'kmaq-owned businesses. Other opportunities may include support for community-led programs supporting social priorities. To mitigate potential effects on community labour availability and to support Mi'kmaq participation in the workforce, Carver will maintain engagement with Mi'kmaq communities throughout all phases of the Project.

5.2.3.3 Regulatory Review

Carver is committed to continued engagement and discussions with the Mi'kmaq of Nova Scotia to maximize benefits from development and minimize adverse impacts of the Project. Management of potential effects on Indigenous health and wellbeing are informed by the *Impact Assessment Act* and the following associated impact assessment guidance:

– Analyzing Health, Social and Economic Effects under the Impact Assessment Act by Impact Assessment Agency of Canada (2020).
– Interim Guidance: Health Impact Assessment of Designated Projects under the Impact Assessment Act by Health Canada (2024).

– A Quick Guide to Indigenous-Led Health Impact Assessment by Centre for Indigenous Environmental Resources (2026).
– Indigenous Health Impact Assessment: Systematic Review of the Literature by National Collaborating Centre for Indigenous Health (2026)
– Understanding Indigenous Health Inequities Through a Social Determinants Model by National Collaborating Centre for Indigenous Health (2022).

Effects on the Mi'kmaq of Nova Scotia regarding health, social, and economic interests are also addressed through engagement with the Mi'kmaq. First Nations may enter into agreements regarding benefits such as training and employment. Relevant best management practices include meaningful Indigenous engagement, consideration of Indigenous Knowledge, protection of traditional land and resource use opportunities, Indigenous participation in monitoring and follow-up programs, support for cultural continuity and community wellness, and initiatives that enhance Indigenous employment, procurement, and capacity building. Together, these frameworks support a holistic approach to Indigenous health that recognizes the interconnections among physical, mental, emotional, spiritual, cultural, environmental, and socioeconomic wellbeing.

5.3 Potential Effects on Other Environmental and Socioeconomic Components

This section describes potential effects on other environmental and socioeconomic components relevant to the marine terminal as a federal work or undertaking. These discussions supplements Sections 5.1 and 5.2 and are referenced in Section 5.4.

5.3.1 Acoustic Environment

The acoustic environment will be affected by vibrations and noise emissions during all Project phases. Potential effects on the acoustic environment, proposed mitigation measures, and applicable regulatory review mechanisms are provided in Table 5.3-1.

Table 5.3-1 Project Activities and Noise and Vibrations Interactions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to acoustic environment	Infrastructure and conveyors extending on marine terminal will be covered to limit noise and dust pollution. Mobile equipment and Project vehicles will undergo regular services and maintained in good working order. Design of marine terminal eliminates need for in-water blasting. Develop a Marine Mammal Detection and Response Plan.	ECCC's Best Practices for Reduction of Air Emissions from Construction and Demolition Activities Health Canada's Guidance for Evaluating Human Health Effects in Impact Assessment: Noise *Fisheries Act*

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for the acoustic environment. These include measures to address air quality, noise and vibrations in line with management of these issues through provincial legislation and standards in Nova Scotia as well as ECCC's Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (2005) and Health Canada's Guidance for Evaluating Human Health Effects in Impact Assessment: Noise (2023).

Vessel operations generate both airborne and underwater noise. Underwater noise propagates through the marine environment and may be detected by marine mammals, fish, sea turtles, and other aquatic species. Exposure to

elevated noise levels may result in masking of biologically important sounds, behavioural disturbance, habitat avoidance, stress responses, and, in some circumstances, temporary or permanent changes in hearing sensitivity. Repeated exposure may contribute to cumulative effects when combined with existing commercial shipping and other marine activities (NOAA, 2022).

5.3.1.1 Potential Effect Pathways

The Project will generate noise emissions during all phases (i.e., construction, operation, and closure), resulting in higher noise emissions than those typically experienced in a rural setting. Construction noise, while temporary and intermittent, will be generated during construction of the marine terminal. Operational noise will be generated by marine terminal activities associated with ship loading, vessel-related auxiliary equipment while at berth, and marine shipping from the Transport Canada (TC) shipping lane to the marine terminal. Noise experienced during operation will be intermittent. On average, marine terminal operations are anticipated at 1.4 vessels per week (71 vessels per year), with an estimated total loading cycle time per vessel call estimated at approximately 24 hours (including berthing, loading and departure). Noise during closure is anticipated to be temporary and generally lower than peak construction and operation.

Potential adverse effects on marine fish and fish habitat are discussed in Section 5.1.1 (Fish and Fish Habitat).

5.3.1.2 Proposed Mitigation

Mitigation measures were identified to avoid or minimize potential noise and vibration effects associated with Project activities.

Mitigation for the proposed marine terminal will focus on avoiding and minimizing noise effects on Project personnel, neighbouring communities, and the environment, namely fish and marine mammals, and will include implementation of engineering controls and adherence to applicable noise standards and guidelines. Additional measures will include scheduling of high-noise activities, management of vessel operations, and implementation of monitoring and adaptive management programs, to limit exposure, verify effectiveness of controls, and reduce potential disturbance over the life of the Project.

Infrastructure extending the length of the marine terminal will be fully covered to mitigate the impacts of noise.

During construction of the marine terminal the Proponent, in consultation with DFO, will develop a Marine Mammal Detection and Response Plan to manage underwater noise impacts on the marine environment. The Plan will set noise thresholds and foresee the use of qualified marine mammal observers to monitor the nearby area during periods of noisy activities. The Plan will also include the commitment to continuously monitor underwater noise and halt all activities immediately in the event that noise exceeds the set thresholds determined in consultation with DFO.

The design of the marine terminal eliminates the need for in-water blasting. Geotechnical information collected during the summer 2026 marine geotechnical drilling program may support an adjustment in marine terminal design to further shorten the terminal, keeping the facility closer to shore, yet also potentially requiring marine dredging. If dredging is required for the Project, appropriate mitigation measures will be outlined in Project permitting submission application under the *Fisheries Act*, as required.

5.3.1.3 Regulatory Review and Best Management Practices

Noise is regulated provincially under the NS *Workplace Health and Safety Regulations* and the ECC Guidelines for Environmental Noise Measurement and Assessment (ECC, 2023a). The *Workplace Health and Safety Regulations* outline compliance requirements regarding sound levels for all workplaces as per the *Occupational Health and Safety Act*, and the Guidelines for Environmental Noise Measurement and Assessment assist proponents who are required to undertake noise measurement and assessment activities under the *Environment Act*. Appendix 1 of the Guidelines details Permissible Sound Levels to be used to assess compliance at receptor locations.

The MODG Noise Control By-law (originally adopted as By-law #16, amended) municipal noise by-law applies to the Project as it governs noise emissions within the Municipality without excluding industrial operations; however, it

primarily functions as a general nuisance control mechanism and is not typically used as the governing assessment criterion for project approvals, which are instead based on more stringent provincial and federal guidance.

The *Fisheries Act* prohibits the conduct of any work, undertaking, or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. In the event that a Project is unable to avoid or mitigate the death of fish or HADD of fish habitat, an FAA is required for the Project. As part of the FAA application and supporting documentation package, Carver will outline potential effects of the Project on fish and fish habitat, measures to avoid and/or mitigate potential effects, and offsetting for any remaining impacts, under the DFO Framework.

5.3.2 Atmospheric Environment

The atmospheric environment may be affected directly or indirectly through Project activities and development, including use of heavy machinery and equipment, and marine shipping. GHG will be generated throughout the life of Project based on combustion of fuels through equipment and vessel operation.

GHG emissions can contribute to climate change via the greenhouse effect, resulting in an increase of Earth's atmospheric temperature. The impacts of increases in atmospheric temperature are varied and include impacts to ocean temperature and circulation, frequency and intensity of storm events, and changes to habitat conditions for both flora and fauna.

Potential effects to the atmospheric environment, including impact to air quality and increased GHG emissions, proposed mitigation measures, and applicable regulatory review mechanisms are outlined in Table 5.3-2.

Table 5.3-2 ***Project Activities and Atmospheric Environment Interactions***

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to air quality	Develop and implement operational guidelines for personnel and/or equipment, where practicable (e.g., covered conveyor system, limited disturbed areas, equipment maintenance). Cover sources of fugitive dust (i.e., conveyors).	NS *Air Quality Regulations* NS *Workplace Health and Safety Regulations*
Greenhouse gas emissions	Equipment will be maintained in good working order. Emissions and idling times will be reduced and/or avoided, wherever practicable.	NS *Air Quality Regulations* NS *Greenhouse Gas Emissions Regulations* *Canadian Environmental Protection Act*

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's mitigation measures for effects on the atmospheric environment. These include measures to reduce fugitive dust emissions from materials handling, sites operations, and operation of equipment, and operation of noise and vibration generating equipment and processes.

5.3.2.1 Potential Effects Pathways

Construction and operation of the marine terminal will result in air emissions from multiple sources, including marine vessels, cargo handling equipment, and on-site vehicles. These sources will release criteria air contaminants (e.g., particulate matter, nitrogen oxides, sulphur oxides, and carbon monoxide) and greenhouse gases. Bulk material handling may also result in fugitive dust emissions. Emissions may lead to localized degradation of air quality, particularly in areas proximate to the marine terminal, with potential implications for human health and nuisance conditions.

The proximity of the aggregate product piles to the marine terminal is anticipated to reduce emissions associated with the transportation of aggregate materials for shipment, particularly those associated with heavy-duty diesel truck traffic. This represents a reduction in air quality effects compared to scenarios involving longer-distance haulage.

Vessel operations generate exhaust emissions from propulsion and auxiliary engines, resulting in release of air contaminants and greenhouse gases to the atmosphere. Emissions may contribute to increases in ambient concentrations of NOx, sulphur oxides, particulate matter, carbon monoxide (CO), and volatile organic compounds, as well as GHG emissions. Potential effects include changes in local and regional air quality, human health effects, reduced visibility, acid deposition, contributions to ground-level ozone formation, and cumulative effects on the atmospheric environment. For the purpose of this IPD, GHG emissions from vessel operations for the Project are considered from the TC shipping lane to the marine terminal fixed dock, and return.

5.3.2.2 Proposed Mitigation

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on air quality and GHG emissions, including implementation of dust suppression measures (e.g., water spraying or misting), covered conveyors and transfers points, where feasible, to reduce the release of particulate matter and other air contaminants. Additional measures will include management of vessel and vehicle emissions (e.g., limiting idling, regular maintenance), and implementation of air quality monitoring and adaptive management programs, to verify the effectiveness of mitigation and reduce potential effects on surrounding communities and the environment over the life of the Project.

Carver will implement air quality mitigation measures to reduce emissions associated with marine terminal construction and operation. Key measures include installation of dust suppression systems (e.g., water spray and misting systems) at material handling points, enclosure and containment of processing equipment and transfer areas. Low-emission or electric cargo handling equipment will be used where feasible. Operational controls will include limiting activities during high wind conditions, managing vehicle speeds, and minimizing equipment idling. A Fugitive Dust Management Plan will be implemented to support ongoing adaptive management and ensure emissions are effectively controlled.

5.3.2.3 Regulatory Review

Air quality and emission standards for personnel and facilities across NS are regulated under the provincial *Air Quality Regulations*, as per the *Environment Act*. The Regulations outline permissible concentrations for select contaminants, including TSP and ozone. Based on the mitigation measures established to limit the impact of fugitive dust, including the enclosed processing facility, ongoing air quality monitoring is not deemed required. Air quality monitoring will be completed, as requested. The GHG Regulations under the *Environment Act* outline GHG conditions for facilities emitting more than 10,000 metric tonnes of carbon dioxide equivalent per year ($MTCO_2e$/year) and aim to reduce GHG emissions across NS.

Potential impacts of deposition of dust into waters frequented by fish that affects water quality (i.e., changes pH, suspended solids, etc.) and results in harmful alteration, disruption and destruction of fish habitat will be assessed as part of the FAA under the *Fisheries Act*.

The NS *Workplace Health and Safety Regulations* set out compliance requirements for workplaces governed by the *Occupational Health and Safety Act*. With respect to air quality, compliance is determined based on threshold levels established by the Threshold Limit Values and Biological Exposure Indices published by the American Conference of Governmental Industrial Hygienists.

The *Canadian Environmental Protection Act* includes a number of applicable regulations aimed at reducing GHG emissions, such as the *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations* and the *Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations*. These regulations aim to reduce GHG emissions from a variety of sources applicable for the Project.

5.3.3 Visual Environment

The visual environment may be affected by Project development through the introduction of changes to existing lighting conditions due to vehicle and equipment operation, as well as installation of artificial lighting for safety and

security. Changes to ambient light levels, particularly within a rural setting, have the potential to affect both human and ecological receptors.

Potential effects to the visual environment, proposed mitigation measures, and applicable regulatory review mechanisms are outlined in Table 5.3-3.

Table 5.3-3 Project Activities and Visual Environment Interactions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to ambient light levels	Processing plant and transfer points will be fully enclosed to limit light pollution Temporary lighting will be selected, located, and oriented to minimize light spill, glare, and skyglow beyond the active work areas. Project lighting will be limited to that required for safety, security, and active work activities during periods of reduced natural light. No unnecessary light will be used.	Institution of Lighting Professionals Guidance Note 01/21 – The Reduction of Obtrusive Light (ILP Guideline) *Species at Risk Act* MBCA NS *Workplace Health and Safety Regulations*

5.3.3.1 Potential Effects Pathways

Development of Project infrastructure will affect the visual environment compared to the undeveloped conditions of the baseline environment.

All phases of the Project will introduce changes to existing lighting conditions through installation of artificial lighting for safety and security. Changes to ambient light levels, particularly within a rural setting, have the potential to affect both human and ecological receptors. Changes to ambient light levels have the potential to negatively impact terrestrial wildlife (e.g., avifauna) or be a nuisance to identified receptors.

A qualitative light assessment was conducted to analyze the proposed impact of lighting installation for the Project on the surrounding environment. Findings from the assessment were compared with the requirements from the ILP Guideline. According to the Environmental Zone Classification system developed by the ILP, the classification for rural areas, small villages, or relatively dark urban locations is “E2 Low district brightness areas”. No field data was collected as part of this assessment. The Project is located near Lazy Head in Guysborough County, NS, in a predominantly rural setting approximately 4.3 km west of Canso3.0 km northwest of Hazel Hill, and 3.8 km northeast of Fox Island Main. The Project includes an access road and marine terminal, and therefore has the potential to introduce artificial lighting throughout all Project activities. Nearby points of reception are primarily residential and institutional in nature, with the nearest identified receptor located approximately 260 m from the Project boundary. In consideration of the rural setting of the surrounding area, this assessment conservatively assumes a relatively dark nighttime environment for the purpose of qualitatively assessing the potential for obtrusive light and light trespass beyond the Project footprint.

All phases of the Project will introduce changes to the existing lighting conditions through installation of artificial lighting, and from vessels berthing at the terminal.

The marine terminal infrastructure will likely not be visible by the local residential community based on the topography of the coastal environment; however, lighting installed through all Project phases have the potential to affect the visual environment.

5.3.3.2 Proposed Mitigation

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on the visual environment, including terminal design to reduce visual contrast with the surrounding landscape. Additional measures will include management of lighting (e.g., directional lighting, shielding, dimming controls) to reduce glare and light spill, to maintain visual quality and reduce potential effects on nearby receptors over the life of the Project.

Conveyor systems extending along the rubble mound and the transfer points at each end of the rubble mound will be covered to limit light pollution.

Project lighting will be designed to what is required for safety, security, and active work activities during periods of reduced natural light to ensure Project personnel are able to work safely, and to minimize adverse impacts to sensitive ecological and human receptors in the vicinity of the MSA. Motion sensing lighting will be installed in lower traffic areas, where practicable, to reduce unnecessary lighting.

5.3.3.3 Regulatory Review

Light levels are not directly regulated under provincial or federal regulatory regimes; however, the ILP Guideline was used in the assessment of light and is commonly used a standard for establishing appropriate regulatory limits.

SARA outlines the protection of SAR in Canada and includes potential implications of causing an adverse impact to a target species or associated habitat. The MBCA outlines the principles associated with protection of migratory birds, their eggs, and their nests from killing, harming, or disturbance. Changes to ambient light levels through the introduction of artificial project lighting can adversely impact migratory birds.

The NS *Workplace Health and Safety Regulations* set out compliance requirements for workplaces governed by the *Occupational Health and Safety Act*. With respect to lighting, the Act outlines requirements for lighting to be sufficient for tasks, and addresses hazards such as glare and low light levels.

5.3.4 Geology, Soils, and Sediment

Geology, soils, and sediment may be affected directly and indirectly by Project activities. Impacts to geology, soils, and sediment may act as an effect pathway to effects on soil, vegetation, and watercourses. Degraded soil, vegetation, and water quality may expose humans to contaminants via exposure pathways such as ingestion, dermal contact, and inhalation.

Potential effects on geology, soils, and sediment, proposed mitigation measures, and applicable regulatory review mechanisms are summarized in Table 5.3-4.

Table 5.3-4 Project Activities and Geology, Soil, and Sediment Environment Interactions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to water quality via sediment release	Develop and implement an ESCP. Stabilize all erodible areas. Minimize disturbance of marine environment	Guide to Developing Erosion and Sediment Control Plans (ECC, 2025) Canadian Water Quality Guidelines for the Protection of Aquatic Life

5.3.4.1 Potential Effects Pathways

Marine terminal construction will have direct effects to marine sediment through infilling and creating turbid conditions during construction, which may subsequently impact water quality. Operation of the marine terminal will affect sediment movement in the marine environment.

5.3.4.2 Proposed Mitigation

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on geology, soils, and sediment, including implementation of erosion and sediment control measures to reduce sediment disturbance, runoff, and sediment transport during construction. Additional measures will include management of dredging and in-water works (e.g., use of containment measures such as silt curtains, careful sediment handling), as well as monitoring and adaptive management, to limit sediment suspension, maintain seabed stability, and protect the surrounding aquatic environment.

A Project-specific ESCP will be developed and implemented prior to construction to management sedimentation and sediment movement during construction. Turbidity curtains will be installed, as required, during in-water works to manage TSS.

Design of the marine terminal incorporates culverts into the rubble mound to maintain sediment movement and prevent build up of sediment along the mound.

Carver will ensure that any rock sourced for ditch lining will be tested for acid generating potential or any other quality concerns and be suitable prior to use.

5.3.4.3 Regulatory Review

A Guide to Developing Erosion and Sediment Control Plans was released by ECC to provide minimum information required for ESCP submissions by proponents. Carver will adhere to the guidance provided while developing the ESCP for the Project.

Contaminated soil and sediment are regulated via the NS *Contaminated Sites Regulations*. As required by the Regulations, Carver is responsible to take all reasonable measures to prevent, reduce, and remedy adverse effects of potential soil contamination, remove or dispose of the contaminant in a manner that minimizes adverse effects, and remediate the contaminated site in accordance with the Regulations.

5.3.5 Groundwater

Development of the marine terminal is not expected to impact groundwater.

Groundwater resources may be affected directly and indirectly by development of the quarry and associated landside infrastructure. Potential effects, mitigation measures, and applicable regulatory considerations for groundwater will be assessed under the provincial Environmental Assessment process.

5.3.6 Surface Water

The Project has the potential to affect surface water quality or quantity during all Project phases.

Surface water quality in Chedabucto Bay may be temporarily impacted during all Project phases due to increased TSS and disturbance during in-water works, as well as potential for accidental release or spill of petroleum products and lubricants from heavy machinery completing construction activities or marine vessels during approach to terminal or berthing.

Potential effects on surface water, proposed mitigation measures, and regulatory review mechanisms are summarized in Table 5.3-5.

Table 5.3-5 Project Activities and Surface Water Environment Interactions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Changes to surface water quality	Develop and implement an ESCP for in-water works construction. Develop an Emergency Response and Spill Contingency Plan.	Fisheries Act

5.3.6.1 Potential Effects Pathways

Surface water quality may be impacted during all Project phases through potential release of deleterious substance, including sediment (increased TSS) and release of petroleum, oil, and/or lubricants (POL) during construction of the marine terminal and in-water works. Increased marine traffic associated with construction and operation increase the potential for accidental release or spill of POLs, which would result in changes to surface water quality and an adverse effect to the marine environment. This potential effect could occur throughout the life of the Project.

5.3.6.2 Proposed Mitigation

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on surface water. These include measures to address disturbance of sediment in line with federal legislation.

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on surface water quality, including implementation of erosion and sediment control measures. Additional measures will include management of in-water works, such as the use of turbidity and/or silt curtains during construction, and if required, during dredging activities), treatment of collected runoff for suspended solids prior to discharge, and implementation of monitoring and adaptive management programs, to limit sediment dispersion, protect water quality, and maintain the integrity of the aquatic environment.

A Project-specific ESCP will be implemented to minimize impacts of changes to surface water quality during construction and closure activities associated with the marine terminal.

5.3.6.3 Regulatory Review

The *Fisheries Act* prohibits conducting any work, undertaking, or activity, other than fishing, that could result in the death of fish and/or HADD of fish habitat. If a project is unable to avoid or mitigate the death of fish or HADD of fish habitat, then an FAA is required for the Project to proceed. In an FAA application, proponents are required to describe the potential effects of a project on fish and fish habitat, as well as measures proposed to avoid and mitigate those effects, and to provide a plan for offsetting any remaining impacts. Permitting under the *Fisheries Act* will consider potential impacts to surface water through the construction and operation of the Project.

5.3.7 Wetlands

No tidal wetlands were identified in the natural environment around the marine terminal.

No freshwater wetlands are located in the vicinity of the access road extending from the processing plant to the marine terminal. Freshwater wetlands, as defined under Section 3 of the NS *Environment Act*, may be affected directly or indirectly by landside quarry development activities, such as clearing, grubbing, and construction of Project infrastructure. Potential effects on wetlands, proposed mitigation measures, and applicable regulatory review mechanisms will be assessed under the provincial Environmental Assessment process.

5.3.8 Terrestrial Habitat and Flora

Terrestrial habitat and flora may be affected by Project activities associated with development of the access road extending from the processing plant to the marine terminal, through earthworks, and vegetation clearing resulting in direct or indirect loss of habitat. No SAR or SOCI terrestrial flora was identified within the disturbance area of the proposed access road. Potential effects of access road development on terrestrial habitat, proposed mitigation measures, and applicable regulatory review mechanisms will be assessed under the provincial Environmental Assessment process. Terrestrial habitat is not relevant to the natural environment around the marine terminal.

5.3.9 Terrestrial Fauna

Project activities may have direct or indirect impacts on terrestrial wildlife mostly during the construction phase of the access road extending from the processing plant to the marine terminal due to vegetation clearing, earthworks, and vehicle and equipment circulation. Terrestrial fauna is not relevant to the natural environment around the marine terminal.

Potential effects on terrestrial wildlife associated with the landside development, proposed mitigation measures, and applicable regulatory review mechanisms will be assessed under the provincial Environmental Assessment process.

5.3.10 Avifauna

Development can affect birds through direct mortality (e.g., collisions, nest destruction) and indirect pathways including habitat loss and fragmentation, disturbance (e.g., noise, light, human activity), altered food webs, and effects on survival and reproduction. Potential effects on avifauna, proposed mitigation measures, and regulatory review are similar to those described for migratory birds (Table 5.1-3, Section 5.1.2).

5.3.10.1 Potential Effects Pathways

Project developments may affect avifauna through various pathways, including lighting-induced attraction and collision risk, vessel traffic disturbance, coastal and marine habitat alteration, and water quality impacts that influence prey availability. Potential impacts of the Project on avifauna will be regular, but not continuous, and extend into marine ecosystems, potentially affecting both resident and migratory bird species.

Marine shipping activities may affect land birds and seabirds through vessel presence, noise, lighting, air emissions, habitat disturbance, and accidental events. Potential effects on land birds include disturbance, habitat avoidance, attraction to artificial lighting, and indirect effects on habitat quality. Potential effects on seabirds include behavioural disturbance, displacement from feeding and resting areas, attraction to vessel lighting, collision risk, reduced foraging efficiency, and exposure to contaminants. Accidental fuel or cargo spills may result in habitat degradation, direct mortality, and adverse effects on food resources, particularly for marine-associated bird species.

5.3.10.2 Proposed Mitigation

Mitigations for avifauna are typically framed around a hierarchy of avoiding–minimizing–restoring/offsetting tailored to the key pathways of impact (e.g., habitat loss, disturbance from blasting/noise, collision risk).

Mitigation for the proposed marine terminal will focus on avoiding and minimizing effects on avifauna, including design considerations to avoid important bird habitats (e.g., nesting, feeding, and resting areas) to the extent practicable. Additional measures may include management of lighting to reduce attraction and disorientation of birds (e.g., minimizing unnecessary lighting, using directional and shielded fixtures), and incorporation of bird-friendly design features to reduce collision risk, along with monitoring and adaptive management, to minimize disturbance, reduce mortality, and maintain the ecological function of avian habitats over the life of the Project. If construction is scheduled during the shorebird breeding season, nest sweeps will be completed on the shoreline disturbance area, where practicable.

Dedicated bird surveys have been conducted at Lazy Head in 2025 and 2026 to confirm the presence or potential presence of avifauna and to assess potential impacts to these species from Project activities. Final construction and operational footprint designs will consider the results of these surveys to avoid, or otherwise mitigate, adverse effects on avifauna and their habitats, where practicable.

Proposed mitigation measures to reduce potential effects of the marine terminal on avifauna include implementation of bird-friendly lighting (e.g., minimized, shielded, and low-intensity lighting), design measures to reduce collision risk, and timing restrictions to avoid critical breeding and migration periods and sensitive areas. Additional measures include habitat protection and restoration, spill prevention and water quality controls, noise and disturbance management, and the development of monitoring and adaptive management programs. Together, these measures aim to avoid or minimize both direct effects (e.g., collision, disturbance) and indirect effects (e.g., habitat alteration, food web impacts).

5.3.10.3 Regulatory Review

As described in Section 5.1.2, migratory birds are protected under the MBCA and MBR 2002. Through this legislation, it is prohibited to capture, kill, take, injure, or harass migratory birds except as authorized by permit or regulation. The MBCA also prohibits damage, destruction, disturbance, or removal of nests and eggs of migratory birds. Guidance from ECCC, including Avoiding Harm to Migratory Birds and CWS offshore protocols, will be applied to minimize risks associated with construction and operation.

Additionally, provincial legislation protecting wildlife and their habitats help address impacts on birds. Bird nests or eggs may not be disturbed or destroyed except through a permit issued under the NS *Wildlife Act*. NS's Wetland Conservation Policy (ECC, 2019) provides protection of habitats used by various bird species.

5.3.11 Species at Risk and Species of Conservation Interest

SAR, as defined by SARA, as well as SOCI identified by the COSEWIC or the ACCDC, may be directly or indirectly impacted by the Project, throughout all phases (construction, operation, and closure). Potential effects may occur to marine flora and fauna, bird species designated as SAR and/or SOCI, and their habitat (i.e., wetlands, identified critical habitat).

The nature of effects of the Project on SAR can vary based on a number of factors, including: Project location, duration, scale, and configuration; ancillary Project activities, the type of habitat that may be disturbed, and sensitivity of species. Effects could be direct through mortality, or indirect through sensory disturbance, habitat loss and fragmentation, or potential changes to air and water quality.

Table 5.3-6 Potential Effects on SAR and SOCI

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Direct Mortality	Vegetation clearing to take place outside of regional nesting period. If this cannot be avoided, nest surveys must be conducted no more than 3 days prior to construction. Any active nests are to be avoided and a buffer established, per a qualified biologist's recommendation, until the young have fledged and left the nest. Staff will not approach an injured or distressed bird. Construction debris and garbage will be managed and contained to prevent attracting birds. In-water work will be conducted in a sequential manner to avoid trapping or distressing marine SAR or SOCI. Where necessary, a fish rescue plan will be implemented.	*Species at Risk Act* *Fisheries Act* MBCA and MBR Guidelines to Avoid Harm to Migratory Birds (ECCC, 2023)
Habitat Loss and Alteration	Limit habitat disturbance and minimize Project footprint during detailed design, to avoid important habitat types and marine habitats. Where natural, intact habitat cannot be avoided, maintain existing vegetation cover whenever possible and minimize overall areas of disturbance. Vegetation clearing to take place outside of regional nesting period. If this cannot be avoided, nest surveys must be conducted no more than 3 days prior to construction. Any active nests are to be avoided and a buffer established, per a qualified biologist's recommendation, until the young have fledged and left the nest. Conduct land reclamation and re-establishment of vegetation to restore natural habitat to support fauna. An ESCP will be implemented for the Project. Erosion and sediment control planning will be completed for the Project. Conduct fish surveys and fish rescues in advance of in-water work.	

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Sensory Disturbance	Vegetation clearing should take place outside of the regional breeding bird window. Limit use of lights to the amount necessary to ensure safe operation for the Project, with the recognition that excessive lighting can be disruptive to wildlife. Install lighting facing downward and wherever practicable use motion-sensing lights. Prohibit employees and contractors associated with the Project from fishing, hunting, trapping, gathering plants, and using off-road vehicles for recreational purposes within the vicinity of the Project.	
Accidental Release of Hazardous Substances	Carver will ensure that contractors implement appropriate measures to prevent fuel leaks from equipment. An Emergency Response and Spill Contingency Plan will be developed and implemented for the Project. The Proponent will ensure that contractors are aware of and comply with the requirements of the MBCA, which prohibits the deposit, or permitting the deposit, of oil, oil wastes, or other substances harmful to migratory birds in waters or areas frequented by migratory birds. To reduce the risk of environmental contamination, biodegradable alternatives to petroleum-based chainsaw bar oils and hydraulic fluids for heavy equipment will be considered wherever practicable. The use of such products, which are readily available from major manufacturers, will be incorporated as a best management practice whenever feasible. Fuelling and servicing of equipment will not take place within 30 m of environmentally sensitive areas, including shorelines.	MBCA

Various measures considered in this section as applicable legislation or best management practices have been outlined in IAAC's standard mitigation measures for effects on SAR and SOCI. These include measures to address effects on migratory birds in line with management through provincial legislation and standards in NS.

5.3.11.1 Potential Effects Pathways

Project activities may cause greater effects on SAR and SOCI than on other species. SAR and SOCI have typically low population abundance, specific habitat requirements, and higher vulnerability to disturbance. Several of these species have a commercial or recreational interest or are considered of higher importance by the Mi'kmaq of Nova Scotia.

Construction and operation of the marine terminal may result in adverse effects to SAR and SOCI through habitat loss and alteration (e.g., dredging, infilling, clearing), changes in water quality (e.g., increased turbidity, contaminant release), and disturbance associated with noise, lighting, and vessel traffic. These stressors may lead to displacement, reduced reproductive success, altered behaviour, and mortality of marine fish, marine mammals, birds, and terrestrial wildlife. Indirect effects may occur through changes to prey availability and ecosystem function, including disruption of benthic communities and coastal habitats that support sensitive species.

Marine shipping activities may affect marine SAR through underwater noise, vessel presence, habitat disturbance, vessel strikes, changes in water quality, and accidental events. Potential effects include behavioural disturbance, masking of biologically important sounds, habitat avoidance, displacement from feeding and migration areas, reduced prey availability, injury or mortality resulting from vessel collisions, and exposure to contaminants. Accidental spills

may result in direct adverse effects on individuals, critical habitat, and supporting ecological functions. Project-related effects may also interact cumulatively with existing marine traffic and other anthropogenic stressors.

5.3.11.2 Proposed Mitigation

Potential effects to SAR and SOCI will be mitigated through application of various mitigation measures, with emphasis on avoiding impacts where feasible and minimizing those that cannot be avoided. Standard and Project-specific mitigation measures and best management practices will be implemented to reduce effects on marine, aquatic, and terrestrial environments and to maintain the integrity of habitats that support sensitive species.

Mitigation measures for the marine terminal are designed to prevent and reduce potential effects on marine and coastal ecosystems, as well as associated terrestrial and freshwater environments that support SAR and SOCI. These measures emphasize avoidance of sensitive habitats (e.g., fish habitat and bird use areas), minimization of disturbance during construction and operation, and application of additional measures to manage residual effects.

The Project will incorporate design-embedded and additional mitigation measures consistent with applicable regulatory requirements and best management practices to reduce effects on marine fish and fish habitat, marine mammals, migratory birds, and associated habitats during construction and operation. These measures aim to limit habitat loss, disturbance, and changes to aquatic ecosystem within the Project footprint and nearby area.

Standard mitigation measures for marine fish and fish habitat are expected to appropriately mitigate adverse effects on priority marine species. Project-related activities in the marine environment will be subject to permitting under the federal *Fisheries Act*, including an FAA. These permitting processes will address potential effects on priority fish species and outline any required offsetting.

5.3.11.3 Regulatory Review

The following comments are provided with respect to potential effects of the Project on SAR and SOCI, in consideration of applicable federal legislation, including the SARA, and relevant policy and guidance.

The Project will comply with applicable federal legislation governing protection of SAR and SOCI, including SARA, the *Fisheries Act*, and the MBCA. In accordance with these requirements, the Project has been designed to minimize interactions with listed species and their habitats through application and implementation of standard and Project-specific best management practices, where appropriate. These measures include avoidance of sensitive habitats, adherence to timing windows, control of in-water work and sedimentation, management of underwater noise and lighting, and implementation of spill prevention and monitoring programs. Where residual impacts cannot be avoided, appropriate offsetting or restoration measures will be implemented in accordance with regulatory guidance to ensure the protection and recovery of affected species.

In addition to applicable legislation, the Project will implement mitigation measures consistent with federal guidance documents, including DFO codes of practice and standardized mitigation measures for work in or near water, as well as ECCC guidance for the protection of migratory birds. These guidance documents inform the design and implementation of Project-specific mitigation measures to avoid or minimize effects on SAR and SOCI.

5.3.12 Socioeconomic Conditions

An assessment of socioeconomic conditions was conducted for the Project, based on the following considerations:

– Economy and Employment: Throughout its lifecycle, the Project will make a strong contribution to the local and provincial economies and government revenues, while potentially have an adverse effect on other industrial sectors.
– Health and wellbeing: The Project may have beneficial and adverse effects on community health and wellbeing.
– Land use: Lands and development at Lazy Head is regulated through the MODG. Development of the Project requires Crown Land Lease as part of Project development.
– Recreation and tourism: Land and resource use is important to the local economy and recreation in rural areas.

– Transportation: Development activities, including Project personnel and heavy machinery during construction, can result in transportation changes including increased traffic.

A summary of potential effects is presented in Table 5.3-7.

Table 5.3-7 Potential Effects on Socioeconomic Conditions

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
Economy / Employment – Economic benefits (e.g., changes in employment, income, economic, business growth and government revenues) – Effects on other sectors (e.g., changes in marine access, shipping activity, labour availability)	Maximize economic and employment benefits by implementing local hiring and procurement strategies. Providing training and apprenticeship opportunities. Communicate contract opportunities in a timely manner. Support workforce development initiatives. Monitor employment and procurement outcomes throughout the Project lifecycle. Maintain ongoing engagement with stakeholder, commercial fisheries, tourism operators, and other relevant sectors to minimize disruptions to existing economic activities throughout the Project life cycle.	*Impact Assessment Act* Canada Labour Code NS *Occupational Health and Safety Act* IAAC Health, Social and Economic Effects Guidance *Fisheries Act* *Canada Shipping Act, 2001* *Canadian Navigable Waters Act* *Marine Transportation Safety Regulations* National Standard of Canada for Psychological Health and Safety in the Workplace (CSA/BNQ) NS Emergency Management Office Frameworks MODG Municipal Planning Strategy and Land Use By-law.
Health Status / Health Care – Health benefits (e.g., indirect improved health status through increased employment, income, and workforce development) – Health care benefits (e.g., indirect increased capacity in local services and infrastructure due to population stability / increase, or community investments) – Effects on health (e.g., changes in air quality, noise, vibration, traffic, marine safety, community wellbeing)	Maximize local and employment opportunities. Support workforce development. Implement employee health and wellness programs. Collaborate with community organizations and service providers. Implement air quality, noise, vibration, traffic, marine safety, emergency response, and occupational health and safety management plans. Maintain ongoing engagement with communities and stakeholders throughout the Project life cycle. Coordinate with local health and emergency service providers. Provide on-site medical and emergency response capabilities.	
Land Use Planning – Consistency with municipal planning strategies and land-use by-laws – Compatibility with adjacent land uses	Maximize local and employment opportunities. Support workforce development. Implement employee health and wellness programs. Collaborate with community organizations and service providers. Implement air quality, noise, vibration, traffic, marine safety, emergency response, and occupational health and safety management plans. Maintain ongoing engagement with communities and stakeholders throughout the Project life cycle.	

Effect Pathway	Proposed Mitigation	Regulatory Review & Best Management Practices
	Coordinate with local health and emergency service providers. Provide on-site medical and emergency response capabilities.	
Recreation / Tourism (e.g., changes in access, traffic, noise, vibration, visual quality, marine use, visitor perceptions)	Maintain public access where feasible. Implement air quality, noise, vibration, traffic, marine safety, and emergency response plans. Implement progressive reclamation. Consider future tourism and recreational activities in closure planning. Schedule disruptive activities to minimize interference with peak recreational and tourism periods where practicable. Maintain ongoing engagement with stakeholders, recreational users, tourism operators, and municipalities.	

5.3.12.1 Potential Effects Pathways

The following effects pathways illustrate the mechanisms through which Project activities may interact with socioeconomic conditions. These pathways are intended to support the assessment of potential effects on economy and employment, health status and health care, land use planning, recreation and tourism, and other socioeconomic components.

Marine terminal construction and operation may affect socioeconomic conditions through changes in employment, economic activity, marine access, vessel traffic, recreation, tourism, commercial fisheries, land use, community wellbeing, and service demands. Beneficial effects are generally associated with employment creation, business opportunities, and increased economic activity, while adverse effects may result from changes in marine use, access restrictions, increased shipping activity, noise, visual effects, and interactions with existing marine and coastal users.

5.3.12.2 Proposed Mitigation

Potential socioeconomic effects identified through the effects pathways assessment may be mitigated through Project design, standard environmental management practices, operational controls, engagement activities, monitoring programs, and adaptive management measures. Where adverse effects are identified, mitigation measures are intended to avoid, minimize, or manage potential effects on communities, land users, businesses, recreation and tourism operators, and other socioeconomic receptors. Conversely, where beneficial effects are anticipated, enhancement measures may be implemented to maximize opportunities for local and regional employment, business development, workforce training, and community wellbeing.

Carver will mitigate potential adverse socioeconomic effects associated with the marine terminal through implementation of marine traffic management, stakeholder and Indigenous engagement, liaison with fisheries organizations, access management, visual, noise and lighting controls, community communication programs, and emergency response planning. Measures will be implemented to maintain compatibility with existing marine and coastal uses, reduce disruptions to commercial fisheries, recreation and tourism, and protect community wellbeing. Carver will also implement local hiring, training, and procurement initiatives to maximize Project-related economic benefits and support long-term socioeconomic development.

5.3.12.3 Regulatory Review

The regulatory review examined federal, provincial, and municipal legislative, regulatory, and policy frameworks applicable to addressing socioeconomic effects associated with the Project. The regulatory review provides the basis

for identifying applicable obligations, commitments, mitigation measures, and enhancement opportunities and to inform the assessment of potential socioeconomic effects throughout the Project life cycle.

The marine terminal component of the Project is subject to legislation governing navigation, fisheries, marine transportation, environmental protection, and socioeconomic wellbeing. Key legislation includes the IAA, *Canadian Navigable Waters Act*, *Canada Shipping Act, 2001*, and *Fisheries Act*. Best management practices include fisheries and marine-user engagement, marine transportation management, stakeholder and Indigenous engagement, navigation safety measures, public access management, and adaptive management programs to minimize adverse effects and support positive community outcomes.

5.4 Potential Impacts Based on Federal Work Designation

The Lazy Head Marine Terminal is a federal work or undertaking as defined in subsection 3(1) of the *Canadian Environmental Protection Act*, 1999, because it will operate in connection with navigation and shipping. Potential effects are discussed in Sections 5.1 to 5.3, including fish and fish habitat (Section 5.1.1), wetlands (Section 5.3.7), terrestrial habitat and wildlife (Sections 5.3.8 to 5.3.11), and socioeconomic conditions, including commercial and recreational fisheries (Section 5.3.12).

5.5 Estimate of Greenhouse Gas Emissions

A preliminary estimation of direct and indirect GHG emissions has been completed for the Project. The calculation assumed primary sources of mobile equipment, fixed equipment, and indirect emissions from electricity use for the marine terminal. Emissions sources identified for the construction, operation, and closure phases of the Project are listed in Table 5.5-1.

T***able 5.5-1 GHG Emission Sources***

Process/Activities	Sources	GHG	Emissions Category
Heavy Vehicles, Marine Transportation, and Vessels berthed at Marine Terminal	Mobile Combustion – Material Transportation	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)	Category 1 (Direct GHG Emissions)
Diesel Equipment	Fixed Combustion Equipment	CO_2 CH_4 N_2O	Category 1 (Direct GHG Emissions)
Electricity	Imported Energy	CO_2	Category 2 (Acquired GHG Emissions)

5.5.1 Methodology

Net GHG emissions were estimated based on available information for each Project phase, starting with an initial estimate, and will be updated in subsequent regulatory submissions as additional data is obtained. Net GHG emissions have been evaluated in metric tonnes of equivalent CO_2 (TCO_2eq). The initial GHG emissions estimate was completed in accordance with SACC guidance and the calculation detailed below:

Net GHG emissions = Direct GHG emissions + Acquired energy GHG emissions – CO_2 captured and stored –Avoided domestic GHG emissions – Offset credits

The Project's direct emissions include those from mobile combustion in truck haul service vehicles, marine transportation of vessels accessing the marine terminal from the TC shipping lane north of the terminal, and vessels berthed at the marine terminal (assuming 24-hour idle time), fixed combustion from diesel equipment, and indirect emissions from electricity consumption. Net GHG emissions were estimated for the life of the Project.

5.5.2 Assumptions

The quantification was conducted in compliance with the SACC. The following assumptions were used to estimate the net emissions:

– No CO_2 captured and stored.
– No avoided domestic GHG emissions.
– No offset credits.

The emissions factor of light oil No. 2 was used for diesel due to their similar chemical and physical properties.

The GHG emission factors for the fixed and mobile combustion were selected from Table 4.3 of the National Inventory Report 1990-2023: Greenhouse Gas Sources and Sinks in Canada (ECCC, 2025) whereas the GHG emissions factor for electricity importation was selected from Table 5.3 from the National Inventory Report 1990-2023: Greenhouse Gases Sources and Sinks in Canada (ECCC, 2025). Emission factors associated with mobile combustion for marine transportation were selected from Table 6-1.15 in Annex 6 of the National Inventory Report 1990-2024: Greenhouse Gas Sources and Sinks in Canada (ECCC, 2026). The Global Warming Potential is from the fifth report of the Intergovernmental Panel on Climate Change (IPCC) over 100 years is outlined in Table 5.5-2.

The construction phase will occur approximately two years, operation will last 85 years, and closure activities will take one year.

Table 5.5-2 Global Warming Potential

Global Warming Potential (100 year)	CO_2	CH_4	N_2O
Fifth Assessment Report - IPCC	1	28	265

5.5.3 Results

Over a Project lifespan of approximately 88 years, a total of 129 kt CO_2 eq is estimated to be emitted. Of the three assumed sources, 15.2% of emissions will be sourced from mobile equipment, 66.7% will be sourced from fixed equipment, and 18.1% will be sourced from electricity use. Electricity use is attributed to general and administrative work for the Project.

Under NS's *Environmental Goals and Climate Change Reduction Act, 2021*, the province has set the following targets for GHG emissions reductions:

a. By 2030, to be at least 53% below 2005 levels; and
b. By 2050, to achieve net zero, by balancing GHG emissions with removals and other offsetting measures.

NS's emissions reductions targets are more aggressive than Canada's targets, which are legislated under the *Canadian Net-Zero Emissions Accountability Act, 2021*, which commits to meeting Canada's Paris Agreement target of achieving a 40-45% reduction from 2005 GHG emissions by 2030, along with a 2050 net-zero emissions objective.

The following tables (5.5-3 through 5.5-5) present the results for each phase, and category 1 and 2 emissions sources. Table 5.5-6 presents the total emissions for each phase over the life of the Project.

Table 5.5-3 Direct GHG emissions – Mobile combustion – Category 1

Emissions (tonnes CO_2e)	CO_2	CH_4	N_2O	TOTAL
Operation Emissions	16,713	15	72	16,800
Construction Emissions	2,251	0	7	2,258
Closure Emissions	563	0.03	2	564
Total	19,527	15	80	19,622

Table 5.5-4 Direct GHG emissions – Fixed combustion – Category 1

Emissions (tonnes CO_2e)	CO_2	CH_4	N_2O	TOTAL
Operation Emissions	85,412	5	255	85,672
Construction Emissions	201	0.01	0.60	201
Closure Emissions	251	0.02	0.75	252
Total	85,864	5	256	86,125

Table 5.5-5 Indirect GHG emissions – Energy imported/Electricity – Category 2

Emissions (tonnes CO_2e)	CO_2e	CH_4	N_2O	TOTAL
Operation Emissions	23,433	-	-	23,433
Construction Emissions	-	-	-	-
Closure Emissions	-	-	-	-
Total	23,433	-	-	23,433

Table 5.5-6 Total GHG Emissions per Category – Life of Project – in TCO2e

Category / Project phase	Construction TCO_2e	Operation TCO_2e	Reclamation and Closure Emissions TCO_2e	Total Emissions TCO_2e	Percentage (%)
Category 1 – Mobile	2,258	16,800	564	19,622	15.2
Category 1 – Fixed	201	85,672	252	86,125	66.7
Category 2 – Electricity	-	23,433	-	23,433	18.1
			Total	129,180	100

5.6 Waste and Emissions Generated by the Project

All phases of the Project are anticipated to generate waste products that will require management. While specific waste products and emissions cannot be quantified at this stage of Project development, Table 5.6-1 lists the probable types of waste and emissions that can be reasonably expected to be produced at each phase of the Project life, summarized in Section 5.

Table 5.6-1 Probable Waste and Emissions Generated by the Project – Marine Terminal

Project Phase	Category	Waste or Emission Type	Description
Construction	Waste	Non-hazardous waste	Construction debris, packaging, general refuse / domestic waste (e.g., food waste, glass, plastic, paper).
		Hazardous waste	Fuels, oils, lubricants, solvents, other controlled products.
	Emission	Air emissions	Dust, vehicle and equipment, emissions, noise, light.
		Water emissions	Temporary increases in turbidity/sediment disturbance in water, vibrations.

Project Phase	Category	Waste or Emission Type	Description
Operation	Waste	Hazardous and non-hazardous waste	Operational waste includes domestic waste from Project personnel, and vehicle maintenance such as lubricants, oils, and machine parts.
	Emission	Air emissions	Ventilation exhaust from conveyors extending marine terminal, ship loading, light emissions.
Closure	Waste	Hazardous and non-hazardous waste	Dismantling debris from marine terminal, hazardous materials from maintenance of vehicles, cleaning solutions, general refuse.
	Emission	Air, land, and water emissions	Dust, noise, vibrations from dismantling marine terminal. In-water sediment releases have the potential to occur during the dismantling of the marine terminal infrastructure. At closure, the rubble mound and fixed dock are proposed to remain in place.

5.6.1 Liquid Discharge

No liquid discharge will occur from the marine terminal.

5.6.2 Solid Waste

General refuse and domestic waste, including food waste, glass, plastic, paper, and cardboard, will be produced throughout all phases of the Project.

Multi-stream waste classification recycling receptables for domestic use will be positioned landside for the life of the Project. Any non-recyclable or industrial waste, including metal waste or scrap wood, will be disposed of accordingly in industrial waste bins.

Items requiring special disposal will be flagged across the site and report to specific waste streams which abide by appropriate reporting, storage, transport, and disposal guidelines. Special management wastes may include contaminated soils and/or spill clean-up material, in the event of an accidental release, and petroleum products, oils, and lubricants and any materials stained during vehicle and equipment maintenance activities and other products which require special disposal.

5.7 Cumulative Effects

Past, existing, or proposed industrial projects within Guysborough County are identified and described in Table 5.7-1. Several of the projects listed are discontinued or inactive and therefore may not contribute to future cumulative effects of the Project.

At this stage, the potential for cumulative effects is essentially based on whether or not the Project overlaps spatially with the listed projects. Cumulative effects will be considered in subsequent regulatory submissions.

Table 5.7-1 Projects Considered for Cumulative Effects Assessment

Project	Community	Timeline	Potential for Cumulative Effects
Black Point Aggregates Incorporated: Quarry at Black Point Quarry site	Upper Fox Island	EA approval issued in 2016 Proposed project life of approximately 70 years	The quarry is located 4 km from the Lazy Head PA; not anticipated to overlap with Project effects
Bayview Excavators Limited: Quarry (no site name)	Peas Brook	Environmental approval 2020-2030	The quarry is located 15 km from the Lazy Head PA; not anticipated to overlap with Project effects
Chedabucto Aggregates Ltd.: Quarry at Halfway Cove site	Halfway Cove	2004 to present	The quarry is located 19 km form the Lazy Head PA; not anticipated to overlap with Project effects
Dexter Construction Company Limited: Quarry at Lundy Quarry site	West Cooks Brook	Environmental approval 2025-2035	The quarry is located 31 km from the Lazy Head PA; not anticipated to overlap with Project effects
Dexter Construction Company Limited: Quarry (no site name)	Boylston	Environmental approval 2017-2027	The quarry is located 34 km from the Lazy Head PA; not anticipated to overlap with Project effects
Mattie Bros. Construction Limited: Pit at Boylston site	Boylston	Environmental approval 2017-2027 Environmental assessment approved April 2016	The pit is located 34 km from the Lazy Head PA; not anticipated to overlap with Project effects
Nova Construction Co. Ltd.: Quarry at North Riverside Quarry site	North Riverside	Environmental approval 2025-2035	The quarry is located 38 km from the Lazy Head PA; not anticipated to overlap with Project effects
Zutphen Equipment Inc.: Quarry (no site name)	Mulgrave	EA process completed in 2020	The quarry is located 40 km from the Lazy Head PA; not anticipated to overlap with Project effects
L & M Enterprises Limited: Concrete Plant (no site name)	Aulds Cove	Environmental approval 2020-2030	The facility is located 42 km from the Lazy Head PA; not anticipated to overlap with Project effects
Martin Marietta Materials Canada Limited: Quarry and Bulk Solids Handling Facility at Porcupine Mountain Quarry site	Aulds Cove	1950 to present	The facilities are located 42 km from the Lazy Head PA; not anticipated to overlap with Project effects
Goldboro Gold Mines Inc.: Surface Mine and Mineral Processing Plant at Goldboro Mine site	Goldboro	Construction planned for late 2026	The facilities are located 43 km from the Lazy Head PA; not anticipated to overlap with Project effects
Nova Construction Co. Ltd.: Quarry (no site name)	Melrose	Environmental approval 2023-2027	The facility is located 72 km from the Lazy Head PA; not anticipated to overlap with Project effects

Project	Community	Timeline	Potential for Cumulative Effects
Upper Afton Wind Ltd (EverWind NS Holdings Ltd and Membertou Development Corporation): Wind project at Upper Afton Wind Project site	Upper Big Tracadie, South Merland, and Rear Monastery	Environmental assessment under review	The wind project located 47 km away from Lazy Head PA; not anticipated to overlap with Project effects
Green Current Renewable Energy Development Inc: Wind project at Aulds Cove Wind Project site	Aulds Cove	Environmental assessment approved February 2026	The wind project located 41 km away from Lazy Head PA; not anticipated to overlap with Project effects
Nova Sustainable Fuels Ltd: Nova Sustainable Fuels Renewable Energy Park Project site	Goldboro	Environmental assessment approved December 2025	The facility located 40 km away from Lazy Head PA; not anticipated to overlap with Project effects
EverWind NS Holdings Ltd and Membertou Development Corporation: Setapuktuk Wind Project site	Pirate Harbour, Middle Melford, Sand Point, Hadleyville, and Manchester	Environmental assessment approved November 2025	The wind project located 30 km away from Lazy Head PA; not anticipated to overlap with Project effects
EverWind NS Holdings Ltd: EverWind Strait Crossing Transmission Line Project site	Steep Creek	Environmental assessment approved April 2025	The transmission line is located 30 km away from Lazy Head PA; not anticipated to overlap with Project effects
Port Hawkesbury Paper Wind Limited Partnership (PHP Wind GP Inc and PHP Wind LP Inc): Goose Harbour Lake Wind Farm Project site	Lincolnville, Mattie Settlement	Environmental assessment approved March 2023	The wind farm is located 40 km away from Lazy Head PA; not anticipated to overlap with Project effects
NexxGold (Previously Signal Gold): Goldboro Gold Project site	Goldboro	Environmental assessment approved June 2022	The facilities are located 43 km away from Lazy Head PA; not anticipated to overlap with Project effects
Pieridae Energy Ltd.: Realignment of Marine Drive (Highway 316)	Goldboro	Environmental assessment approved April 2021	Marine Drive located 46 km away from Lazy Head PA; not anticipated to overlap with Project effects
Maritime Launch Service Ltd.: Canso Spaceport Facility Project site	Canso	Environmental assessment approved June 2019	The facility is located 5 km away from Lazy Head PA; not likely to overlap with Project effects
Bear Paw Pipeline Corporation Inc.: Bear Paw Pipeline Project site	Goldboro	Environmental assessment approved December 2016	The pipeline is located 45 km away from Lazy Head PA; not anticipated to overlap with Project effects
Dexter Construction Company Limited: Quarry at Loch Katrine Quarry Project site	Loch Katrine	Environmental assessment approved December 2016	The quarry is located 65 km away from Lazy Head PA; not anticipated to overlap with Project effects
Chedabucto Aggregates Ltd.: Quarry at Chedabucto Aggregates Quarry Expansion site	Halfway Cove	Environmental assessment approved November 2014	The quarry is located 19 km away from Lazy Head PA; not anticipated to overlap with Project effects

Project	Community	Timeline	Potential for Cumulative Effects
Pieridae Energy Ltd.: Goldboro LNG Project site	Goldboro	Environmental assessment approved March 2014	The facilities are located 46 km away from Lazy Head PA; not anticipated to overlap with Project effects
Celtic Current LP: Mulgrave Community Wind Power Project site	Mulgrave	Environmental assessment approved February 2014	The wind project is located 40 km away from Lazy Head PA; not anticipated to overlap with Project effects
MODG and NS Power Inc: Sable Wind Project site	Hazel Hill	Environmental assessment approved March 2013	The wind project is located 5 km away from Lazy Head PA; not likely to overlap with Project effects
Martin Marietta Materials Limited: Quarry at Mulgrave Quarry Fines Storage Project site	Mulgrave	Environmental assessment approved April 2010	The quarry is located 40 km away from Lazy Head PA; not anticipated to overlap with Project effects. Material is shipped via a deepwater port facility.

6. Closing

Carver proposes to construct and operate the Lazy Head Marine Terminal Project, located in Lazy Head, NS. The Project includes development of a marine terminal in Chedabucto Bay for the export of aggregate. The marine terminal provides an efficient route to market for aggregate, supplying the U.S. East Coast and Gulf region construction market and offshore wind energy developments along the east coast of North America.

Through proactive planning and early, transparent engagement, the Project emphasizes mitigation by design. This includes minimizing disturbance to the marine environment through refinement of the marine terminal design, as well as significantly reducing dust, noise, and light pollution by covering conveyors and transfer towers, where appropriate. The IPD highlights how the Project has been shaped through feedback from community members, regulators, and the Mi’kmaq of Nova Scotia.

Federal, provincial, and municipal authorizations, permits, licences, and approvals will be required for Project construction and operation.

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Appendices

Appendix A

Engagement Documentation Package



Morien Resources Corp.

Carver COMPANIES

LAZY HEAD AGGREGATE PROJECT

Morien Resources and Carver Companies are proposing to develop and operate a granite quarry and marine terminal that supports a granite resource providing a project life of more than 90 years.

Learn More

+1 (902) 403-3149

www.lazyhead.ca

Project Snapshot

- 90+ year project with $31 million annual capital
- 75 to 100 full-time jobs targeting Guysborough residents
- $90,000 average annual salary

Built-in Mitigation

Lazy Head will invest in new technologies and systems to minimize noise, dust, and light impacts:

- Enclosed buildings with noise insulation
- Enclosed conveyors and transfer points
- Integrated dust-control systems

Benefit-sharing Framework

Morien Resources and Carver Companies are dedicated to developing a Rightsholder Benefits Agreement and multiple stakeholder and community life of mine funds to ensure that local communities benefit from the project.

Learn more at our Open House

Canso Lions Club
98 Queen Street

October 22, 4-8 pm



www.lazyhead.ca

Morien Resources Corp.

Carver COMPANIES

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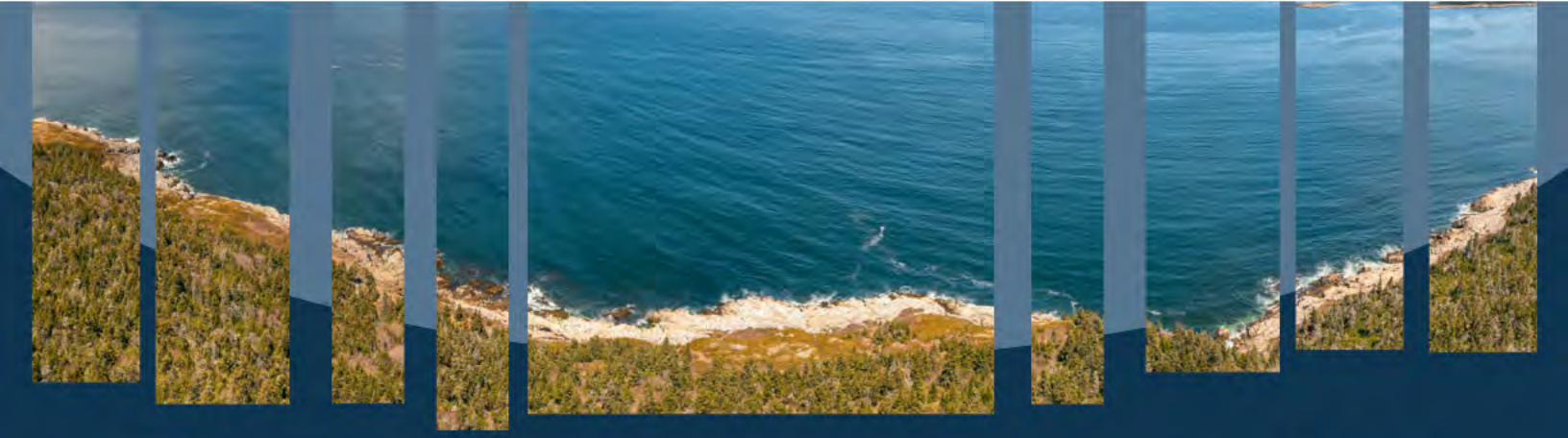
Learn more at our Open House

Canso Lions Club
98 Queen Street

October 22, 4-8 pm



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Morien Resources Corp.

Carver COMPANIES

LAZY HEAD AGGREGATE QUARRY

Morien Resources and Carver Companies are proposing to develop and operate a granite quarry and marine terminal that supports a granite resource providing a project life of more than 90 years.

Project Snapshot

- 90+ year project with $31 million annual capital
- 75 to 100 full-time jobs targeting Guysborough residents
- $90,000 average annual salary

Built-in Mitigation

Lazy Head will invest in new technologies and systems to minimize noise, dust, and light impacts:

- Enclosed buildings with noise insulation
- Enclosed conveyors and transfer points
- Integrated dust-control systems

Benefit-sharing Framework

Morien Resources and Carver Companies are dedicated to developing a Rightsholder Benefits Agreement. Multiple stakeholder and community life of mine funds are being developed to ensure that local communities benefit from the project.

Learn more at our Open House

Hazel Hill Community Centre
Main Street, Hazel Hill

October 21, 4-8 pm



+1 (902) 403-3149
www.lazyhead.ca



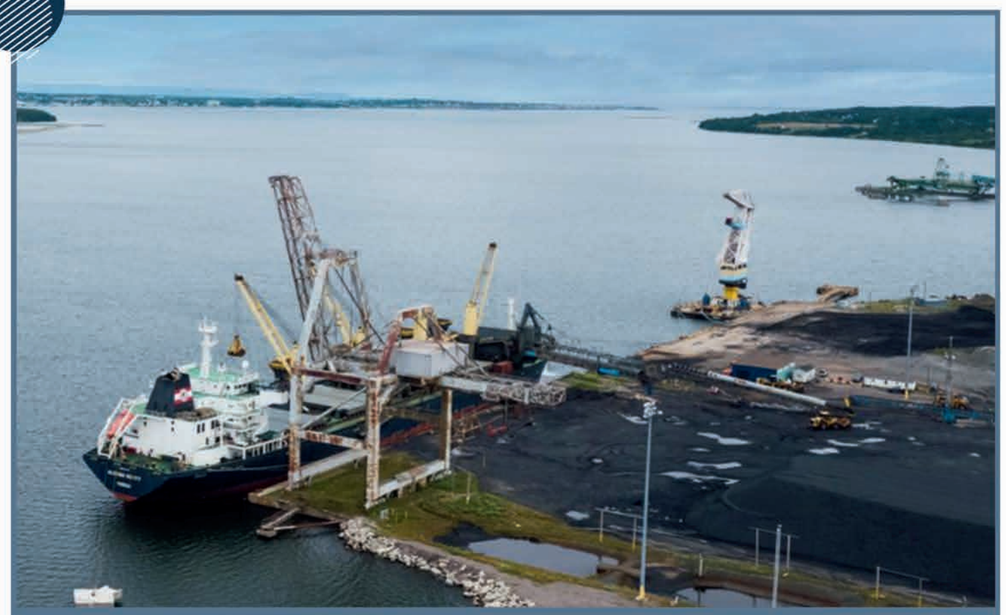
Morien Resources Corp.

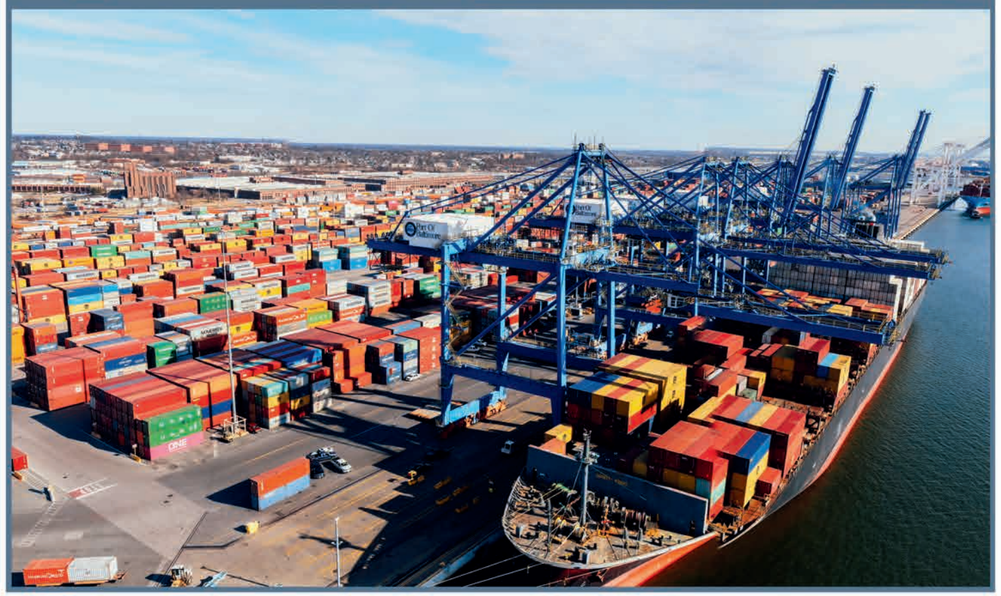
Carver COMPANIES

WELCOME TO THE LAZY HEAD AGGREGATE PROJECT OPEN HOUSE

We acknowledge the ancestral and unceded territory of the Mi'kmaq people. We also acknowledge the Mi'kmaq as the past, present, and future caretakers of this land, Mi'kmaki.

Morien Resources





Established in 2012, Morien (TSX-V: MOX) is a publicly traded mining company with its headquarters in Halifax, Nova Scotia.

Morien leverages geoscience, stakeholder-engagement, and communications capabilities to identify, evaluate, and permit resource projects aligned with strong market fundamentals.

Morien is strongly involved in Nova Scotia-based projects, with royalty interests in two tidewater accessed projects in Sydney and the Canso area.

Morien is committed to maintaining a stakeholder and Rightsholder engagement throughout the life of the Project to identify concerns, address potential issues, and incorporate feedback into the overall design of the Project.

Morien Resources Corp.

Carver Companies





Carver Companies is a private, family-owned company founded in 1989 with three operating arms: **Construction, Maritime and Materials**. For over 30 years, Carver Companies fundamental belief has been to provide unparalleled service all while maintaining values of honesty and integrity both on land and sea.

As the owner of multiple port terminals along the east coast of Canada and the US, they are the primary supplier of granite to the North American offshore wind industry.

Carver Companies is the owner and operator of the Bayside Aggregate Quarry in New Brunswick which exports 2 million tonnes per year. **Carver Companies will manage operations of the Lazy Head Aggregate Project.**

Carver
COMPANIES

Project Description

Morien Resources and Carver Companies are proposing to develop and operate a granite quarry and an associated marine terminal in Chedabucto Bay. The quarry has an estimated resource of more than 330 million tonnes of granite, which is expected to support at least 90 years of operation.

Freshly extracted granite will be reduced in size by a primary crushing circuit and then transported via conveyor to the secondary and tertiary processing plant where it will receive additional crushing and screening. From there it will be conveyed into stockpiles to be loaded onto bulk carriers via the marine terminal.

Aggregate will be loaded onto bulk carriers to service both the U.S. East Coast market and Nova Scotia's emerging offshore wind program.



Project Components

Open pit granite quarry
Maximum production rate is estimated to be 3.4 million tonnes per year.

Processing plant
Various equipment to process and transport aggregates.

Marine terminal
Can service up to 60,000 dwt vessels and is engineered to minimize seafloor disturbance.

Stockpile areas
Multiple areas positioned to manage overburden, granite blocks and topsoil/organic material.

Road network
Will include a new access road to connect the Project to NS-16 (Main Street).

Project Timeline

Construction: 1.5 to 2 years
Operation: 90 to 100 years
Closure: 1 year

Built-in Mitigation

Lazy Head will invest in new technologies and systems to minimize noise, dust, and light impacts.

Enclosed warehouses for primary and secondary crushers and screens.



Acoustic cladding and baffled ventilation, enclosed conveyors and transfer points.



Integrated dust-control systems (e.g., water sprays and filtration).



Benefit-Sharing Framework

Seabreeze Campground

Long-term collaboration with a key local business, ensuring shared benefits and mutual support throughout the Project lifespan.

Community Funds

Transparent, community-governed fund that channels a portion of project revenues into local priorities. Will also initiate a Wellness Fund towards local recreation groups.

Education Partnerships

Will establish academic-based sponsorships at Fanning Education Centre.

Rightsholders and other Stakeholders

Objective to establish similar benefit-sharing funds across Rightsholders and other core stakeholders groups.

Lazy Head Project

N

Fox Island

Chedabucto Bay

Proposed Lazy Head Quarry Location

Seabreeze Campground

Fox Island Main Rd

Fox Island Main

Lumsdens Lake

Three Mile Lake

Tickle Road

Durells Island

Union St

Canso

Tickle Rd

Main St

Whistlehouse Lake

Cavanaugh Lake

Fegarys Lake

Ice Lake

Highway 16

Southwest Lake

Lukemans Lake

Trout Lake

Eastern Lookout Lake

Softwood Hill Lake

Blowdown Lake

Hazel Hill

Hazel Hill Lake

Walshs Lake

Charles Lake

Muskrat Lake

Swaines Lake

Louis Boudreaus Lake

Young Lake

Dover Rd

Western Lookout Lake

Basin Lake

Eastern Lake

Dover Lake

Island Lake

0 1 2 km

Project Location

Building

Transportation

Road

Unpaved Road

Utilities (Line)

Existing Transmission Lines

Water Features

Mapped Stream

Mapped Indefinite Stream

Mapped Lakes and Rivers

Mapped Wetlands

Lazy Head Project

N

Chedabucto Bay

Seabreeze Campground

Foxl Island Main Rd

Lumsdens Lake

Three Mile Lake

Highway 16

Fogartys Lake

Whistlehouse Lake

Southwest Lake

Fogartys Little Lake

Lukemans Lake

0 0.5 1 km

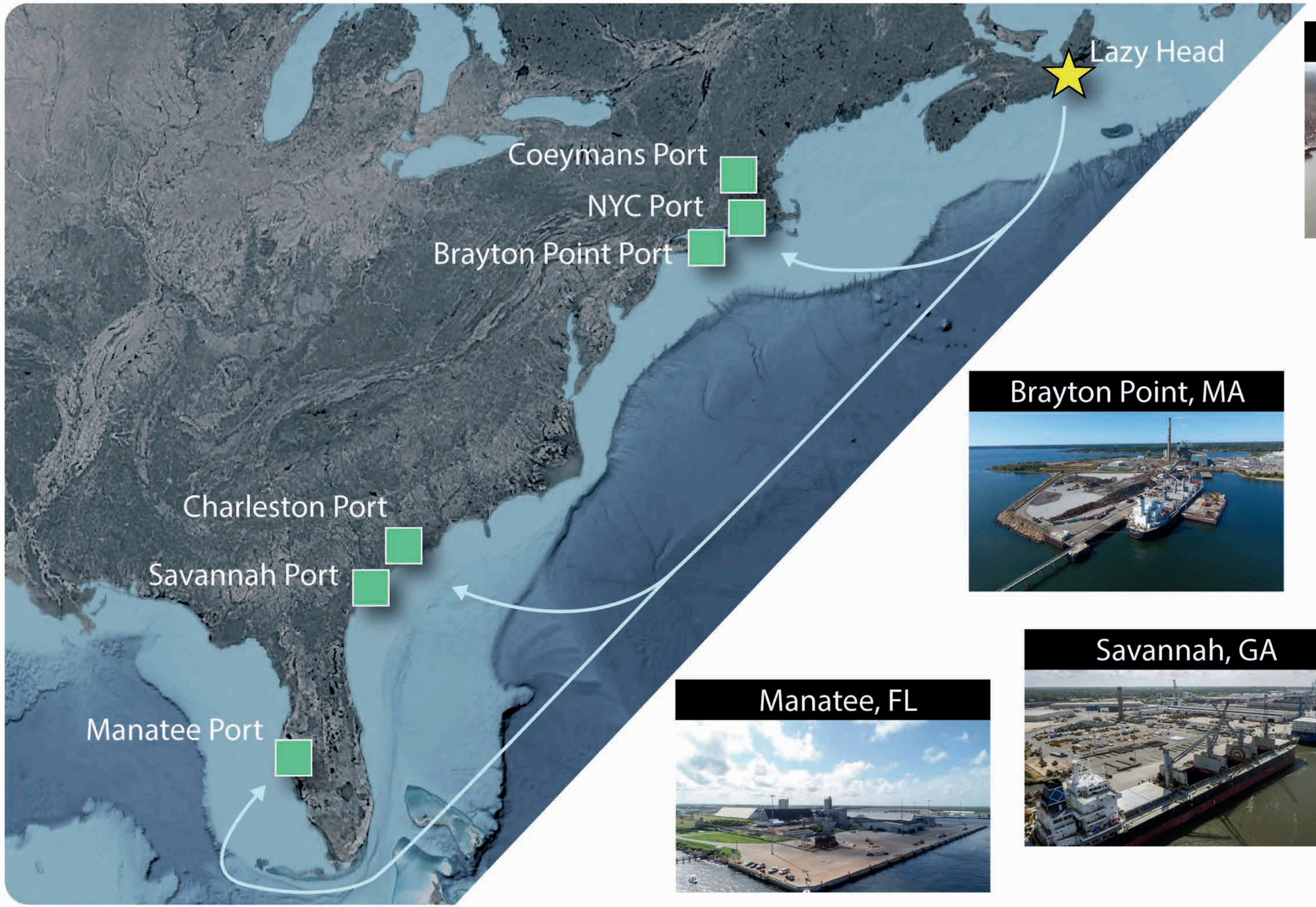
Study Area

Lazy Head Mining Area

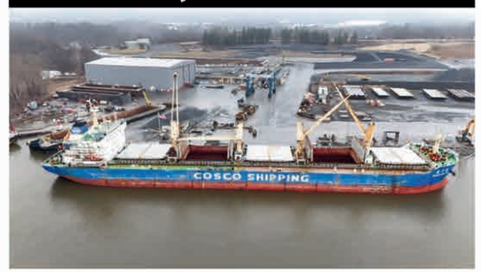
Proposed Marine Terminal Location

Proposed Access Road

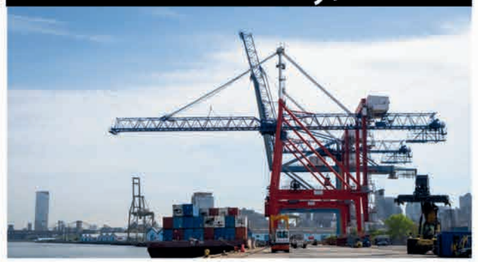
Carver's U.S. Port Advantage



Coeymans, NY

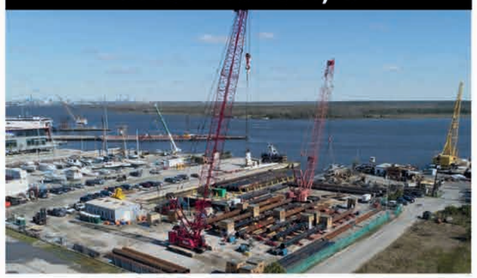


New York City, NY



Brayton Point, MA

Charleston, SC



Savannah, GA

Manatee, FL

Permitting

Marine Terminal

A new marine terminal designed to handle large bulk carrier ships requires review by the Impact Assessment Agency of Canada (IAAC). Following regulatory, Rightsholder, and public engagement, IAAC will decide if a federal impact assessment is required. In addition to the federal impact assessment, several permits, leases, and approvals will be required for Project construction and operation for the marine terminal.

Aggregate Quarry

The quarry is subject to the provincial environmental assessment process. Reviews through the environmental assessment process and subsequent permits/approvals will ensure that potential environmental effects, such as impacts to species at risk, fish and fish habitat, migratory birds, use of dangerous goods, and pollution prevention, are thoroughly assessed and appropriately mitigated.



The Project team is actively working with both federal and provincial regulators to complete these permitting processes.

Environmental Assessment

The following assessments will be completed:

Air, Noise, and Light

- Baseline noise program scheduled for fall 2025.
- Noise modelling of potential Project related effects and qualitative approach for air and light.

Groundwater Resources

- Groundwater monitoring well network to be installed once access and use of Crown Land is granted.
- Groundwater modelling will be completed to assess impacts of the Project.

Surface Water Resources

- Baseline surface water monitoring program scheduled for fall 2025.
- Modelling to be completed to determine the potential Project related effects.

Archaeology

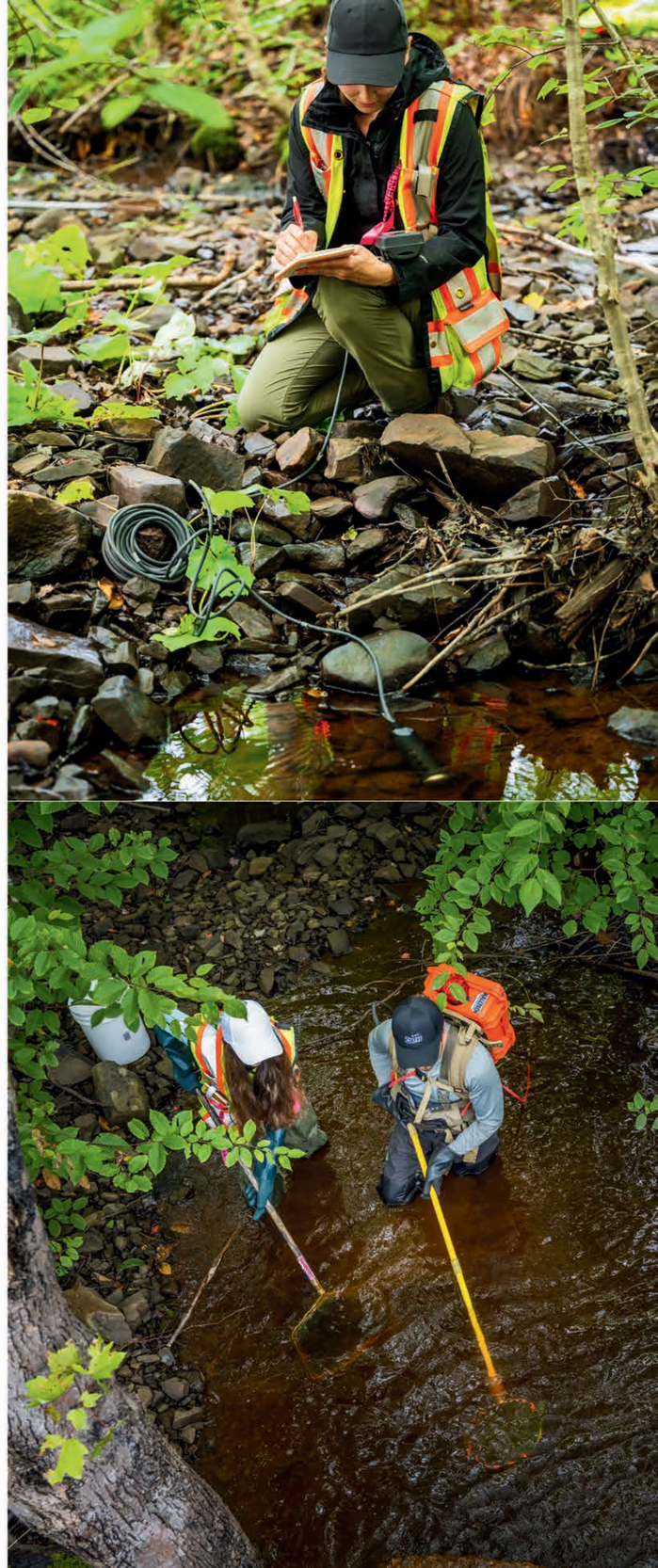
- Archaeological Resource Impact Assessment will be completed in the fall 2025.

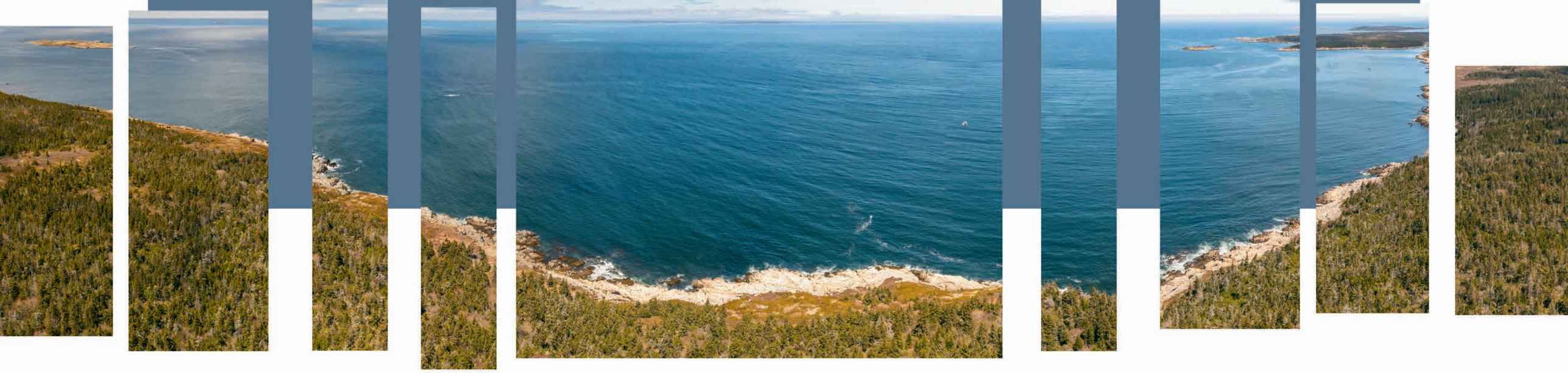
Mi'kmaq

- Mi'kmaq Ecological Knowledge Study will be completed in 2025.

Biophysical Assessment

- Vegetation and Habitat Surveys
- Wetland Assessments
- Lichen Surveys
- Avian Surveys
- Species at Risk
- Fish and Fish Habitat





THANK YOU FOR ATTENDNG OUR OPEN HOUSE!

We would love your feedback! Please fill out a comment card on your way out.

Keep an eye on our website for updates

info@lazyhead.ca

www.lazyhead.ca

Lazy Head Project

Morien Resources Corp.

Lazy Head Sign-In Sheet
Tuesday, October 21, 2025

Name	Town	Phone Number	Email	I would like to receive project updates
[redacted]	UPPER FOX	[redacted]		☒ Yes
[redacted]	Guysborough		[redacted]	☒ Yes
[redacted]	Tuckle	[redacted]		☑ Yes
[redacted]	Hazel Hill	[redacted]		☐ Yes
[redacted]	Hazel Hill	[redacted]		☐ Yes
[redacted]	3 mile Lake Subdivision Fox Island	[redacted]	[redacted]	☑ Yes
[redacted]	Hazel Hill			☐ Yes
[redacted]	Little Dover	[redacted]	[redacted]	☒ Yes
[redacted]	Canso	[redacted]	[redacted]	☐ Yes
[redacted]	Fox Island	[redacted]	[redacted]	☑ Yes

Lazy Head Project

Morien Resources Corp.

Lazy Head Sign-In Sheet
Tuesday, October 21, 2025

Name	Town	Phone Number	Email	I would like to receive project updates
[redacted]	Antigonish	[redacted]	[redacted]	☑ Yes
[redacted]	FOX ISLAND		[redacted]	☑ Yes
[redacted]	CBDC Canso	[redacted]	[redacted]	☑ Yes
[redacted]	Canso Realty Inc.	[redacted]	[redacted]	☑ Yes
[redacted]	CANSO	[redacted]	[redacted]	☑ Yes
[redacted]	Little Dover	[redacted]	[redacted]	☑ Yes
[redacted]	Little Dover	[redacted]		☐ Yes
[redacted]	Guysborough Intervale	[redacted]	[redacted]	☑ Yes
[redacted]	Fox Island	[redacted]	[redacted]	☑ Yes
[redacted]	Port Felix		[redacted]	☐ Yes

Lazy Head Project

Morien Resources Corp.

Lazy Head Sign-In Sheet
Tuesday, October 21, 2025

Name	Town	Phone Number	Email	I would like to receive project updates
[redacted]	Port Felix	[redacted]	[redacted]	☑ Yes
[redacted]	Canso	[redacted]	[redacted]	☑ Yes
[redacted]	Fox Island	[redacted]	[redacted]	☐ Yes
[redacted]	Country Harbour	[redacted]		☐ Yes
[redacted]	Fox Island	[redacted]	[redacted]	☐ Yes
[redacted]	Hadland Cove	[redacted]	[redacted]	☑ Yes
[redacted]	Canso	[redacted]	[redacted]	☑ Yes
[redacted]	Canso		[redacted]	☑ Yes
[redacted]	Canso			☐ Yes
[redacted]	Canso			☐ Yes

Lazy Head Project

Morien Resources Corp.

Lazy Head Sign-In Sheet
Tuesday, October 21, 2025

Name	Town	Phone Number	Email	I would like to receive project updates
[redacted]	HAZEL H.C	[redacted]		☑ Yes
[redacted]	Little Dover	[redacted]	[redacted]	☑ Yes
[redacted]	White Head	[redacted]	[redacted]	☐ Yes
[redacted]	WHITE HEAD	[redacted]	[redacted]	☑ Yes
[redacted]	CANSO		[redacted]	☑ Yes
[redacted]	✓		[redacted]	☐ Yes
[redacted]	Dover	[redacted]	[redacted]	☑ Yes
[redacted]	Tickle	[redacted]	[redacted]	☑ Yes
[redacted]	Canso	[redacted]	[redacted]	☑ Yes
[redacted]	Hazel Hill..	[redacted]	[redacted]	☑ Yes

Lazy Head Project

Morien Resources Corp.

Lazy Head Sign-In Sheet
Tuesday, October 21, 2025

Name	Town	Phone Number	Email	I would like to receive project updates
[redacted]	Whitehead	[redacted]	[redacted]	☐ ~~Yes~~
[redacted]	Canso	[redacted]		☐ Yes
[redacted]	Canso	[redacted]	[redacted]	☐ ~~Yes~~ ✓
[redacted]	Little Dover			☐ Yes
[redacted]	Little Dover			☐ Yes
[redacted]	GUYSBOROUGH	[redacted]		☐ Yes
[redacted]	Canso	[redacted]		☐ Yes
				☐ Yes
				☐ Yes
				☐ Yes

Lazy Head Project

Morien Resources Corp.

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

From friend

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 5 (Very helpful)

3) Please provide your comments or feedback on the Project:

My name is [redacted], I have grew up in this area my whole life, This land that this proposed project is supposed to go on is where I have hunted my whole life. I know this area like the back of my hand, and have seen all of the species that are in this area Protected under law by NS Endangered species Act [redacted] and Federal laws: Canada's Species At Risk Act (SARA) "A Mining company cannot go through if there is an endangered Speices in the Area." "Company Must comply with all Federal and provincial laws protecting endangered Species

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

Some Species that this includes are listed:
Barn Swallow - endangered
Boreal Felt Lichen - endangered
Mainland Moose - endangered
Harlequin Duck - endangered
Piping Plover - endangered

This land has ties and connection to my family for over 5 generations for Hunting for food to feed our familys, I know theses woods like the back of my hand and it hurts to see this happen right in the backyard. I have 2 kids of my own and have been teaching them the ropes of hunting in these woods from Snaring rabbits, hunting Deer, bear, paridge, I am also a fur harvester and trap in that area aswell. Thank you for hearing me out I really apprate it!

[redacted]

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 5 (Very helpful)

3) Please provide your comments or feedback on the Project:

I am not in favor of destroying our coastline!

[redacted]

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

@ flyer that came in the mail (yesterday)

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 5 (Very helpful)

3) Please provide your comments or feedback on the Project:

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

On line.

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

I feel it's a very worthwhile project and extremly needed in this area. I hope it proves viable and pushes past the NIMBY mentality that plauges this area.

Good Luck

[redacted]

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

[redacted]

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

My Mother had told me last month then I recived the mailout

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 (4) 5 (Very helpful)

3) Please provide your comments or feedback on the Project:

Please return to a project team member

Lazy Head Project

Morien Resources Corp.

Lazy Head Open House Comment Card
Tuesday, October 21, 2025

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

Social Media via GCIFA shared post.

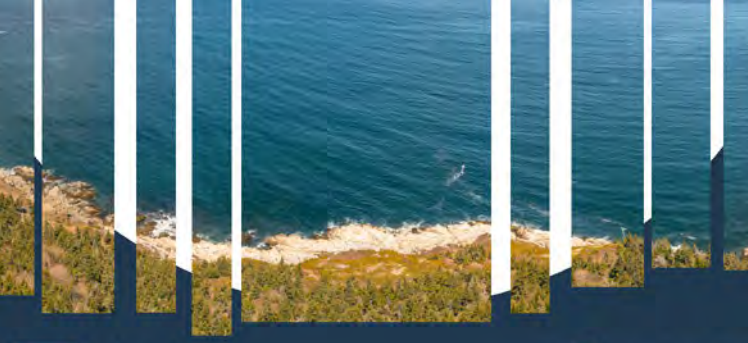
2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 (4) 5 (Very helpful)

3) Please provide your comments or feedback on the Project:

Sounds like a fantastic project. Have family members involved in mining and quarry work.
An amazing opportunity for our Communities.

Please return to a project team member



Morien Resources Corp.

Carver COMPANIES

LAZY HEAD AGGREGATE PROJECT

Morien Resources and Carver Companies are proposing to develop and operate a granite quarry and marine terminal that supports a granite resource providing a project life of more than 90 years.

Learn more at our Open House

Hazel Hill Community Centre
Main Street, Hazel Hill

March 10, 3 - 7 pm



+1 (902) 403-3149

www.lazyhead.ca



Thank you to everyone who attended our October open house and shared thoughtful feedback. Since then, we have been busy studying the area and preparing submissions to Nova Scotia Environment and Climate Change and the Impact Assessment Agency of Canada. We are excited to share a preview of our findings with the community at our upcoming open house.

What We Heard

Many people from communities neighbouring the Project turned up to our October open house to ask questions, provide feedback, and find out about opportunities. Here's some of what we heard:

- Enthusiasm for a quarry that is eager to enter production
- Concern for wildlife and their habitat
- Questions about impacts on fisheries
- Positive feedback on proposed effect mitigations (ecological, noise, etc.)
- Curiosity to learn more about the Project as it develops

What Has Been Studied

In preparation of provincial and federal submissions, we have been studying current conditions and the Project's expected effects on:

- The marine environment
- Wildlife and habitat
- Surface and groundwater
- Noise and dust
- Cultural and archaeological resources
- Communities and socio-economic considerations

We hope to see you at our next open house on March 10th to share what we have learned and to hear your feedback.

+1 (902) 403-3149
www.lazyhead.ca

WELCOME

Lazy Head Aggregate Project

OPEN HOUSE

We acknowledge the ancestral and unceded territory of the Mi’kmaq people. We also acknowledge the Mi'kmaq as the past, present, and future caretakers of this land, Mi’kmaki.

Morien Resources Corp.

Carver COMPANIES

Morien Resources Corp.

- Established in 2012, Morien Resources Corp. (TSX-V: MOX) is a publicly traded mining company headquartered in Halifax, Nova Scotia.
- Morien leverages geoscience, stakeholder engagement, and communications capabilities to identify, evaluate and permit resource projects aligned with strong market fundamentals.
- Morien is strongly involved in Nova Scotia-based projects, with royalty interests in two tidewater accessed projects in Sydney and the Canso area. .
- Morien is committed to maintaining stakeholder and Rightsholder engagement throughout Project planning and the life of the Project to identify concerns, address potential issues, and incorporate feedback into the overall design of the Project.

Carver Companies

- Carver Companies is a private, family-owned company founded in 1989 with three operating areas: Construction, Maritime, and Materials.
- Carver owns multiple port terminals, including in Florida, Georgia, South Carolina, New York, and New Brunswick (Bayside Quarry). The Bayside Aggregate Quarry exports two (2) million tonnes per year.
- As the owner of multiple port terminals along the east coast of Canada and the US, Carver is the primary supplier of granite to the North American offshore wind industry.
- Carver will assume operation of the Lazy Head Aggregate Project following receipt of required permits and approvals.

Lazy Head Aggregate Project

- **Project Location**: Lazy Head in the Municipality of the District of Guysborough (MODG) (5.5 km west of Canso, 3.5 km northwest of Hazel Hill).
- Morien Resource Corp, in strategic partnership with Carver Companies, proposes to develop, operate, and decommission, a **220-hectare granite quarry and marine terminal** in Chedabucto Bay. The quarry has an estimated mine life of 92 years.
- Freshly extracted granite will be reduced in size by a primary crushing circuit and then transported via conveyor to the secondary and tertiary processing plant where it will receive additional crushing and screening .From there it will be conveyed into stockpiles to be loaded onto bulk carriers via the marine terminal.
- Maximum quarry production rate is estimated to be up to 3.4 million tonnes per year, dependent on market demand.
- **Project Access:** Via Route 16 (Marine Drive), the region's principal provincial highway.
- **Project Timeline:** Construction (1.5 – 2 years), Operation (90 – 100 years), Closure (1 year).

Next Generation Quarry Operator:

- Setting the **new standard** with the first fully enclosed quarry processing plant in North America to mitigate dust, noise and light pollution.
- Taking noise attenuation and site lines even further by excavating the processing plant footprint into a **large (12m deep) depression to further dampen noise** and prevent runoff into marine environment.
- Marine terminal designed to **minimize marine disturbance** (no dredging, limited caissons)
- Utilizing a **closed-loop water management system** — no groundwater withdrawals required for plant operations.
- Conducted the drill program using **helicopter-supported** access to avoid tree clearing and minimize surface disturbance.

Project Area



Morien Resources Corp.

Carver Companies

Project Location



Morien Resources Corp.

Carver Companies

Project Permitting

Effects Assessment (EA):

- In Nova Scotia, quarries are subject to provincial Environmental Assessment review under the Nova Scotia Department of Environment and Climate Change (ECC).
- Marine terminals requires federal review by the Impact Assessment Agency of Canada (IAAC).

Industrial Approval (IA) Application:

- A provincial IA is required, through ECC, for construction of a quarry in Nova Scotia.
- The IA addresses requirements (e.g., monitoring, sampling, emergency response plans, record keeping, reporting) to meet the conditions of EA Approval.

Fisheries Act Authorization:

- Project will result in a harmful alteration, disruption, or destruction of fish habitat (HADD) based on footprint of marine terminal. A federal Fisheries Act Authorization will be required.
- Offsetting will be required to compensate for loss of habitat associated with Project activities.

Watercourse / Wetland Alteration Approvals:

- Nova Scotia (ECC) requires a watercourse / wetland alteration approval for Project activities that disturb or destruct watercourses and / or wetlands.
- Compensation / offsetting will also be required for watercourses or wetlands that receive alteration approval.

Approval of Works under the Navigation Protection Program:

- A federal approval is required, through Transport Canada, for Projects that may affect navigation.
- The process includes public notification and opportunity to submit comments.

Air, Noise and Light

Air Quality and Light:

- Assessments of effects associated with changes to air quality and light were conducted using recognized best -practices and considered the natural setting of the Project, how dust and light will be experienced, and the effectiveness of planned mitigations (e.g., berms, depressed processing plant), to address potential issues.
- Considering Project layout, operational conditions, and proposed mitigation measures (e.g., an enclosed processing plant and controlled lighting), the Project is anticipated to result in minimal changes to ambient light levels, with offsite light trespass expected to remain below applicable criteria at residential receptors.

Noise:

- Baseline noise monitoring was conducted in October 2025 / January 2026.
- Modelling of potential operational noise is being conducted to assess compliance with provincial and federal requirements at nearest receptors (e.g., residences).
- Noise modelling considers equipment and process noise levels, how often and how long equipment operates, how sound travels over distances and terrain, what blocks or reflects sound, and weather conditions like wind and temperature that can influence how fair noise carries.
- Preliminary noise modelling indicates that the Project can comply with applicable requirements based on proposed operations and application of mitigations.

Mitigation and Monitoring

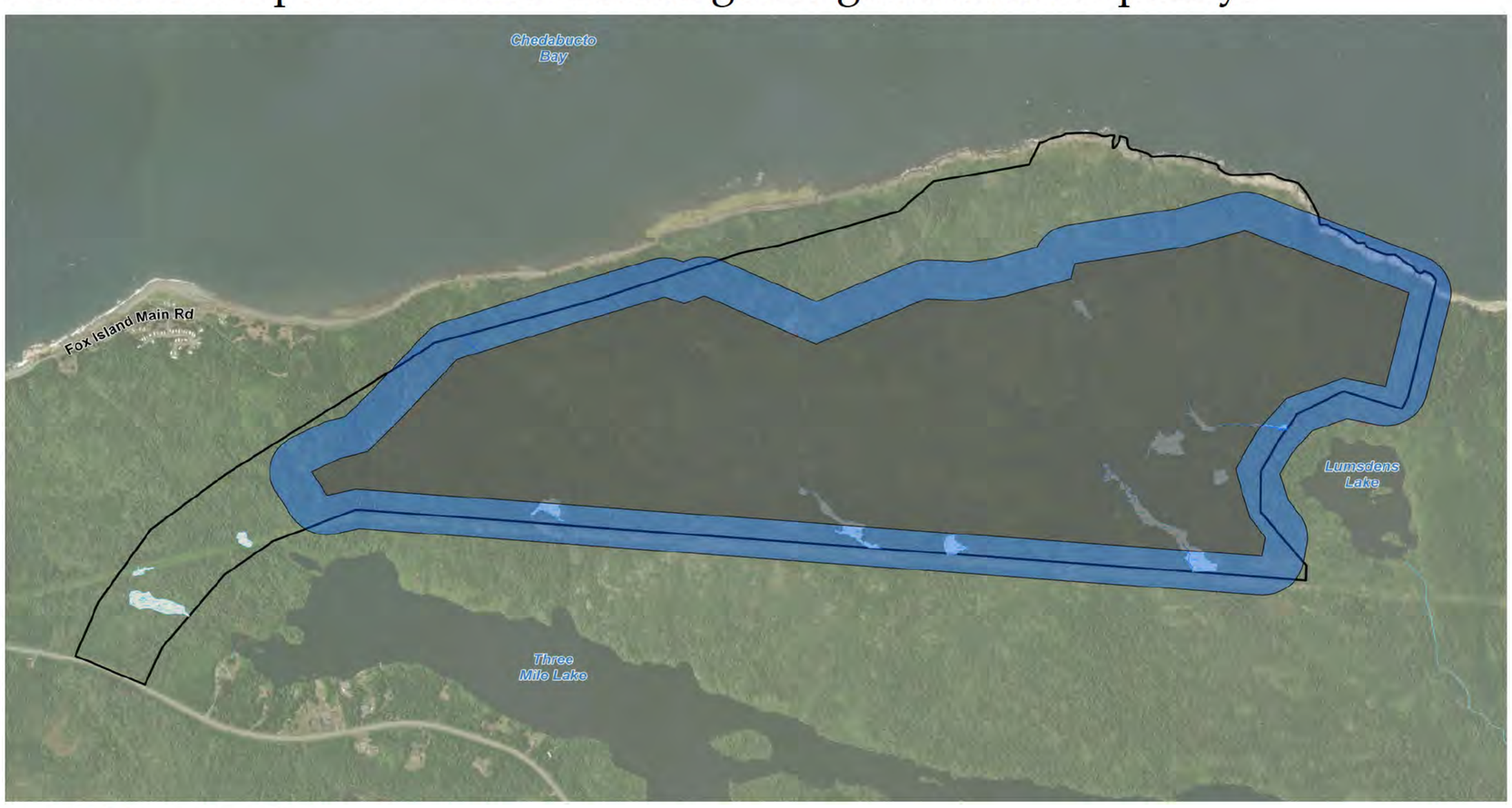
- A fully enclosed processing plant will significantly limit dust, noise, and light.
- Project-related lighting will be limited to what is necessary for security and safety.
- Project vehicles will be required to comply with established speed limits to limit dust generation from vehicle travel on unpaved roads.
- Water and/or dust suppressants will be applied to roads within the Project Area to reduce dust generation, as required.
- Monitoring will be conducted, if required, by permits and approvals.



Photo: Jelsa Quarry in Norway using warehouses to enclose a portion of its processing facility.
Note that all primary, secondary, tertiary crushers and screens, conveyors and the wash plant will be fully enclosed.

Groundwater

- A series of monitoring wells will be installed to support long term monitoring of Project impacts on groundwater. Morien is currently awaiting permit approval for installation of monitoring wells.
- Seven drill holes were completed in December—January to confirm tonnage and quality of the granite resource. Groundwater quality / quantity and hydrogeological monitoring program is scheduled at select holes prior to monitoring well installation.
- GHD developed a groundwater model to assess how the open pit may affect local groundwater resources. The model estimates the potential "radius of influence" (i.e., drawdown) based on site geology and open pit depth.
- Groundwater model helps determine whether nearing potable water wells, streams, or wetlands could be affected.
- The Project is not anticipated to impact any potable well users.
- There is a distance of approximately 182 m between the maximum extent of the groundwater drawdown radius of influence and the nearest residence.
- The Project is not anticipated to result in changes to groundwater quality.



Mitigation and Monitoring

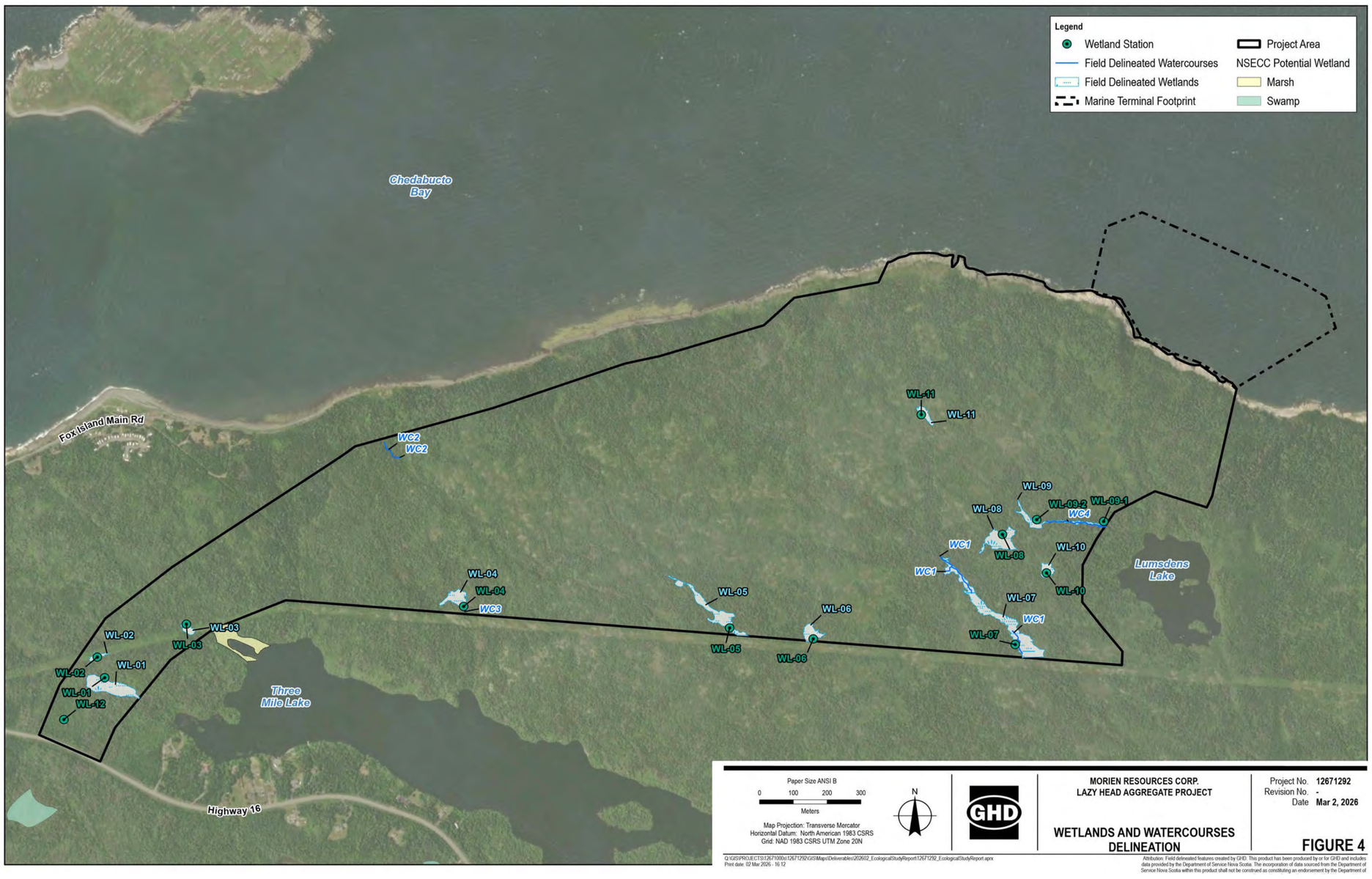
- No groundwater wells will be drilled to supply water for quarry operations.
- The processing plant will use collected runoff and rainwater in a closed-loop system, minimizing freshwater demand.
- A groundwater monitoring program will be developed and implemented for the life of the Project.
- Any groundwater encountered in the open pit will be collected through the site water management system and treated to remove sediment prior to discharge.
- Morien will undertake a survey of private residential wells prior to construction to document baseline well conditions.

Surface Water

- Baseline watercourse delineations and assessments, conducted in September 2025, identified four (4) watercourses within the Project Area.
- A monitoring program was initiated in fall 2025 in four (4) watercourses, Lumsden Lake, and Three Mile Lake. Water quality samples were analyzed for general chemistry, total metals, total suspended solids (sediment), mercury, and total phosphorous to understand baseline conditions.
- A Water Balance Model was completed to quantify the impacts to stream flow and groundwater recharge. Results will be used to support design of water management infrastructure and minimize potential flow changes to watercourses.

<u>Mitigation and Monitoring</u>

- Water management infrastructure will be designed to capture all run-off from the Project to settle of any suspended solids prior to discharging.
- A surface water monitoring plan will be developed for both surface water quantity and quality.









Wetlands and Terrestrial Environment

Wetlands

- Baseline mapping of wetlands was conducted between August and September 2025.
- A total of 11 wetlands were identified, classified primarily as bogs and fens, with one wetland classified as a shrub swamp.

Terrestrial Environment

- Baseline studies of the terrestrial environment were conducted during the 2025 field season, including surveys of lichen, vegetation, terrestrial habitat, avifauna (birds), and targeted species at risk (SAR) surveys; Mainland moose surveys are ongoing, and breeding bird surveys are scheduled for spring 2026.
- Total disturbed footprint of the Project Area is approximately 220 hectares.
- No SAR have been identified during the field surveys conducted to date.

Mitigation and Monitoring

- A wetland alteration application will be prepared to support the Project where wetlands cannot be avoided.
- An associated wetland compensation plan will be prepared to identify wetland restoration projects to offset lost habitat due to Project development.
- Clearing of vegetation will occur outside of the bird breeding season (April 15 to August 31), where possible. If not possible, nest sweeps will be completed by a qualified biologist prior to clearing.



Fish and Fish Habitat

- Field studies, conducted in 2025, and included identification of watercourse, characterization of freshwater fish habitat, eDNA surveys, and marine habitat characterization (e.g., review of video transects, benthic invertebrate, and marine sediment characterization).

Freshwater Fish Surveys (eDNA Survey):

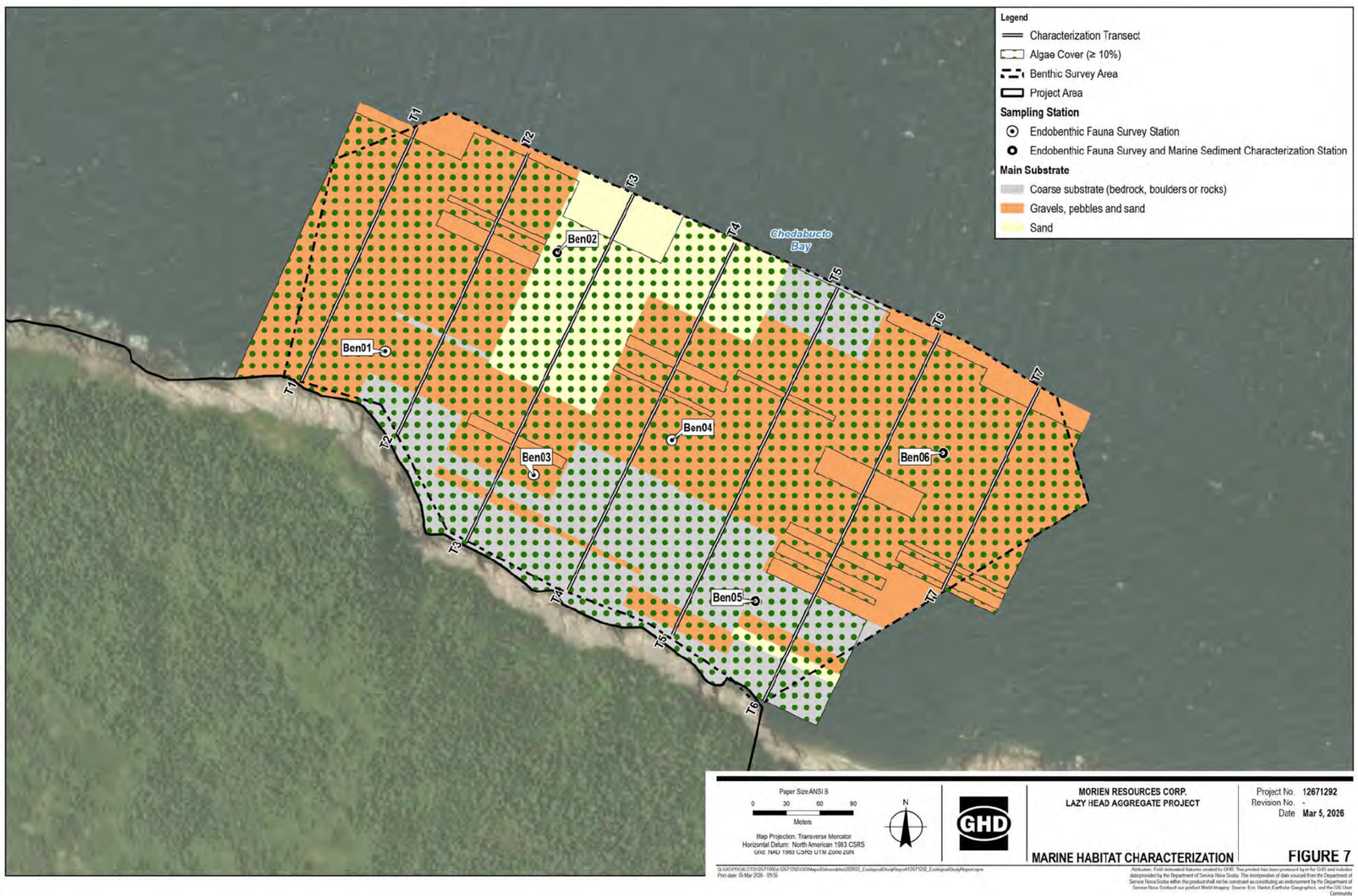
- Allows for identification of fish genetic material (e.g., mucus, scales, skin, and blood) shed into the environment.
- No freshwater fish species were identified in the watercourses; however, species present in nearby Lumsden Lake and Three Mile Lake may use connected watercourses seasonally during periods of higher water levels.

Marine Habitat Characterization:

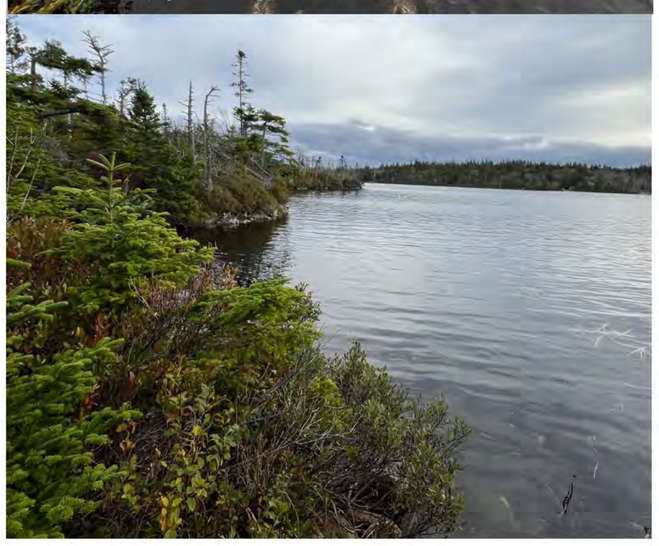
- An underwater benthic habitat study was completed to characterize marine habitat.
- Marine benthic invertebrate surveys indicated a high diversity and abundance.
- No eel grass was observed within the Project Area.

<u>Mitigation and Monitoring</u>

- A Fisheries Act Authorization (FAA), through Fisheries and Oceans Canada (DFO), will be required where destruction and disruption of fish habitat is expected.
- A Fisheries Offsetting Plan will be prepared to identify areas to restore fish habitat to compensate for the loss of habitat associated with the Project.
- A detailed Erosion and Sediment Control Plan will be prepared to address indirect impacts to the marine environment during construction of in-water works.





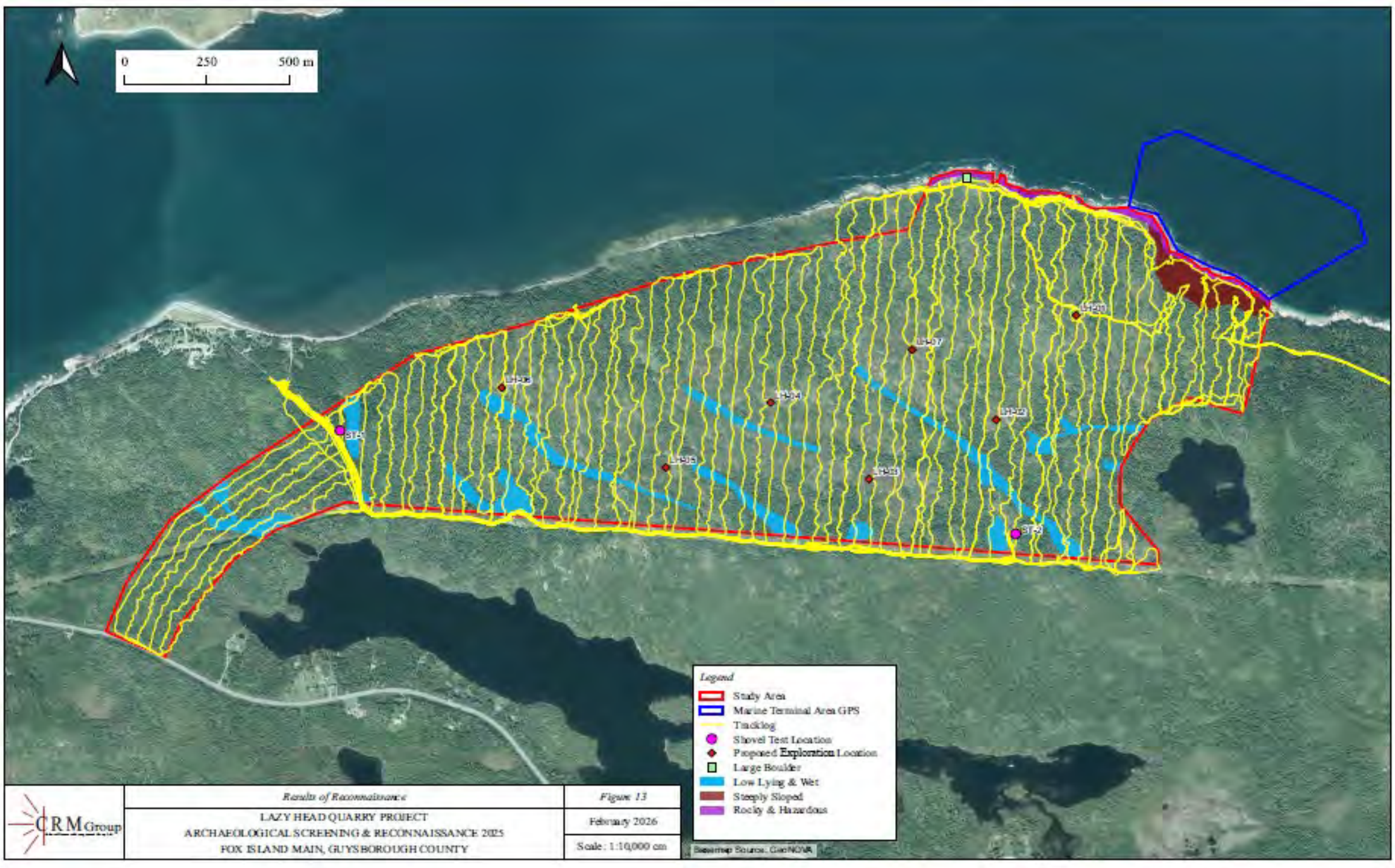


Mi'kmaq of Nova Scotia and Cultural and Heritage Resources

- A Mi'kmaw Ecological Knowledge Study (MEKS) was initiated in 2025, and is currently ongoing.
- An Archaeological Resource Impact Assessment (ARIA) was initiated for the Project Area in 2025, covering both the quarry and marine terminal areas.
- No registered archaeological sites were identified within the Project Area. Areas ascribed as having high archaeological potential will be avoided in the proposed Project layout.

Mitigation and Monitoring

- Morien and Carver will continue to foster open communications with the Mi'kmaq of Nova Scotia throughout early planning and the life of the Project to identify potential issues in a timely fashion.
- As disturbance is required as part of Project activities, an archaeological monitor will be consulted and on site to observe sediment displacement.



Economic Benefits of Project

Benefit-Sharing Framework

Community Fund: Transparent community-governed fund that channels a portion of project revenues into local priorities.

Wellness Fund: Similar fund to target local recreation groups will be initiated.

Seabreeze Campground: Long-term collaboration with a key local business, ensuring shared mutual support throughout the Project lifespan.

Rightsholders and Stakeholders: Objectives to establish similar benefit–sharing funds across Rightsholders and other core stakeholders groups.

Education Partnerships: Will establish academic-based sponsorship program at MODG education centres.

Economic Benefit to Guysborough County

Direct, Full-Time Jobs (avg. salary - C$90k)	**75 Jobs**
Induced Jobs (new jobs that are created)	**+ 53 Jobs**
Total Full-Time Equivalent Employment	**18,469 FTE**
Life of the Mine	**92.5 Years**
Total GDP Contribution to MODG	**$1.2 Billion**
Annual Payroll to MODG Residents	**$6.8 Million**

Annual Community Funds

	Community Development Fund	Community Wellness Fund
Approx. Amount [1]	**C$340,000**	**C$170,000**
Term	Annual, Life of Mine	Annual, Life of Mine
Community Fund Board	Yes	Yes
Targeted Benefit	Community improvement initiatives	Food Bank, Sports (hockey), Cubs/Scouts, Trails Association
Target Areas	Local communities *(prioritizes areas surrounding project)*	Local communities

1. Assumes 3.4 mln tonnes per year

Project Engagement

Working Together on the Lazy Head Aggregate Project

Building Relationships

We're meeting with community members, Indigenous partners, fishers, businesses, and government to listen, learn, and share information.

Indigenous Engagement

Ongoing conversations with KMKNO, Sipekne'katik, Paq'tnkek, and Millbrook.
Sharing project updates, archaeology work, and opportunities for collaboration.
Supporting governance processes and traditional knowledge considerations.

Working with Fisheries

Regular meetings with GCIFA and local fishers.
Reviewing marine terminal plans and sharing survey updates.
Discussing opportunities for collaboration and community initiatives.

Connecting with Local Residents

Open house invitations delivered along local routes.
One-on-one conversations with residents and follow-up home visits.
Listening to concerns about topics like noise, blasting, and marine activity.

Local Businesses & Service Providers

Discussions with local accommodation providers and businesses.
Exploring opportunities for services, partnerships, and economic benefits.

Government & Regulators

Continuous dialogue with the Municipality of the District of Guysborough.
Meetings with provincial and federal departments to understand permitting needs.
Early coordination to support transparent review processes.

Our Commitment

Engagement doesn't end here.

We will continue to meet, share information, and work with the community throughout permitting and for the full life of the quarry.

Morien Resources Corp.

Carver Companies

THANK YOU

for attending our OPEN HOUSE

info@lazyhead.ca

www.lazyhead.ca

Morien Resources Corp.

Carver COMPANIES

Lazy Head Sign-In Sheet
Tuesday, March 10, 2026

(1)

Name	Community	Phone Number	Email	I would like to receive project updates
[redacted]	Tickle Rd		HEAVY EQUIP (OPERATOR)	☐ Yes
[redacted] *	LITTLE DOVER	[redacted]		☐ Yes
[redacted] *	Canso	[redacted]	Fork lift operator	☐ Yes
[redacted]	Pinevale	[redacted]	[redacted]	☐ Yes
[redacted]	Fox Island.	[redacted]		☐ Yes
[redacted]	YEARLOW MARSH	[redacted]		☐ Yes
[redacted]	HAZEL HILL	[redacted]	[redacted]	☐ Yes
[redacted]	Sydney			
[redacted]	Main St. Canso.	[redacted]	[redacted]	
[redacted]	main st Canso	[redacted]	[redacted]	☑ Yes

Lazy Head Project

Lazy Head Sign-In Sheet
Tuesday, March 10, 2026

Name	Community	Phone Number	Email	I would like to receive project updates
[redacted]	Antigonish	[redacted]	[redacted]	☑ Yes
[redacted]	Aftown	[redacted]		☐ Yes
[redacted]	Canso	[redacted]	[redacted]	☑ Yes
[redacted]	Fox Island		[redacted]	☑ Yes
[redacted]	Canso	[redacted]	[redacted]	
[redacted]	Little River	[redacted]	[redacted]	☑ Yes
[redacted]	Hazel Hill	[redacted]	[redacted]	☑ Yes
[redacted]	Fox Island	[redacted]	[redacted]	☐ Yes
[redacted]	Little River	[redacted]	[redacted]	☑ Yes
[redacted]	Little Dover	[redacted]		☐ Yes

Lazy Head Project

(3)

Lazy Head Sign-In Sheet
Tuesday, March 10, 2026

Name	Community	Phone Number	Email	I would like to receive project updates
[redacted]	CANSO	[redacted]	[redacted]	☑ Yes
[redacted]	Whitehead Hazel Hill	[redacted]	[redacted]	☑ Yes
[redacted]	Whitehead	[redacted]	[redacted]	☐ Yes
[redacted]	Dover	[redacted]	[redacted]	☑ Yes
[redacted]	CANSO	[redacted]	[redacted]	☑ Yes
[redacted]	Tickle	[redacted]	[redacted]	☑ Yes
[redacted]	GCIFA	[redacted]		☐ Yes
[redacted]	SeaBreeze	[redacted]		☐ Yes
[redacted]	Hazelhill	[redacted]	[redacted]	☒ Yes
[redacted]	Hazel Hill	[redacted]		☐ Yes

Lazy Head Project

(4)

Lazy Head Sign-In Sheet
Tuesday, March 10, 2026

Name	Community	Phone Number	Email	I would like to receive project updates
[redacted]	HAZEL HILL	[redacted]	[redacted]	☑ Yes
[redacted]	Ant. N.S	[redacted]	[redacted]	☐ Yes
[redacted]	Canso NS	[redacted]	[redacted]	☑ Yes
[redacted]	Hazel Hill	[redacted]	[redacted]	☑ Yes
				☐ Yes
				☐ Yes
				☐ Yes
				☐ Yes
				☐ Yes
				☐ Yes

Lazy Head Project

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

The project BE GREAT TO SEE
go ahead WE NEED work in This AREA!

[redacted]

Please return to a project team member

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

Marian Resources

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

Great to see development in Digby borough Co!

Please return to a project team member

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

FROM BROTHER IN LAW

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

SEEMS AS THOUGH THE PEOPLE I'D TALKED TO ARE EXCITED ABOUT THIS PROJECT AND WANT TO LET EVERYONE KNOW WHAT EVER ASPECT OF THE PROJECT THEY HAVE QUESTIONS ON.

Please return to a project team member

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

Word of Mouth.

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

Great opportunity for our area,

Please return to a project team member

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

Great, [redacted]

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

Great people, great looking project

Please return to a project team member

Lazy Head Project

Lazy Head Open House Comment Sheet
Tuesday, March 10, 2026

1) How did you hear about this event? (i.e. heard from neighbour, municipal or county councillor, advertisement, website, social media, or mailout):

mailout,

2) How helpful was the information you received? Please indicate by circling a number below:

(Not at all helpful) 1 2 3 4 (5) (Very helpful)

3) Please provide your comments or feedback on the Project:

Please test residental well water before construction
Don't let Nitrogen compounds from your explosives enter marine environment.
We would like data on underwater noise levels from loading ships.
Please use mitigation during constraction of marine terminal to protect fish larve from impacts of sound and vibration and sediment curtains, No pile driving.

Please return to a project team member

Appendix B

Economics Benefit Reports

JUNE 2026

Economic Benefits Assessment - Lazy Head Aggregate Project

Prepared For:
Morien Resources Corp.

Prepared By:
EcoTec Consultants









EcoTec Consultants
Specialists in Economic Impact Studies
2361 rue des Alpes, Quebec, QC, G1P 2L1, Tel: (613) 715-3695

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EXECUTIVE SUMMARY

The Lazy Head Aggregate Project (the project) is a proposed aggregate quarry and marine terminal located in the Municipality District of Guysborough (Guysborough) in Nova Scotia. It is a large-scale project with total expenditures expected to reach $3.25 B over 92.5 years. The initial construction phase (CAPEX) is expected to last two and a half years with a budget estimated at $284 M. The remainder of the budget, $2.97 B, will be expended over 90 years on operations and is composed of operating expenditures and sustaining capital (OPEX). Full production will be reached in Year 4 when annual expenditures should reach $33.7 M.

CAPEX

The construction phase of the project is expected to last three calendar years (labelled as years Y-3 to Y-1 in the tables), representing 2.5 years of construction activity, with a budget estimated at $284 M, including $159 M spent in Canada. The total GDP that could be generated in the provincial economy by the construction phase is estimated at $110.9 M (a yearly average of $44.4 M), split between Guysborough ($23.7 M - translating into a yearly average of $9.5 M) and the rest of the province ($87.2 M – yearly average of $34.9 M).

The number of jobs generated in the construction phase for residents of Nova Scotia is expected to total 1,231 Full-Time Equivalents (FTE) divided between Guysborough (292) and other regions of the province (939). Peak employment in Guysborough would be in Y-2 (112).

Total fiscal revenues collected during the construction phase are expected to reach $35.1 M: $20.5 M (yearly average of $8.2 M) for the federal government, $12.3 M (yearly average of $4.9 M) for the provincial government and $2.4 M ($0.9 M) for municipalities within the province.

OPEX

Operating expenditures, including sustaining capital, are expected to total $2.97 B over 90 years. The estimate for the total GDP that could be generated in the provincial economy by the operation of the project over 90 years is estimated at $2.1 B, divided between the Guysborough area ($1.19 B – yearly average of $13.2 M) and the rest of the province ($0.95 B – yearly average of $10.6 M), equivalent to a provincial yearly average of $23.8 M. Annual contribution to the provincial GDP will reach a sustained peak of $24.3 M starting in Y+6 split between the Guysborough area ($13.5 M) and the rest of the province ($10.9 M).

The number of FTE generated by the operation for residents of Nova Scotia is expected to total 17,953 with a sustained peak employment of 203 FTE starting in Y+5. The total number of FTE is equivalent to an annual average of 199 FTE over 90 years. The share of employment for the Guysborough area is estimated at 11,298 FTE over the 90-year period, a yearly average of 126 FTE, with a sustained peak of 127 starting in Y+5.

Fiscal revenues for the federal government are estimated at $339.0 M, representing a yearly average of $3.8 M. Revenues for the provincial government are estimated at $238.4 M, an annual average of $2.6 M. The municipalities within the province are expected to collect $89.5 M, an average of $1.0 M per year over the operating life of the project.

TOTAL PROJECT

The estimate for the total GDP that could be generated in the economy of Nova Scotia over the life of the project (both CAPEX and OPEX) is estimated at $2.26 B, an average of $24.4 M over 92.5 years. After an initial peak of $45.5 M during the first year of construction (Y-3), GDP generated within the province is expected to reach a sustained level of $24.3 M starting in Y+6. The Guysborough area will be the largest beneficiary within the province, with a total GDP estimated at $1.22 B over the life of the quarry (yearly average of $13.1 M). The GDP generated within the local economy is expected to reach a sustained level of $13.5 M starting in Y+6. Table 1 contains a summary of the total economic benefits expected over the life of the project.

The total number of FTE is estimated at 19,184, equivalent to an annual average of 207 FTE within the province. After an early construction peak of 447 FTE in Y-3, a sustained operating peak of 203 will be reached in Y+5. The share of employment in the Guysborough area is estimated at 11,590, a yearly average of 125 FTE over the life of the project. Therefore, employment generated in the local area could represent 60.4% of total employment generated by the project within Nova Scotia. Employment in the rest of the province is assessed at 7,594 (an average of 82 FTE per year).

Total fiscal revenues are estimated at $702.2 M over the project life ($7.6 M annually), including $359.5 M for the federal government ($3.9 M), $250.7 M for the provincial government ($2.7 M), and $91.9 M for municipalities ($1.0 M).

TABLE 1
Total Economic Benefits of Lazy Head Aggregate Project

Statistics	Guysborough Region	Nova Scotia*	Canada
Gross Domestic Product (M$) Annual Average	$1,215.6 $13.1	$2,256.9 $24.4	$3,245.5 $35.1
Employment (FTE) Annual Average	11,590 125	19,184 207	25,232 273

Sources: Morien Resources and EcoTec Consultants

* Includes Guysborough area.

The real significance of potential economic benefits is best understood when those benefits are compared to present-day economic data. In other words, how important the estimated benefits are in relation to the current economy of the Guysborough area. The yearly average of 125 FTE within the region would be equivalent to 5.0% of the number of employed persons in the Guysborough Census Division for 2021.

Although the exact economic benefits over such a long period of time cannot be estimated with certainty, the project has the potential to boost economic growth ($1.22 B in GDP) and provide a substantial number of jobs (11,590 FTE) for the Guysborough area over a period of 92.5 years. It will, therefore, provide full-time year-round quality jobs that will provide stable and sustainable economic activity for the region and Nova Scotia for almost a century.

INTRODUCTION

The Lazy Head Aggregate Project (the project) is a proposed aggregate quarry and marine terminal located in the Municipality District of Guysborough (which corresponds to the Guysborough Census Division and is referred to as the Guysborough area in this document) in Nova Scotia. See Figure 1.

This document estimates the likely economic benefits of the project on the economy of Guysborough, Nova Scotia, the rest of the province and the Canadian economy as a whole. Assessments of those benefits, on a yearly basis, focus on three statistics:

- Employment expressed in Full-Time Equivalents (FTE)
- Gross Domestic Product (GDP) expressed in millions of Canadian dollars (M$)
- Fiscal revenues for the Nova Scotia and federal governments (M$)

The economic benefits are estimated for the project as a whole, which is, for the purpose of this study, divided into two major components:

1) Construction of the quarry over a two and a half-year period (Y-3 to Y-1) is referred to as the CAPEX phase in this document.

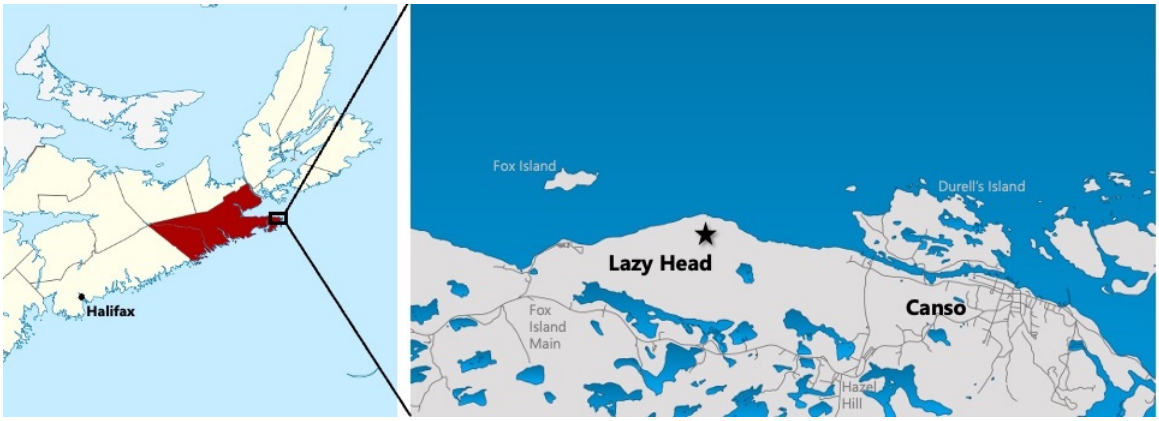
2) Operations (OPEX) over 90 years (Y+1 to Y+90) period. The OPEX data include the sustaining capital required to support operations.

The first section of this report provides an overview of the scope of the project over a projected 92.5 years (2.5 for CAPEX and 90 for OPEX), including expenditures and direct employment. The second section of the report outlines the assessment of economic benefits (employment, GDP and overall tax revenues) by year for Guysborough, Nova Scotia, the rest of Canada and Canada generated by the construction phase (CAPEX). The third section provides the economic benefits by year generated by the operation phase (OPEX), including sustaining capital, for the same geographical areas.

The overall impacts of the project are shown in Section IV and include both construction and operation over the life of the project. Section V compares the economic benefits of the project with the labour market of the Municipality District of Guysborough in order to better comprehend the contribution that the project will likely make to the local economy.

FIGURE 1

Municipality District of Guysborough and Project Location



DISCLAIMER

By its very nature, this document is highly prospective: it deals with numbers that are based on scenarios and hypotheses for a future that extends over 90 years into the future. The estimates of economic benefits outlined in this report are just that: estimates based on scenarios and hypotheses taking place in future years (the expenditures for goods and services for the Lazy Head Aggregate Project, the geographical locations of the suppliers, the structure of the provincial and national economies, etc.). No conclusion or inference should be made based on the content of this report regarding investment or financial decisions about the Lazy Head Aggregate Project, Morien Resources, the Nova Scotia or the Canadian economy.

Furthermore, this report is based on the best available data (October and November 2025) from Morien Resources regarding the Lazy Head Aggregate Project. This document constitutes neither an endorsement of the data used here nor an explicit statement about the accuracy of that data. A mining project by its very nature is dynamic and the economics of such a project, including costs, employment, production schedules, exchange rates and other elements, change on a regular basis.

Finally, estimates of the economic benefits generated by the Lazy Head Aggregate Project, notably indirect and induced employment, Gross Domestic Product and some tax revenues have been done using an economic impact model based on the Statistics Canada Input-Output Model of the Canadian Economy (interprovincial version) developed by EcoTec Consultants.

IMPORTANT NOTES

1) All dollar amounts are expressed in Canadian dollars (CAD) unless otherwise stated.
2) Efforts have been made to identify direct imports of goods and services. The Economic Impact Model (EIM) did calculate likely import content for items purchased in Canada but likely manufactured in other countries. An example of this is machinery and equipment purchased from a dealer or wholesaler in NS or elsewhere in Canada: the initial expenditure is made in Canada, but the real Canadian content is much lower (due to large import content).
3) Direct employment (and related salaries and benefits) has been allocated based on the projected province of permanent residency, not the place of work. Therefore, employment, personal income and economic benefits generated by household expenditures are based on the projected Census Division (County) of permanent residency of employees.
4) In order to provide prudent estimates of economic benefits for Nova Scotia, no attempt was made to calculate additional economic benefits by spending provincial fiscal revenues generated by the Lazy Head Aggregate Project in the Nova Scotia economy.
5) The timing of the expenditures is based on information available between and November 2025 and June 2026 when the economic impact simulations were done and the report was produced and then updated. The actual timing of the expenditures may vary from the assumptions made when the report was written. Such shifts in the schedule for the construction and operation of the quarry should have little impact on the actual economic benefits calculated here.

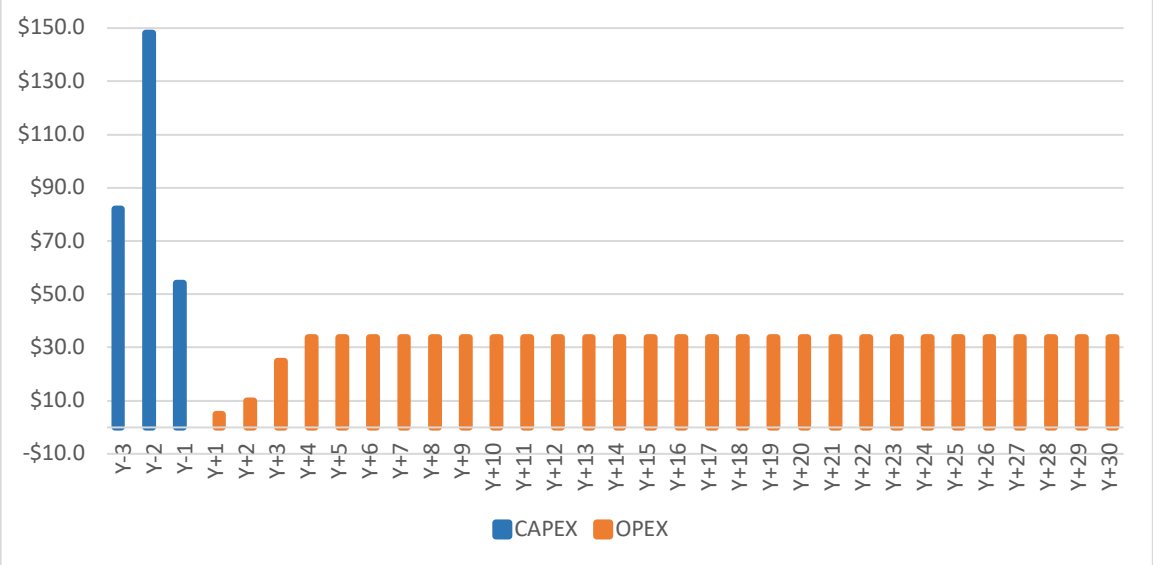
SECTION I – Project Expenditures and Employment

This section provides an overview of the size of the project over time, including the investments required and the operating expenses as well as direct employment. The Lazy Head Aggregate Project is a large-scale project. The scale of the project is outlined by the total expenditures, which are expected to reach $3.25 B over 92.5 years. The initial construction phase (CAPEX) is expected to last three calendar years (labelled as years Y-3 to Y-1 in the tables), representing 2.5 years of construction activity, with a budget estimated at $284 M, including $159 M spent in Canada.

The remainder of the budget, $2.97 B, will be expended over 90 years for operations (OPEX) and is composed of operating expenditures and sustaining capital. While operating expenditures are, by nature, rather stable from year to year, there will be a ramping up period for Y+1 to Y+4 when OPEX reaches $33.7 M. See Figure I-1.

FIGURE I-1

Project Expenditures CAPEX and OPEX, M$



Source: Morien Resources

Disclaimer: Actual cost estimates are subject to change as the project advances through permitting and detailed capital cost forecasts.

Total direct employment (see Table I-2) is composed of workers employed during the construction phase (CAPEX) as well as workers employed by the quarry owner during the operating phase. Total direct employment is expected to reach 7,211 Full-Time Equivalents (FTE) for Nova Scotia

over the life of the project (yearly average of 78 FTE), including 6,434 who are expected to be residents of Guysborough (70).

TABLE I-2

Direct Employment, CAPEX and OPEX, FTE

Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y-3	22	205	**227**	58	**286**
Y-2	48	112	**160**	0	**160**
Y-1	38	105	**142**	0	**142**
Y+1	29	1	**30**	0	**30**
Y+2	49	3	**52**	0	**52**
Y+3	71	4	**75**	0	**75**
Y+4	71	4	**75**	0	**75**
Y+5	71	4	**75**	0	**75**
Y+6-90*	6,035	340	**6,375**	0	**6,375**
Total	**6,434**	**777**	**7,211**	**58**	**7,269**
Yearly Average	**70**	**8**	**78**	**1**	**79**

Sources: Morien Resources, EcoTec Consultants and Table IV-4 for Guysborough direct employment.

* Represents total values over that period.

SECTION II – Estimates of Economic Benefits – Construction

This section provides an estimate of potential economic benefits which could be generated by the construction (CAPEX phase) of the Lazy Head Aggregate Project for the Guysborough area, Nova Scotia and Canadian economies. First, some definitions are in order:

Direct Economic Benefits

In the case of the project expenditures, direct economic benefits refer to employees of the construction/contractor firms working on the project site for the construction phase or the employees of Morien working at the project site or its ancillary installations once operational.

Indirect Economic Benefits: Suppliers

The indirect benefits are essentially the suppliers of the project. Indirect benefits also include the suppliers of the project's suppliers and the suppliers of those suppliers, etc. As a whole, indirect benefits represent the total economic benefits of business-to-business purchases.

Induced Economic Benefits: Household Expenditures

Induced economic impacts are generated by the consumer expenditures of employees. It is important to have an accurate assessment of the induced impacts in order to fully account for the overall economic benefits generated by the project. The induced economic benefits are calculated based on the projected county and province of permanent residency and not on the place of work.

Gross Domestic Product

It is probable that the construction phase of the project will generate a significant level of economic activity in the local and provincial economies. The best measure of economic activity, as measured in monetary terms, is the Gross Domestic Product (GDP). The GDP estimates provided in this report are 'income-based' at market prices. They are calculated by adding earnings from the factors of production (labour and capital) plus taxes minus subsidies. There are four main components in the income-based GDP calculations: compensation of employees (wages and salaries and employers' social contributions), gross operating surplus (operating revenues and depreciation of capital of corporations), gross mixed income (net income and depreciation of capital of unincorporated businesses) and taxes minus subsidies. Table II-1 contains the GDP estimates for the CAPEX phase. See also Figure I-1 and Figure II-2.

The total GDP that could be generated in the provincial economy by the construction phase is estimated at $110.9 M (a yearly average of $44.4 M). The GDP within the province is split between Guysborough ($23.7 M, translating into a yearly average of $9.5 M) and the rest of the province ($87.2 M – an average of $34.9 M).

The rest of the country is expected to share a total GDP of $65.8 M, representing an annual average of $26.3 M.

Overall, the GDP generated in Canada by the construction phase of the Lazy Head Aggregate Project is expected to total $176.7 M. Therefore, GDP creation during the construction period would average $70.7 M per year.

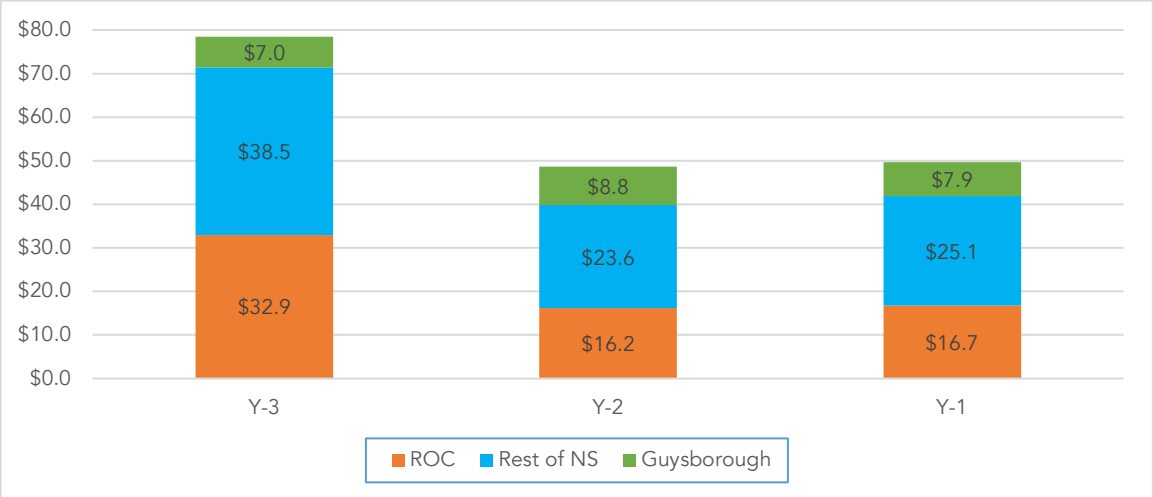
TABLE II-1

Estimates of Total Gross Domestic Product (GDP), CAPEX, M$

Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y-3	$7.0	$38.5	**$45.5**	$32.9	**$78.4**
Y-2	$8.8	$23.6	**$32.4**	$16.2	**$48.6**
Y-1	$7.9	$25.1	**$33.0**	$16.7	**$49.7**
Total	**$23.7**	**$87.2**	**$110.9**	**$65.8**	**$176.7**
Yearly average	**$9.5**	**$34.9**	**$44.4**	**$26.3**	**$70.7**

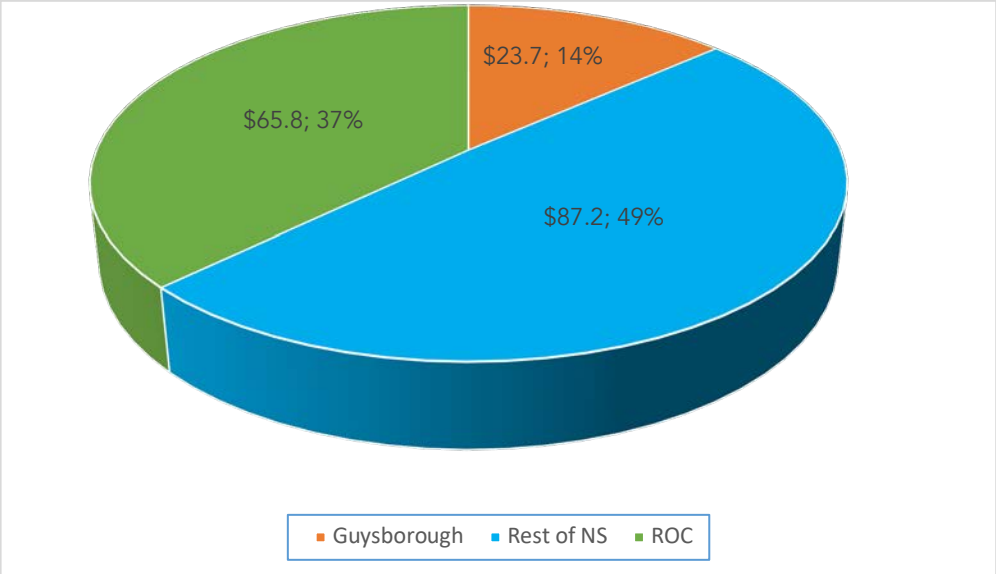
Source: EcoTec Consultants

FIGURE II-1
Estimates of Total GDP, CAPEX, M$



Source: Table II-1

FIGURE II-2
Estimates of Total GDP, Guysborough, NS and ROC Share, CAPEX, M$



Source: Table II-1

Table II-2 shows the estimates for GDP generated in the Guysborough area by the CAPEX phase of the project broken down into direct, indirect and induced impacts. Direct GDP represents about 49.8% of total GDP for Guysborough ($11.8 M), indirect GDP is estimated at $7.5 M (31.5%) and induced GDP is assessed at $4.4 M of induced GDP (18.7%).

TABLE II-2
Estimates of Direct, Indirect and Induced GDP, Guysborough, CAPEX, M$

Years	Direct	Indirect	Induced	Total
Y-3	$2.8	$2.7	$1.5	**$7.0**
Y-2	$5.0	$2.4	$1.4	**$8.8**
Y-1	$4.0	$2.4	$1.5	**$7.9**
Total	**$11.8**	**$7.5**	**$4.4**	**$23.7**
Yearly average	**$4.7**	**$3.0**	**$1.8**	**$9.5**

Source: EcoTec Consultants

Employment

The most accurate indicator of economic activity measured in monetary terms is the Gross Domestic Product (GDP), while the best indicator of the impact on the labour market is the number of jobs likely to be generated (measured as full-time equivalent (FTE)). It is also probably the indicator with which stakeholders are most familiar. Table II-3 contains the total employment estimates broken down by geographical area. See also Figure II-3 and Figure II-4.

It should be noted that employment for the different geographical areas reflects the number of residents working as a result of the Lazy Head Aggregate Project's activities, not the number of workers at the quarry site. This way of accounting for employment (place of residence instead of place of work) is done to provide a realistic picture of potential economic benefits for Nova Scotia, including for its resident workforce. Using employment estimates based on the place of work could distort employment opportunities for residents of the Guysborough area.

The number of jobs generated by the construction phase of the Lazy Head Aggregate Project for residents of Nova Scotia is expected to total 1,231 FTE. Employment within the province would be split between the Guysborough area (292) and other regions of the province (939). Peak employment within the Guysborough area would be in Y-2 (112) with an average annual of 117 over the 2.5 years of the construction period. See Table II-3.

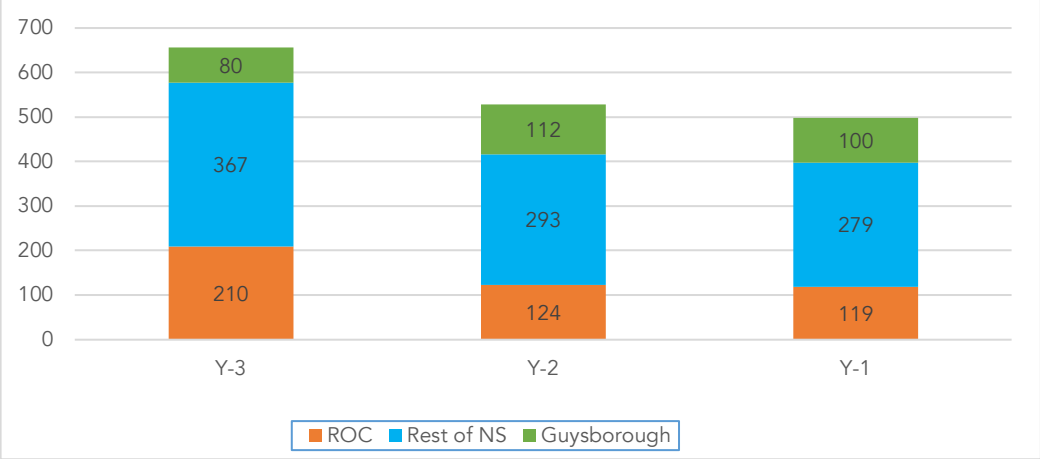
Within the rest of the country, the number of FTE generated by the construction phase is expected to reach 453 (181). The national total is expected to reach 1,683 for a yearly average of 673.

TABLE II-3
Estimates of Total Employment, CAPEX, FTE

Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y-3	80	367	**447**	210	**657**
Y-2	112	293	**405**	124	**529**
Y-1	100	279	**379**	119	**498**
Total	**292**	**939**	**1,231**	**453**	**1,683**
Yearly average	**117**	**376**	**492**	**181**	**673**

Sources: Morien Resources and EcoTec Consultants

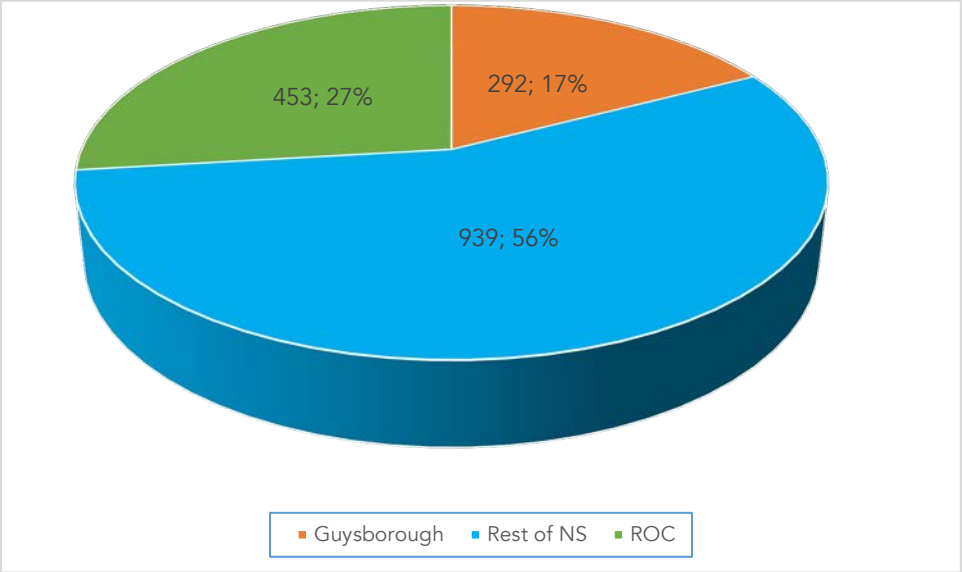
FIGURE II-3
Estimates of Total Employment, CAPEX, FTE



Source: Table II-3

FIGURE II-4

Estimates of Total Employment, Guysborough, NS and ROC, CAPEX, FTE



Source: Table II-3

Table II-4 shows the estimates for employment generated in the Guysborough area by the construction phase of the project broken down into direct, indirect and induced benefits.

Direct employment for the residents in the area would be 108 FTE (37.1% of employment generated in the Guysborough area). Employees of various suppliers would total 154 indirect FTE (52.8%) and induced FTE employment would be 30 FTE (10.1%).

TABLE II-4

Estimates of Direct, Indirect & Induced Employment, Guysborough, CAPEX, FTE

Years	Direct	Indirect	Induced	Total
Y-3	22	49	9	**80**
Y-2	48	54	10	**112**
Y-1	38	51	11	**100**
Total	**108**	**154**	**30**	**292**
Yearly average	**43**	**62**	**12**	**117**

Sources: Morien Resources and EcoTec Consultants

Fiscal Revenues

Fiscal revenues represent an important component of the economic benefits generated by mining projects. The project is no different in this regard and the next two tables provide a breakdown of those revenues for the three levels of governments by year. Fiscal revenues for CAPEX include personal income tax, sales taxes and other indirect taxes (such as property tax) and taxes on corporate revenues.

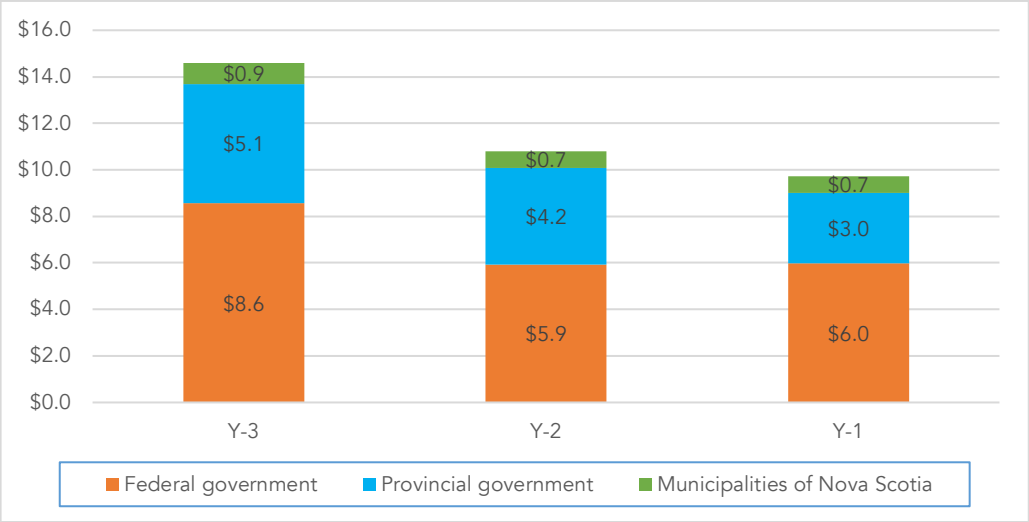
Total fiscal revenues collected during the construction phase of the Lazy Head Aggregate Project are expected to reach $35.1 M. See Table II-5. Revenues for the federal government are estimated at $20.5 M (a yearly average of $8.2 M). Fiscal revenues for the provincial government are estimated at $12.3 M ($4.9 M). Fiscal revenues for municipalities within the province are estimated at about $2.4 M ($0.9 M). Also see Figure II-5 and Figure II-6.

TABLE II-5
Fiscal Revenues, CAPEX, M$

Years	Federal tax revenues*	Province of Nova Scotia	Municipalities of Nova Scotia	Total
Y-3	$8.6	$5.1	$0.9	**$14.6**
Y-2	$5.9	$4.2	$0.7	**$10.8**
Y-1	$6.0	$3.0	$0.7	**$9.7**
Total	**$20.5**	**$12.3**	**$2.4**	**$35.1**
Yearly average	**$8.2**	**$4.9**	**$0.9**	**$14.1**

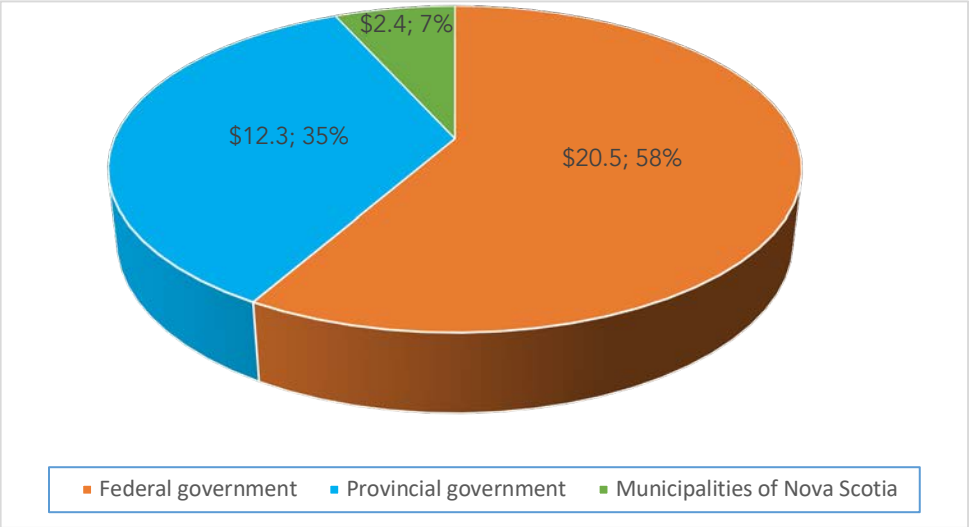
Source: EcoTec Consultants
* Federal tax revenues for Canada as a whole.

FIGURE II-5
Total Fiscal Revenues, CAPEX, M$



Source: Table II-5

FIGURE II-6
Governments' Share of Total Fiscal Revenues, CAPEX, M$



Source: Table II-5

SECTION III – Estimates of Economic Benefits – Operations

Gross Domestic Product (GDP)

The operation of the project, including the sustaining capital required to keep it operational, will generate a significant level of economic activity in the Nova Scotian and Canadian economies over a 90-year period, and will make a noticeable contribution to the Guysborough economy.

The total GDP that could be generated in the provincial economy by the 90-year operation is estimated at $2.1 B, equivalent to a yearly average of $23.8 M (Table III-1). The annual GDP contribution to Nova Scotia will reach a sustained peak of $24.3 M starting in Y+6.

Within Nova Scotia, the GDP will be split between Guysborough ($1.19 B – yearly average of $13.2 M) and the rest of the province ($0.95 B – yearly average of $10.6 M). Sustained peak GDP would reach $13.5 M in Y+6 for Guysborough and $10.9 M for the rest of the province.

About $0.9 B will be added to the GDP of the rest of the country (yearly average - $10.2 M), with a sustained peak of $10.5 (Y+6). A resulting total of $3.1 B in economic activity will likely be added to the national economy over the 90-year operation (annual average - $34.1 M), of which 70% will occur in Nova Scotia, including 39% in Guysborough (Figure III-1 and III-2).

TABLE III-1

Estimates of Total Gross Domestic Product, OPEX, M$

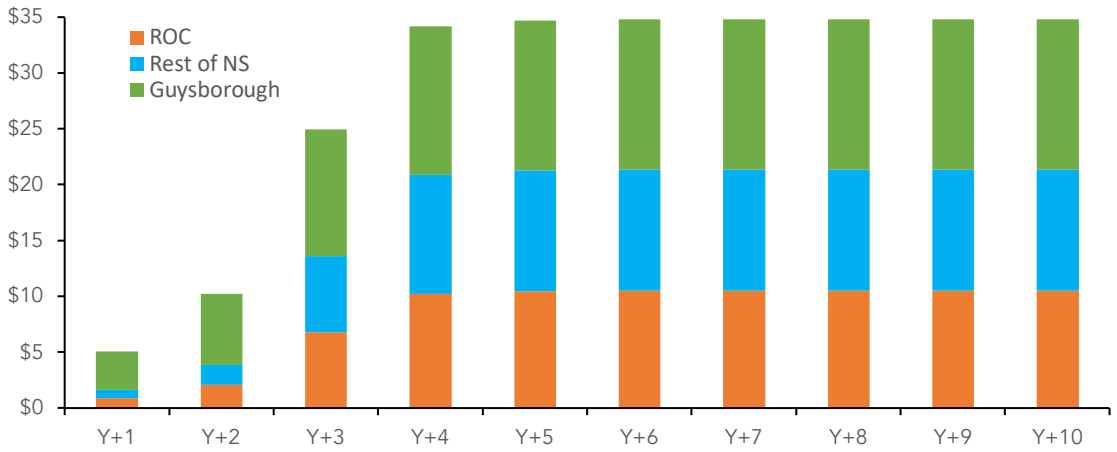
Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y+1	$3.5	$0.7	**$4.2**	$0.9	**$5.1**
Y+2	$6.3	$1.8	**$8.1**	$2.1	**$10.2**
Y+3	$11.3	$6.8	**$18.1**	$6.8	**$24.9**
Y+4	$13.3	$10.6	**$23.9**	$10.2	**$34.2**
Y+5	$13.4	$10.8	**$24.2**	$10.4	**$34.7**
Y+6	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+7	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+8	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+9	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+10	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+11-90*	$1,076.7	$869.1	**$1,945.8**	$839.9	**$2,785.6**
Total	**$1,191.8**	**$954.2**	**$2,146.0**	**$922.8**	**$3,068.8**
Yearly average	**$13.2**	**$10.6**	**$23.8**	**$10.3**	**$34.1**

Source: EcoTec Consultants

* Represents total values over that period.

FIGURE III-1

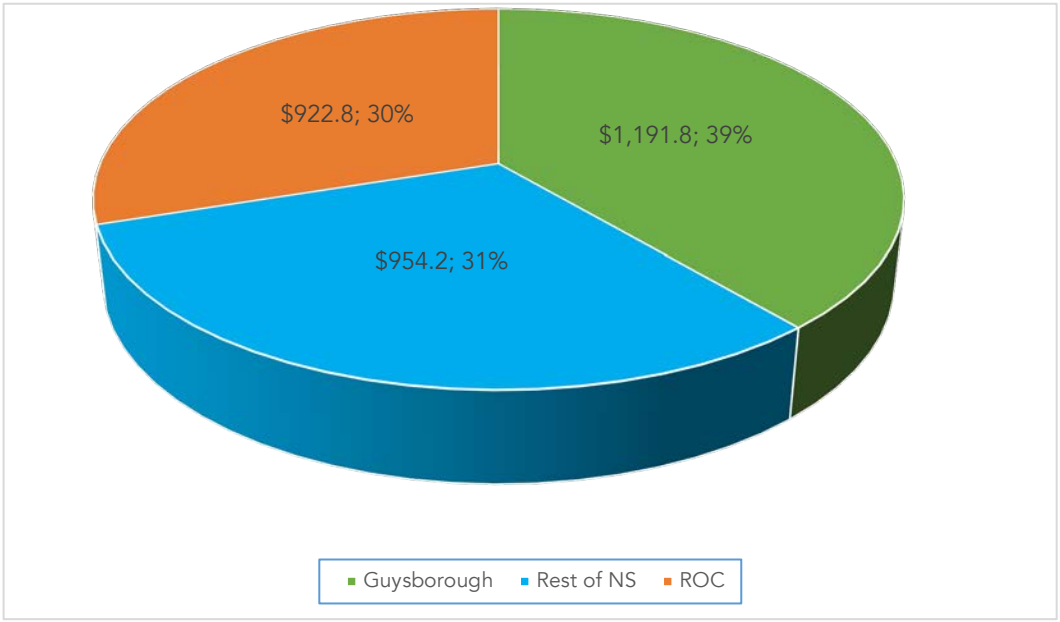
Estimates of Total Gross Domestic Product, Y+1 to Y+10, OPEX, M$



Source: Table III-1

FIGURE III-2

Estimates of Total Gross Domestic Product, NS and ROC Share, OPEX, M$



Source: Table III-1

Table III-2 shows the estimates for GDP generated in the Guysborough area by the operation of the Lazy Head Aggregate Project, broken down into their three components: direct, indirect and induced impacts.

Direct GDP is assessed at $571.3, which represents 47.9% of the total GDP for that geographical area. This direct GDP does not include either operating income or depreciation values. The indirect GDP generated by suppliers of the aggregate project is estimated at $329.3 M (27.6%). Finally, $291.2 M of induced GDP (24.4 %) would be generated by household expenditures.

TABLE III-2

Estimates of Direct, Indirect & Induced GDP, Guysborough, OPEX, M$

Years	Direct	Indirect	Induced	Total
Y+1	$2.6	$0.4	$0.5	**$3.5**
Y+2	$4.4	$0.8	$1.1	**$6.3**
Y+3	$6.4	$2.5	$2.4	**$11.3**
Y+4	$6.4	$3.7	$3.2	**$13.3**
Y+5	$6.4	$3.7	$3.3	**$13.4**
Y+6	$6.4	$3.7	$3.3	**$13.5**
Y+7	$6.4	$3.7	$3.3	**$13.5**
Y+8	$6.4	$3.7	$3.3	**$13.5**
Y+9	$6.4	$3.7	$3.3	**$13.5**
Y+10	$6.4	$3.7	$3.3	**$13.5**
Y+11-90*	$513.0	$299.5	$264.2	**$1,076.7**
Total	**$571.3**	**$329.3**	**$291.2**	**$1,191.8**
Yearly average	**$6.3**	**$3.7**	**$3.2**	**$13.2**

Source: Morien Resources and EcoTec Consultants

* Represents total values over that period.

Employment

The number of jobs, expressed as full-time equivalents (FTE), that will be created by the operation of the project will be quite significant. Table III-3 contains the total employment estimates for all geographical areas covered in this report, including direct, indirect and induced impacts.

As was the case in the previous section, employment for the local area reflects an assessment of the number of residents in Guysborough working as a result of the project's activities, not the number of workers at the quarry site. Similarly, provincial and national employment include all employment by Nova Scotian and Canadian residents, respectively, regardless of the place of work.

The number of FTE generated by the operation of the Lazy Head Aggregate Project for residents of Nova Scotia is expected to total 17,953 FTE with a sustained peak employment of 203 FTE starting in Y+5. The total number of FTE is equivalent to an annual average of 199 FTE over 90 years.

The share of employment for the Guysborough area is estimated at 11,298 FTE, a yearly average of 126 FTE over the 90-year period, with a sustained peak of 128 starting in Y+7. Employment in the rest of the province would total 6,655 FTE (average of 74) with a sustained peak of 76 FTE starting in Y+6.

Job creation for residents of other provinces and territories is expected to total 5,595 FTE, peaking at 64 FTE in Y+6. Nationally, employment generated by the operation of the quarry is expected to total 23,549 FTE, equivalent to an annual average of 262 FTE, with 76.2% of all employment going to residents of Nova Scotia, including 48.0% for residents of the Guysborough area. See also Figure III-3 as well as Figure III-4.

TABLE III-3

Estimates of Total Employment, OPEX, FTE

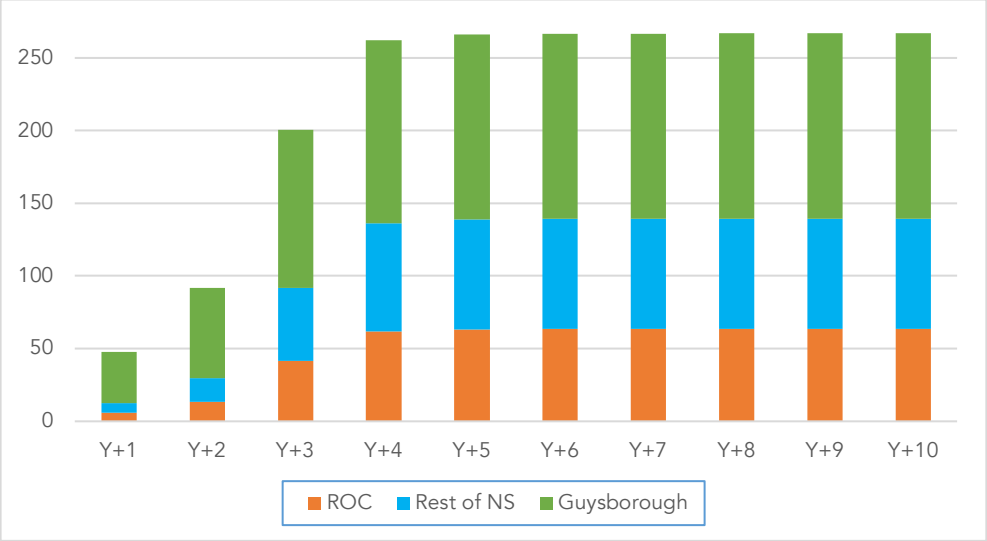
Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y+1	35	7	**42**	6	**48**
Y+2	62	17	**79**	13	**92**
Y+3	109	50	**159**	42	**201**
Y+4	126	74	**200**	62	**262**
Y+5	127	75	**203**	63	**266**
Y+6	127	76	**203**	64	**267**
Y+7	128	76	**203**	64	**267**
Y+8	128	76	**203**	64	**267**
Y+9	128	76	**203**	64	**267**
Y+10	128	76	**203**	64	**267**
Y+11-90*	10,201	6,054	**16,255**	**5,091**	**21,346**
Total	**11,298**	**6,655**	**17,953**	**5,595**	**23,549**
Yearly average	**126**	**74**	**199**	**62**	**262**

Sources: Morien Resources and EcoTec Consultants

* Represents total values over that period.

FIGURE III-3

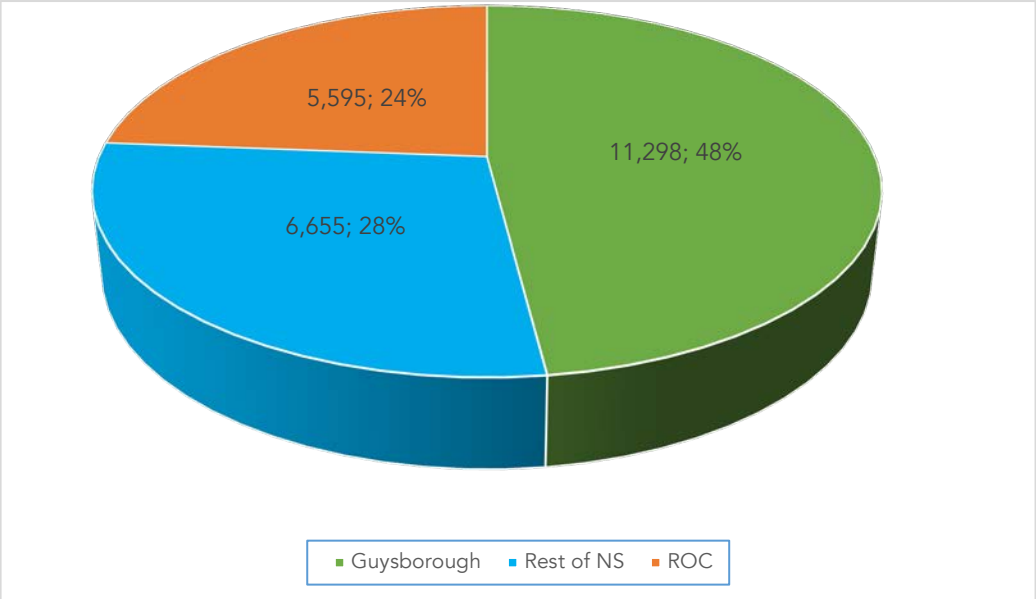
Estimates of Total Employment, NS and ROC, OPEX, FTE



Source: Table III-3

FIGURE III-4

Estimates of Total Employment, NS and ROC, OPEX, FTE



Source: Table III-3

Table III-4 provides estimates for employment generated in Guysborough by the operation of the project broken down into direct, indirect and induced FTE.

Approximately 56% of total employment for Guysborough residents would be represented by direct employment on site (6,326 FTE for a yearly average of 70 over 90 years). Employees of various suppliers would total 3,045 indirect FTE (27%) and induced FTE would come at 1,927 FTE (17%).

TABLE III-4

Estimates of Direct, Indirect & Induced employment, Guysborough, OPEX, FTE

Years	Direct	Indirect	Induced	Total
Y+1	29	4	2	**35**
Y+2	49	8	5	**62**
Y+3	71	24	14	**109**
Y+4	71	34	21	**126**
Y+5	71	35	22	**127**
Y+6	71	35	22	**127**
Y+7	71	35	22	**128**
Y+8	71	35	22	**128**
Y+9	71	35	22	**128**
Y+10	71	35	22	**128**
Y+11-90*	5,680	2,768	1,753	**10,201**
Total	**6,326**	**3,045**	**1,927**	**11,298**
Yearly average	**70**	**34**	**21**	**126**

Sources: Morien Resources and EcoTec Consultants

* Represents total values over that period.

Fiscal Revenues

The operation of the Lazy Head Aggregate Project will likely generate significant fiscal revenues for all levels of government. Table III-5 provides a breakdown of those revenues by year.

Fiscal revenues for the federal government are estimated at $339.0 M, representing a yearly average of $3.8 M. Total fiscal revenues generated by the operation of the quarry for the provincial government are estimated at $238.4 M, representing an annual average of $2.6 M. The municipalities within the province are expected to collect $89.5 M, an average of $1.0 M per year over the operating life of the project. See also Figure III-5 and Figure III-6.

TABLE III-5

Fiscal Revenues, OPEX, M$

Years	Federal tax revenues*	Province of Nova Scotia	Municipalities of Nova Scotia	Total
Y+1	$0.5	$0.4	$0.1	**$1.0**
Y+2	$1.0	$0.8	$0.3	**$2.0**
Y+3	$2.7	$1.9	$0.7	**$5.1**
Y+4	$3.8	$2.7	$1.0	**$7.1**
Y+5	$3.8	$2.7	$1.0	**$7.2**
Y+6	$3.8	$2.7	$1.0	**$7.2**
Y+7	$3.8	$2.7	$1.0	**$7.2**
Y+8	$3.8	$2.7	$1.0	**$7.2**
Y+9	$3.9	$2.7	$1.0	**$7.2**
Y+10	$3.9	$2.7	$1.0	**$7.2**
Y+11-90**	$308.0	$216.5	$81.3	**$578.6**
Total	**$339.0**	**$238.4**	**$89.5**	**$637.0**
Yearly average	**$3.8**	**$2.6**	**$1.0**	**$7.1**

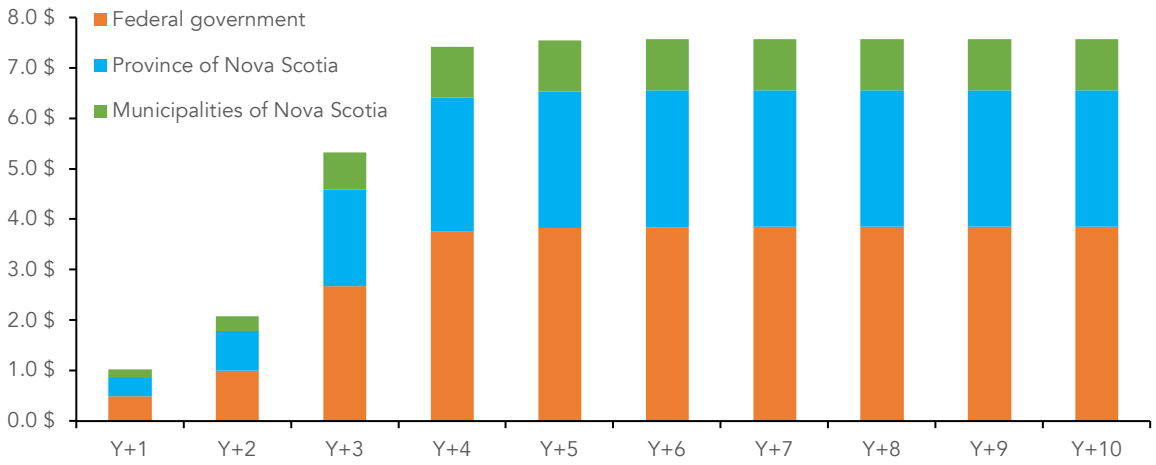
Sources: Morien Resources and EcoTec Consultants

* Federal tax revenues for Canada as a whole.

** Represents total values over that period.

FIGURE III-5

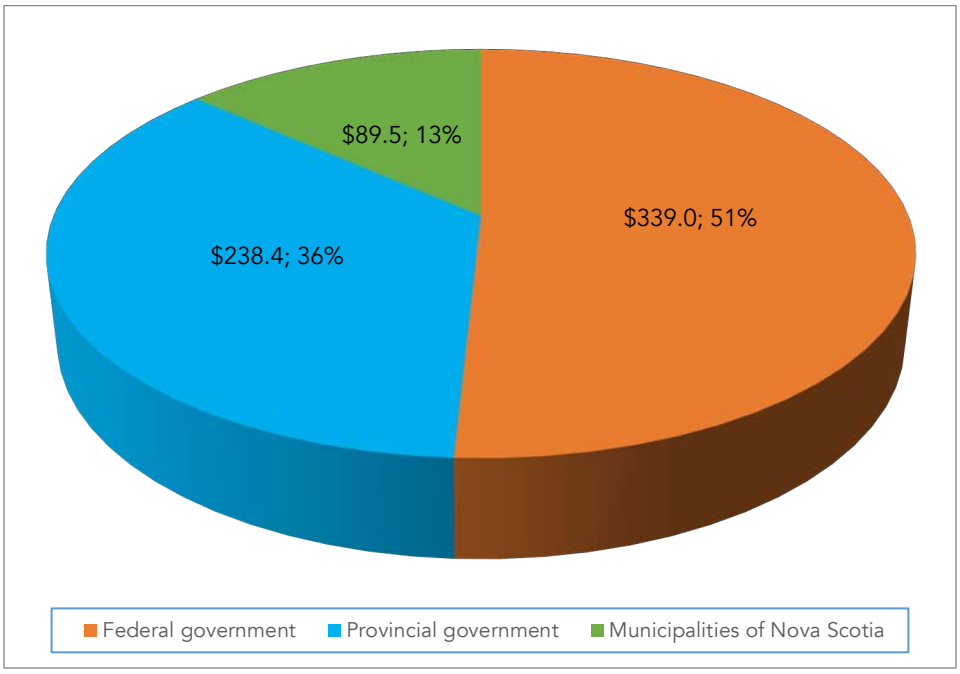
Total Fiscal Revenues, Y+1 to Y+10, OPEX, M$



Source: Table III-5

FIGURE III-6

Governments' Share of Total Fiscal Revenues, OPEX, M$



Source: Table III-5

SECTION IV – Estimates of Economic Benefits – Total Project

This section provides an estimate of the total economic benefits which could be generated by the project for the Guysborough area, Nova Scotia and Canadian economies over the life of the project, including both the construction and operation of the quarry.

Gross Domestic Product

As shown in Table IV-1, the project will likely make a significant contribution to the Guysborough and provincial economies over the life of the quarry.

The estimate for the total GDP that could be generated in the Nova Scotia economy over the life of the project is estimated at $2.3 B, an average of $24.4 M over 92.5 years (2.5 years of construction and 90 years of operation). After an initial peak of $45.5 M during the first year of construction (Y-3), the GDP generated within the province is expected to reach a sustained level of $24.3 M starting in Y+6.

The Guysborough area will be the largest beneficiary within the province, with a total GDP estimated at $1.2 B over the life of the quarry (a yearly average of $13.1 M). The GDP generated within the local economy is expected to reach a sustained level of $13.5 M starting in Y+6.

The level of economic activity generated in the rest of the country is assessed at $1.0 B (a yearly average of $10.7 M). The split between Guysborough, the rest of Nova Scotia and the

TABLE IV-1

Estimates of Total Gross Domestic Product, Total Project, M$

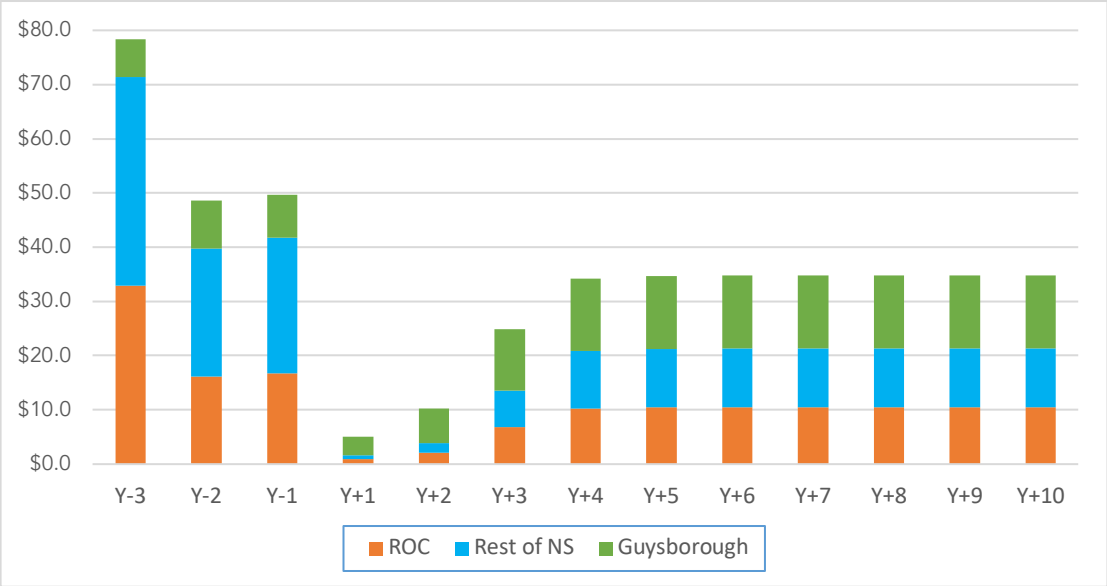
Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y-3	$7.0	$38.5	**$45.5**	$32.9	**$78.4**
Y-2	$8.8	$23.6	**$32.4**	$16.2	**$48.6**
Y-1	$7.9	$25.1	**$33.0**	$16.7	**$49.7**
Y+1	$3.5	$0.7	**$4.2**	$0.9	**$5.1**
Y+2	$6.3	$1.8	**$8.1**	$2.1	**$10.2**
Y+3	$11.3	$6.8	**$18.1**	$6.8	**$24.9**
Y+4	$13.3	$10.6	**$23.9**	$10.2	**$34.2**
Y+5	$13.4	$10.8	**$24.2**	$10.4	**$34.7**
Y+6	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+7	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+8	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+9	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+10	$13.5	$10.9	**$24.3**	$10.5	**$34.8**
Y+11-90*	$1,076.7	$869.1	**$1,945.8**	$839.9	**$2,785.6**
Total	**$1,215.6**	**$1,041.4**	**$2,256.9**	**$988.6**	**$3,245.5**
Yearly average	**$13.1**	**$11.3**	**$24.4**	**$10.7**	**$35.1**

Source: EcoTec Consultants

* Represents total values over that period.

FIGURE IV-1

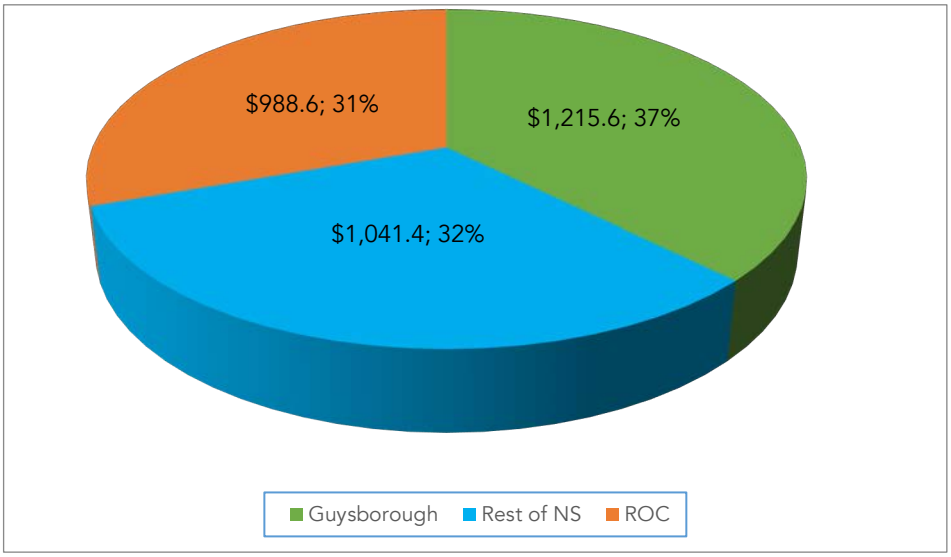
Estimates of Total GDP, Y-3 to Y+10, Total Project, M$



Source: Table IV-1

FIGURE IV-2

Estimates of Total GDP, NS and ROC Share, Total Project, M$



Source: Table IV-1

Table IV-2 provides detailed estimates for the level of economic activity which could be generated in Guysborough over the life of the project, broken down into direct, indirect and induced impacts.

Direct GDP represents 48% of total GDP ($583.1 M) followed by $336.8 M in indirect GDP (27.7%) for suppliers and $295.6 M of induced GDP (24.3 %) generated by household expenditures.

TABLE IV-2

Direct, Indirect and Induced GDP Estimates, Guysborough, Total Project, M$

Years	Direct	Indirect	Induced	Total
Y-3	$2.8	$2.7	$1.5	**$7.0**
Y-2	$5.0	$2.4	$1.4	**$8.8**
Y-1	$4.0	$2.4	$1.5	**$7.9**
Y+1	$2.6	$0.4	$0.5	**$3.5**
Y+2	$4.4	$0.8	$1.1	**$6.3**
Y+3	$6.4	$2.5	$2.4	**$11.3**
Y+4	$6.4	$3.7	$3.2	**$13.3**
Y+5	$6.4	$3.7	$3.3	**$13.4**
Y+6	$6.4	$3.7	$3.3	**$13.5**
Y+7	$6.4	$3.7	$3.3	**$13.5**
Y+8	$6.4	$3.7	$3.3	**$13.5**
Y+9	$6.4	$3.7	$3.3	**$13.5**
Y+10	$6.4	$3.7	$3.3	**$13.5**
Y+11-90*	$513.0	$299.5	$264.2	**$1,076.7**
Total	**$583.1**	**$336.8**	**$295.6**	**$1,215.6**
Yearly average	**$6.3**	**$3.6**	**$3.2**	**$13.1**

Source: EcoTec Consultants

* Represents total values over that period.

Employment

Table IV-3 shows the estimates for employment, expressed in FTE, that could be generated, including direct, indirect and induced impacts, over the life of the Lazy Head Aggregate Project.

The total number of FTE generated by the project in Nova Scotia over the life of the quarry is estimated at 19,184. Over 92.5 years, this is equivalent to an annual average of 207 FTE within the province. After a peak of 447 FTE in Y-3, a sustained peak of 203 will be reached in Y+5.

The share of employment in the Guysborough area is estimated at 11,590 over the 92.5-year period, a yearly average of 125 FTE. Therefore, employment generated in the local area could represent slightly over 60% of total employment generated within Nova Scotia. Employment in the rest of the province is estimated at 7,594 (an average of 82 per year).

A total of 6,048 FTE would be generated in the rest of the country, a yearly average of 65. For Canada as a whole, the number of FTE generated by the project over its life is expected to total 25,232. This translates into an annual average of 273 FTE. The total number of FTE is therefore split 46% - 30% - 24% between the Guysborough area, the rest of Nova Scotia and the rest of the country. See also Figure IV-3 and Figure IV-4.

TABLE IV-3

Estimates of Total Employment, Total Project, FTE

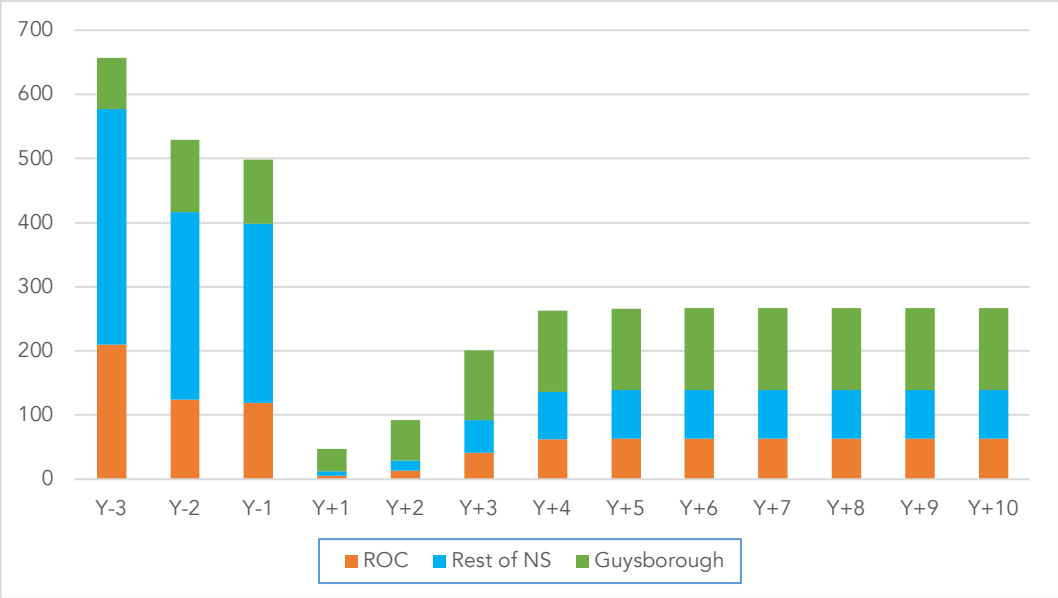
Years	Guysborough	Rest of NS	Total NS	ROC	Total Canada
Y-3	80	367	**447**	210	**657**
Y-2	112	293	**405**	124	**529**
Y-1	100	279	**379**	119	**498**
Y+1	35	7	**42**	6	**48**
Y+2	62	17	**79**	13	**92**
Y+3	109	50	**159**	42	**201**
Y+4	126	74	**200**	62	**262**
Y+5	127	75	**203**	63	**266**
Y+6	127	76	**203**	64	**267**
Y+7	128	76	**203**	64	**267**
Y+8	128	76	**203**	64	**267**
Y+9	128	76	**203**	64	**267**
Y+10	128	76	**203**	64	**267**
Y+11-90*	10,201	6,054	**16,255**	5,091	**21,346**
Total	**11,590**	**7,594**	**19,184**	**6,048**	**25,232**
Yearly average	**125**	**82**	**207**	**65**	**273**

Sources: Morien Resources and EcoTec Consultants

* Represents total values over that period.

FIGURE IV-3

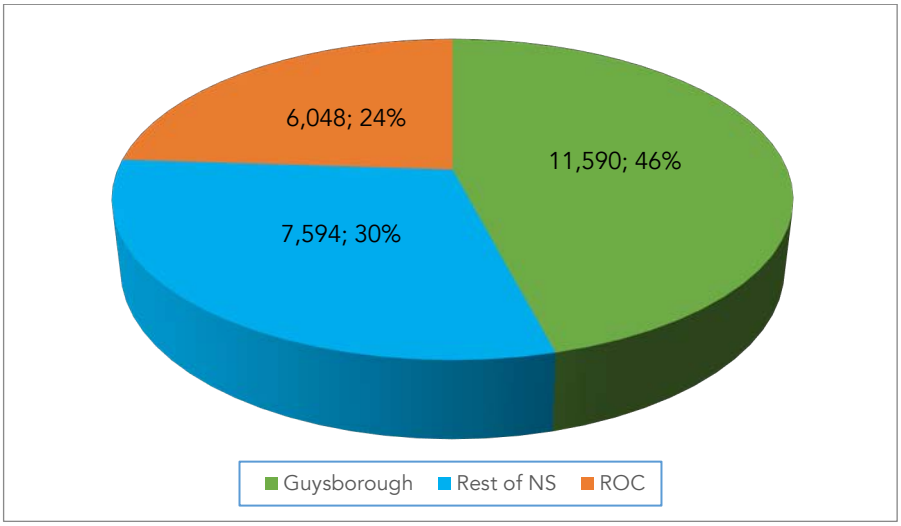
Estimates of Total Employment, Y-3 to Y+10, Total Project, FTE



Source: Table IV-3

FIGURE IV-4

Estimates of Total Employment, NS and ROC Share, Total Project, FTE



Source: Table IV-3

Table IV-4 contains estimates for employment generated in Guysborough by the construction and operation of the project broken down into direct, indirect and induced FTE. Direct employment of 6,434 FTE would represent 55.5% of total employment within the local area. Employees of all suppliers would total 3,199 indirect FTE (27.6%) and induced FTE would be 1,957 FTE (16.9%).

TABLE IV-4

Estimates of Direct, Indirect & Induced Employment, Guysborough, Total Project, FTE

Years	Direct	Indirect	Induced	Total
Y-3	22	49	9	**80**
Y-2	48	54	10	**112**
Y-1	38	51	11	**100**
Y+1	29	4	2	**35**
Y+2	49	8	5	**62**
Y+3	71	24	14	**109**
Y+4	71	34	21	**126**
Y+5	71	35	22	**127**
Y+6	71	35	22	**127**
Y+7	71	35	22	**128**
Y+8	71	35	22	**128**
Y+9	71	35	22	**128**
Y+10	71	35	22	**128**
Y+11-90*	5,680	2,768	1,753	**10,201**
Total	**6,434**	**3,199**	**1,957**	**11,590**
Yearly average	**70**	**35**	**21**	**125**

Sources: Morien Resources and EcoTec Consultants

* Represents total values over that period.

Fiscal Revenues

Estimates for fiscal revenues for all levels of governments are contained in Table IV-5.

Total fiscal revenues for the federal government are expected to reach $359.5 M (yearly average of $3.9 M). See Table IV-5. The government of Nova Scotia would collect an estimated $250.7 M over the life of the project ($2.7 M). The municipalities of the province would share $91.9 M, a yearly average of $1.0 M. Total fiscal revenues for all levels of government are therefore expected to reach $702.2 M, an average of $7.6 M annually. See also Figure IV-5 and Figure IV-6.

TABLE IV-5

Fiscal Revenues, Total Project, M$

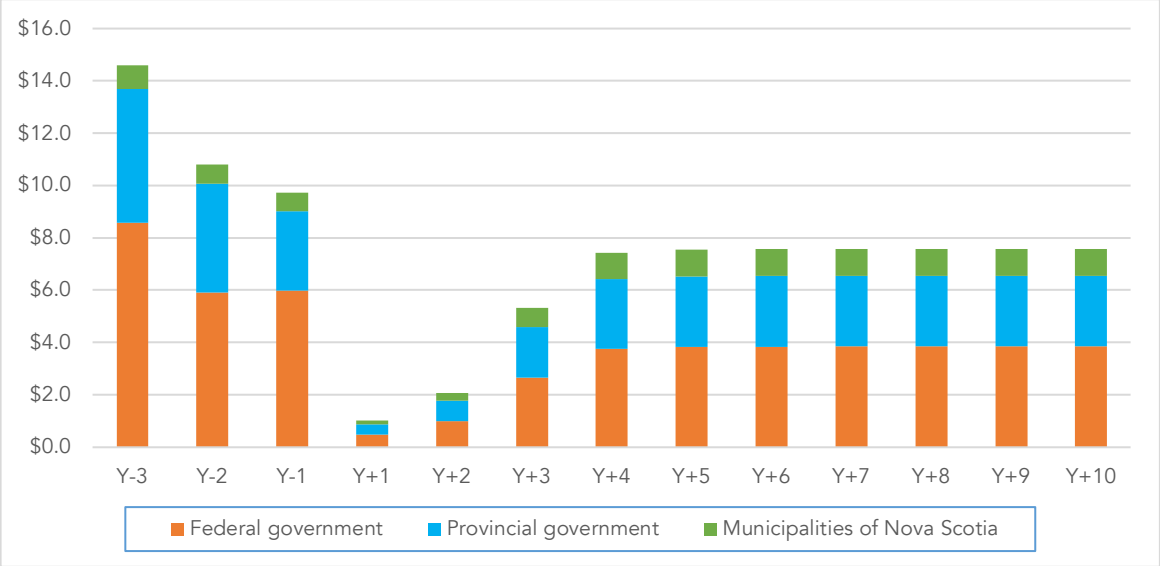
Years	Federal tax revenues*	Province of Nova Scotia	Municipalities of Nova Scotia	Total
Y-3	$8.6	$5.1	$0.9	**$14.6**
Y-2	$5.9	$4.2	$0.7	**$10.8**
Y-1	$6.0	$3.0	$0.7	**$9.7**
Y+1	$0.5	$0.4	$0.1	**$1.0**
Y+2	$1.0	$0.8	$0.3	**$2.1**
Y+3	$2.7	$1.9	$0.7	**$5.3**
Y+4	$3.8	$2.7	$1.0	**$7.4**
Y+5	$3.8	$2.7	$1.0	**$7.5**
Y+6	$3.8	$2.7	$1.0	**$7.6**
Y+7	$3.8	$2.7	$1.0	**$7.6**
Y+8	$3.8	$2.7	$1.0	**$7.6**
Y+9	$3.9	$2.7	$1.0	**$7.6**
Y+10	$3.9	$2.7	$1.0	**$7.6**
Y+11-90**	$308.0	$216.5	$81.3	**$605.8**
Total	**$359.5**	**$250.7**	**$91.9**	**$702.2**
Yearly average	**$3.9**	**$2.7**	**$1.0**	**$7.6**

Sources: Morien Resources and EcoTec Consultants

* Represents total values over that period.

FIGURE IV-5

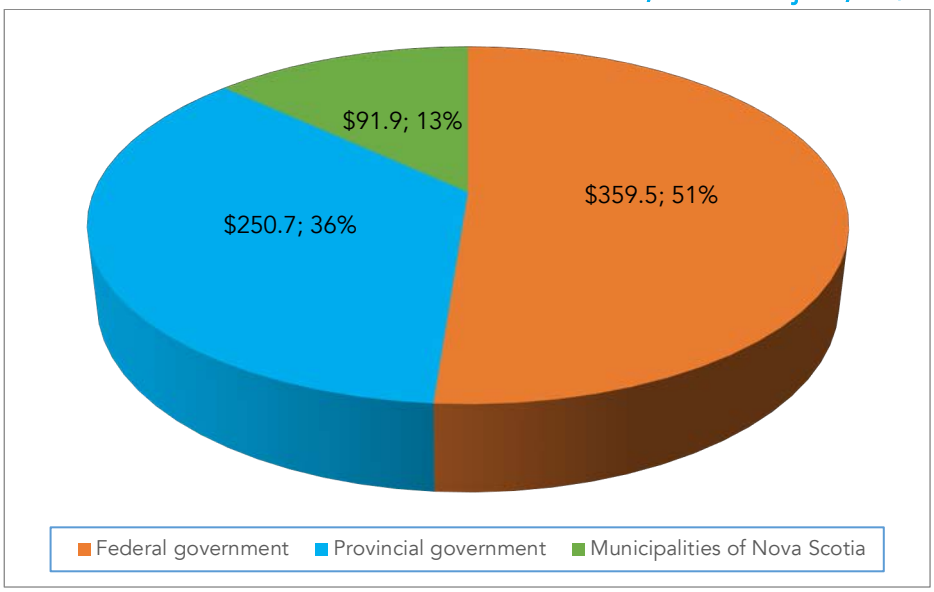
Governments' Tax Revenues, Y-3 to Y+10, Total Project, M$



Source: Table IV-5

FIGURE IV-6

Governments' Share of Total Fiscal Revenues, Total Project, M$



Source: Table IV-5

SECTION V – Importance of the Project for Guysborough

The real significance of potential economic benefits is best understood when those benefits are compared to present-day economic data. In other words, how important the estimated benefits are in relation to the current economy of the Guysborough area. Table V-1 provides some useful comparisons with employment statistics from the 2021 Census.

The potential economic benefits of the Lazy Head Aggregate Project would bring significant benefits to the Guysborough area. The annual average of 125 FTE for residents is equivalent to 5.0% of the estimated number of employed persons in the Guysborough Census Division for 2021. This represents a meaningful potential increase in employment for the local area.

TABLE V-1

Economic Benefits of the Project Relative to the Guysborough Area

Statistics	Total for region	Lazy Head	Percentage of Economy
	Guysborough		
Employment (2021)	2,520		
CAPEX (average over 2.5 years)		117	4.6%
OPEX (average over 90 years)		126	5.0%
Total (average over 92.5 years)		**125**	**5.0%**

Sources: Statistics Canada and EcoTec Consultants

CONCLUSION

The Lazy Head Aggregate Project is a major investment project for Nova Scotia. Over a 92.5-year period, over $3.2 B would be spent on both capital and operations.

Although the exact economic benefits over such a long period of time cannot be estimated with certainty, the project has the potential to boost economic growth ($1.2 B in GDP) and provide a substantial number of jobs (11,590 FTE) for the Guysborough area over a period of 92.5 years. It will therefore provide full-time year-round quality jobs that will provide stable and sustainable economic activity for the region and Nova Scotia for almost a century.

ANNEX A – Data Requirements and Economic Impact Model

The estimation of the potential economic benefits generated by the project, notably indirect and induced employment, Gross Domestic Product and tax revenues, has been done using an economic impact model (EIM) based on the Statistics Canada Input-Output Model of the Canadian Economy (interprovincial version) developed and used by EcoTec Consultants for this report. The EIM is based on data from 2019 to 2024 and includes 494 goods and services and 235 industries.

Input-Output (IO) models are widely used to calculate economic impacts throughout Canada. These models provide a fairly accurate representation of the national, provincial or regional economy. By following the path taken by the quarry's expenditures throughout the economy, IO models are able to estimate GDP, employment by industry as well as government tax revenues (direct employment data for OPEX was provided by the client).

Four basic questions must be asked when collecting data for a mining project. The information required to answer them is essential to provide an accurate assessment of economic benefits. The questions are:

1) What? A mining project typically entails expenditures of billions of dollars for the CAPEX and the OPEX phase of the project. Different goods and services are manufactured or provided by various industries, every one of which has a different input structure. For example, some industries may use proportionally more labour than others. Other industries may mostly use goods and services that are sourced within NS or Canada, while others may use equipment or components imported from other countries.

   Therefore, different industries generate different economic benefits per dollar of sales. This is why it's important to identify the nature of the goods and services required to build and operate the quarry. It is this mix that will lead to different industries providing the inputs required for the mining project and will play a key role in determining the level of economic benefits.

   When detailed engineering and costing are performed, the expenditures are broken down into major categories. As an example, here are four such categories for the CAPEX phase of the Lazy Head Aggregate Project:

   a) On-Site Roads and Initial Earthworks
   b) Buildings
   c) Site Services & Utilities
   d) Equipment

   Each of these major categories of expenditures is subdivided into other components that actually identify the exact goods or services provided. Based on the description of each

component, it is possible to classify each one into the classification of goods and services used in the EIM.

2) How much? This one is obvious and will determine, along with the mix of goods and services, which ones amongst them will, in fact, have a significant impact on economic benefits. The client provided costing for the components for CAPEX.

3) Where? The answer is composed of two elements: (i) where will the money be spent at first by Morien Resources and (ii) where are the goods manufactured, and the service providers located? Some economic benefits come from the transportation, wholesale and retail margins of purchasing a given piece of equipment. However, a good or a service that is directly purchased offshore will have little to no benefits for the provincial or national economy.

   Even goods and services purchased in NS may have limited benefits if they are purchased directly from a dealer or wholesaler. One example would be the purchase of equipment made in the USA from a distributor in the province. The distributor would collect a fee (the retail or wholesale margin) required to pay for its staff and other expenses. However, the bulk of the purchase would leak outside of the provincial and national economies.

   In order to calculate the amounts that are spent in NS, other provinces or in other countries, a two-step process is used. First, the client provided a sourcing matrix that provided information about the amount of labour costs, material costs, rented equipment costs, installed equipment costs and subcontract costs likely to be spent in NS, in other provinces or outside Canada.

   The second step is performed by the EIM. Once all the information has been used to answer the « What » question, the detailed expenditures provided by the client (for example, the components for CAPEX) are identified and classified into the 494 goods and services (commodity) in the EIM. After those expenditures by commodities have been fine-tuned by the first step (using the matrix of sourcing provided by the client), they are further adjusted by a matrix of interprovincial trade flows in the EIM. The coefficients in this matrix are applied to account for the leakage of expenditures for items that are purchased but not produced within the province, as, for example, money spent on purchasing various equipment from a wholesaler in Nova Scotia would have significant import content.

4) When? The expenditures are provided by the client on a yearly basis for each of the 92.5 years of the project (2.5 for CAPEX and 90 for OPEX). This time dimension enables the model to assess the economic benefits as they flow through the provincial and national economy year after year. It should be noted that the EIM used is dynamic and that the economic benefits generated by a given expenditure are calculated over a number of years until there is no more money circulating in the Nova Scotia or Canadian economy.

As a result, the economic benefits are provided on a yearly basis by the model. This, in turn, makes it easier to understand the economic benefits as a yearly flow rather than one set of huge numbers without any time dimension to it.

When all the information has been put together and the data has been properly broken down by commodities, by geographical area and by years of expenditure, then expenditures by goods and services are entered into the Nova Scotia module of the model and in other provincial modules (for amounts spent in other provinces). The core of the EIM operates with a standard input-output algorithm.

Sales within the province are allocated to the industries that produce the specific goods and services purchased; each of these industries will, in turn, purchase goods and services to produce what they sell, as determined by their technology mix and use of factors of production (labour and capital). For purchases outside of the province, the interprovincial trade flow matrix is used to allocate production by provinces and industry.

The EIM continues to iterate until all expenditures have dissipated (i.e. imports, taxes, and savings are all leakages that eventually reduce the amount of money available in the economy to zero). At this point, the model stops iterating and GDP and employment are calculated by year. Tax revenues from personal income tax, corporate profit tax and indirect taxes (predominantly sales tax) are also calculated by the EIM with coefficients derived from Statistics Canada and the Canada Revenue Agency databases.

Assumptions and Limitations

The models used to calculate the economic benefits are based, like any model, on certain assumptions and have some limitations. Some of the known limitations of Input-Output models are:

- There are no supply constraints. In the case of the Nova Scotia economy, strong economic growth marked by higher levels of investment, employment and consumer expenditures will likely be met by a combination of: (i) the local economy providing some of the required labour, goods and services; and (ii) labour, goods and services that cannot be supplied locally will be imported (from the rest of Canada and from other countries).

- Constant ratio of employment to output. For example, the model assumes that higher demand for heavy machinery repairs will generate increased employment. This may or may not be the case, depending on the actual changes in sales.

- Fixed technology. Technology is assumed constant over time. Therefore, a doubling of sales for a given industry will always lead to a doubling of its expenditures in the same proportions. Hence, there are no economies of scale.

ANNEX B – Marcel LeBreton - Economist

Marcel LeBreton has a Masters in Economics from the University of Moncton. He is the President of EcoTec Consultants, a consulting firm specializing in the field of economic impact studies. Over the last 43 years Mr. LeBreton has contributed to over 650 studies throughout Canada, many of them about the assessment of the economic benefits of mining projects.

Mr. LeBreton is a recognized expert in the field of economic impact studies and has spoken at conferences in Shanghai, Paris, Brussels, the United States and Canada on topics such as model development and economic benefit assessments.

Some of the work he has done in the mining industry includes the following:

1. Over the last ten years, Mr. LeBreton has made five major studies for the Quebec Mining Association (QMA). Those studies provided, every two years, a detailed assessment of economic benefits in the province of Quebec, by region, and for Canada as a whole generated by (a) operating and exploration activities and (b) capital expenditures by the mining industry.

2. In 2014, he did the economic impact assessment of the Murray River Coal Quarry project in British Columbia. Economic benefits were provided for CAPEX and OPEX by Regional Districts within BC and by provinces. Done in partnership with PWC (Vancouver).

3. Production of a report assessing the economic benefits likely to be generated by the construction and operation of the Sisson Quarry project in New Brunswick.

4. Impact of the closure of the zinc-lead-copper-silver Brunswick Quarry (including the smelter in Belledune) on the economy of Gloucester County and each and every county in the province of New Brunswick.

5. Impact of the Voisey's Bay nickel quarry project (in Labrador) on the economy of several Canadian provinces.

Appendix C

Mi’kmaq Ecological Knowledge Study

Lazy Head Aggregate Project
Mi'kmaq Ecological Knowledge Study

June, 2026

Prepared for:
GHD

Prepared by:
Membertou Geomatics Solutions

Version: 1

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We would like to thank the individuals who participated in the interview process. By sharing your knowledge and stories, you helped preserve important information that is recorded in this report.

Executive Summary

This MEKS mandate is to identify what Mi'kmaq traditional use activities have occurred, are currently occurring within, or what Mi'kmaq ecological knowledge presently exists regarding the area. To ensure accountability and ethic responsibility of this MEKS, the MEKS development has adhered to the Mi'kmaq Ecological Knowledge Protocol, 2nd Edition (Assembly of Nova Scotia Mi'kmaq Chiefs, 2014). This protocol is a document that was established by the Assembly of Nova Scotia Mi'kmaq Chiefs, and outlines the procedures and results that are expected of a MEKS.

The Mi'kmaq Ecological Knowledge Study consisted of three major components:

- **Mi'kmaq Traditional Land and Resource Use Activities**, both past and present,
- A **Mi'kmaq Significance Species Analysis**, considering the resources that are important to Mi'kmaq use.
- A **Historical Review** of the natural history and context of the Larger Assessment Area.

The Mi'kmaq Traditional Land and Resource Use Activities component utilized interviews as the key source of information regarding Mi'kmaq use within the Project Site and Study Area. The Project Site includes the proposed projects footprint. The Study Area consists of a 5-kilometer radius surrounding the project footprint.

Interviews were undertaken by the MEKS Team with Mi'kmaq knowledge holders from the communities of Waycobah, Potlotek, Sipekne'katik, Pictou Landing and Paq'tnkek First Nation. The interviews took place between February 2026 and June 2026.

Informants were shown topographical maps of the Project Site and Study Area and were asked to identify locations where they undertake traditional activities, as well as areas where other Mi'kmaq are known to undertake such activities. Forty-four (44) individuals participated in

interviews regarding past and present traditional use activities. Permission was requested from interviewees to incorporate their information into the GIS database. In addition to the information gathered through interviews, previously collected traditional use data held by Membertou Geomatics Solutions was also reviewed and incorporated where appropriate. These interviews and existing data sources allowed the team to compile information reflecting both recent Mi'kmaq traditional use in the area and historical accounts.

All interviewee's names are kept confidential and will not be released by MGS as part of a consent agreement between MGS and the interviewee to ensure confidentiality.

The data gathered was also considered in regard to its significance to the Mi'kmaq people. Each species identified was analyzed by considering their use as food/sustenance resources, medicinal/ceremonial plant resources and art/tools resources. These resources were also considered for their availability or abundance in the areas listed above, and their availability in areas adjacent or in other areas outside of these areas, their use, and their importance, with regards to the Mi'kmaq.

By undertaking a desktop background review and interviews with Mi'kmaq participants in traditional activities, this study has identified Mi'kmaq Traditional Use activities that have occurred or continue to occur in the Study Area and Project Site. This has allowed the study to identify traditional use activities in a manner that the MEKS team believes is complete and thorough, as required by the Mi'kmaq Ecological Knowledge Protocol (MEKP). Historical documents within public institutions were accessed and reviewed and individuals from nearby Mi'kmaq communities were interviewed. The interviews were undertaken with key Mi'kmaq community people, identified by the MEKS team, who are involved and are knowledgeable regarding traditional use activities. Through the historical documentation review and the interview process, the MEKS team is confident that this MEKS has identified an accurate and sufficient amount of data to properly reflect the traditional use activities that are occurring in the Study Area.

The MEKS process is highly dependent on the information that is provided to the team. Because only some of the Mi'kmaq traditional activity users and not all Mi'kmaq traditional activity users are interviewed, there is always the possibility that some traditional use activities may not have been identified by this MEKS.

Summary of MEKS Findings

The Project Site is located within Mi'kma'ki, specifically the district of Kespukwik, a region that has long supported Mi'kmaq travel, seasonal harvesting, and settlement. The Canso area occupies an important position where coastal waters, islands, and inland waterways historically connected mainland Nova Scotia with Cape Breton Island. Archaeological evidence, historical records, and oral traditions indicate a long history of Indigenous occupation throughout the broader region, including evidence of quartz tool production, Mi'kmaq burials, and extensive interaction with early European fishing fleets.

Traditional use findings indicate that the Study Area continues to support a variety of Mi'kmaq harvesting activities, with documented use primarily associated with fishing, marine resource harvesting, hunting, and gathering. Frequently reported resources include trout, mackerel, clam, oyster, lobster, eel, gaspereau, deer, rabbit, and a variety of berries and other plant resources. Documented use is primarily associated with the Historic Past and Recent Past, while a smaller proportion of Current Use demonstrates the area's continued importance to Mi'kmaq traditional land and resource use.

Spatial analysis indicates that traditional use occurs throughout both the Project Site and the broader Study Area. While the Project Site contains a relatively limited number of documented use areas, the surrounding Study Area reflects a greater diversity of traditional activities distributed across coastal, inland, and marine environments. The generalized mapping presented within this report illustrates broad patterns of land use while maintaining the confidentiality of interview participants.

The Mi'kmaq Significant Species Analysis determined that the documented resources are generally common or locally available within the region. Although no concerns regarding resource scarcity were identified during the interview process, these resources continue to support traditional harvesting practices and maintain cultural, social, and subsistence connections to the land and waters of the area.

Overall, this MEKS confirms that the Project Site and surrounding Study Area form part of a broader cultural landscape that has supported Mi'kmaq use over many generations. While this study provides a representative summary of documented traditional knowledge gathered through interviews and historical research, it is recognized that additional traditional use may exist beyond what has been recorded in this report.

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1. INTRODUCTION

Membertou Geomatics Solutions

Membertou Geomatics Solutions (MGS) is a Membertou First Nation company that was developed as a result of the 2002 Supreme Court Marshall Decision. MGS was established as a commercially viable company that could provide expertise in the field of GIS Services, Database Development, Land Use Planning Services and Mi'kmaq Ecological Knowledge Studies (MEKS). MGS is one of many companies established by the Membertou First Nation – Membertou Corporate Division and these companies provide employment opportunities for aboriginal persons and contribute to Membertou's efforts of growth and development. As well, Membertou's excellent management and accountability of their operations is further enhanced by their ISO 9001:2015 certification.

For the development of this MEKS, MGS brings to the table a team whose expertise and skills with land documentation have developed a sound MEKS. The team skills include knowledge of historical Mi'kmaq research, GIS data analysis, Mi'kmaq ecological and cultural knowledge, and Mi'kmaq community connections.

Lazy Head Aggregate Project

Information describing the project was provided by Lazy Head Aggregate Project / Morien Resources Corp. (2026).

The proposed Lazy Head Aggregate Project is located on the Lazy Head peninsula within the Municipality of the District of Guysborough, approximately 5.5 km west of the Town of Canso and 3.5 km northwest of Hazel Hill, Nova Scotia. Morien Resources Corp., in partnership with Carver Companies, is proposing the development, operation, and eventual decommissioning of a granite quarry and associated marine terminal occupying

approximately 220 hectares along Chedabuctou Bay. The project is expected to have an operational lifespan of approximately 92 years.

Quarry operations would involve the extraction of granite, followed by primary crushing at the quarry site. Aggregate material would then be transported by conveyor to secondary and tertiary processing facilities for additional crushing and screening before being stockpiled and loaded onto bulk carrier vessels at the marine terminal. The maximum production capacity is estimated at approximately 3.4 million tonnes of aggregate annually, subject to market demand.

Access to the project site would be provided from Route 16 (Marine Drive). The current project schedule anticipates a construction period of approximately 1.5 to 2 years, followed by 90 to 100 years of operation and a closure period of approximately one year.

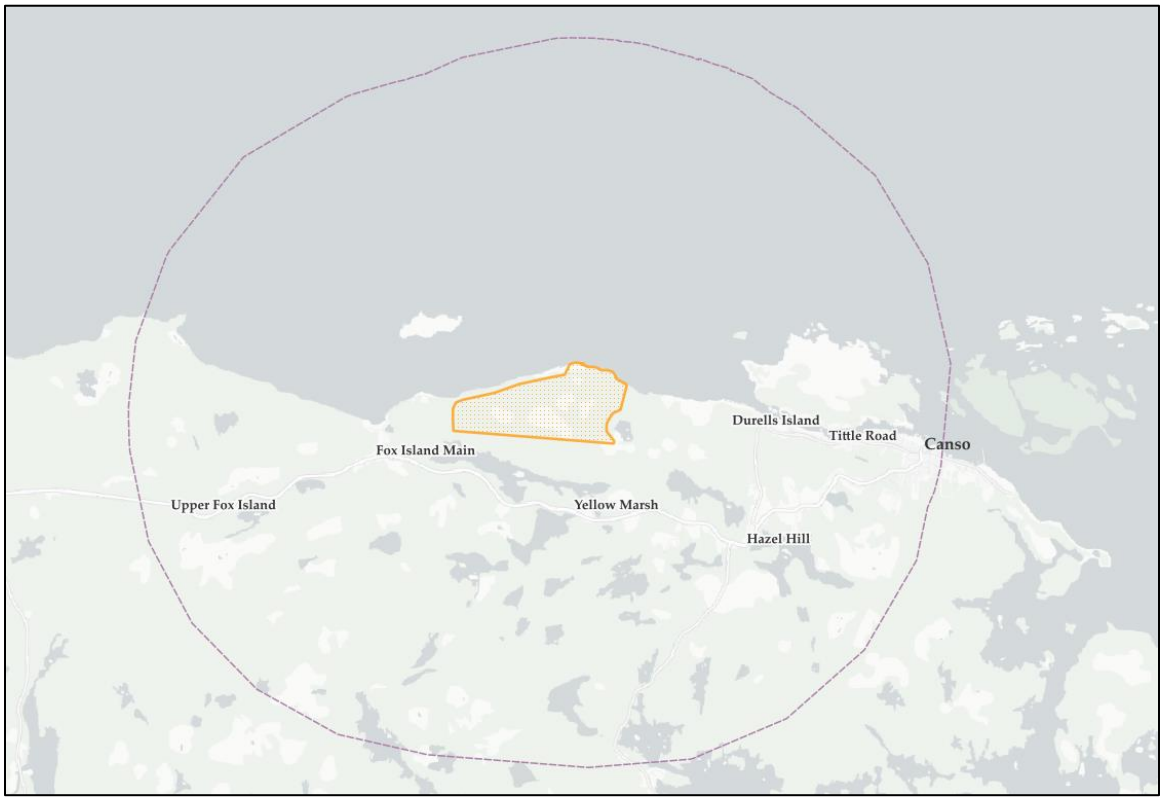


*Figure 1. Lazy Head Aggregate Project **Site** and **Study Area.***

2. MI'KMAQ ECOLOGOCAL KNOWLEDGE STUDY SCOPE & OBJECTIVES

Mi'kmaq Ecological Knowledge

The Mi'kmaq people have a long-existing, unique and special relationship with the land and its resources, which involves the harvesting of resources, the conservation of resources and spiritual ideologies. This relationship is intimate in its overall character, as it has involved collective and individual harvesting of the resources for various purposes, be it sustenance, medicinal, ceremonial and/or conservation. This relationship has allowed the Mi'kmaq to accumulate generations of ecological information and this knowledge is maintained by the Mi'kmaq people and has been passed on from generation to generation, youth to elder, ***kisaku kinutemuatel mijuijij***.

The assortment of Mi'kmaq Ecological Information, which is held by various Mi'kmaq individuals, is the focus of MEKS, also commonly referred to as Traditional Ecological Knowledge Studies (TEKS). When conducting a MEKS, ecological information regarding Mi'kmaq/Aboriginal use of specific lands, waters, and their resources are identified and documented by the project team.

Characteristically, MEKS have some similar components to that of an Environmental Assessment; yet differ in many ways as well. Among its purpose, Environmental Assessments measure the impact of developmental activity on the environment and its resources. This is often done by prioritizing significant effects of project activities in accordance with resource legislation, such as the Federal *Species at Risk Act* and the Nova Scotia *Endangered Species Act*.

Mi'kmaq Ecological Knowledge Studies are also concerned with the impacts of developmental activities on the land and its resources, but MEKS do so in context of the land and resource practices and knowledge of the Mi'kmaq people. This is extremely important to be identified when developing an environmental presentation of the Study Area as Mi'kmaq use of the land, waters and their resources differ from that of non-

Mi'kmaq. Thus, the MEKS provides ecological data which is significant to Mi'kmaq society and adds to the ecological understandings of the Project Site and Study Area.

Mi'kmaq Ecological Knowledge Study Mandate

Membertou Geomatics Solutions was contacted by GHD to undertake a MEKS for the Project Site and larger assessment area. This project will require the documentation of key environmental information in regard to the project activities and its possible impacts on the water, land and the resources located here. The MEKS must be prepared as per the **Mi'kmaq Ecological Knowledge Study Protocol** ratified by the Assembly of Nova Scotia Mi'kmaq Chiefs on November 22, 2007, and the 2nd Edition released in 2014.

MGS proposed to assist with the gathering of necessary data by developing a MEKS which will identify Mi'kmaq traditional land use activity within the Project Site and in the surrounding areas. This MEKS had gathered, identified, and documented the collective body of ecological knowledge which is held by individual Mi'kmaq people. The information gathered by the MEKS team is documented within this report and presents a thorough and accurate understanding of the Mi'kmaq's use of the land and resources within the Project Site/Study Area.

It should be noted that the preparation and/or acceptance of this MEKS report does not constitute consultation and is not intended to fulfill the Crown's Duty to Consult with the Mi'kmaq. This report does not replace any consultation process that may be required or established with respect to Aboriginal peoples. Furthermore, the report cannot be used to justify any infringement of Aboriginal or Treaty Rights protected under Section 35 of the Constitution Act, 1982 that may arise from the project.

Mi'kmaq Ecological Knowledge Study Scope & Objective

This MEKS will identify Mi'kmaq ecological information regarding Mi'kmaq traditional land, water and resource use within the Project Site/Study Area. The data that the study will gather and document will include traditional use from both the past and present time frames. The final MEKS report will also provide information that will identify where the

proposed project activities may impact the traditional land and resource of the Mi'kmaq. If such possible impact occurrences are identified by the MEKS then the study will also provide recommendations that should be undertaken by the proponent. As well, if the MEKS identifies any possible infringements with respect to Mi'kmaq constitutional rights, the MEKS will provide recommendations on necessary steps to initiate formal consultation with the Mi'kmaq.

Note: As part of the historical context, terms such as 'natives' or 'Indians' are used in a contextual manner to reflect the language of the time.

MEKS Project Site and Study Area

The Project Site is defined as the projects' footprint, as well as locations in the *immediate* vicinity (within 100 meters). This area will be considered separately from the Study Area when analyzing traditional use activities.

The Study Area consists of a 5-kilometer radius surrounding the Project Site. The purpose of this portion of the study is to portray other land characteristics and land use activities that may have been missed in a narrow Project Site data analysis.

3. METHODOLOGY

Interviews

As a first step in gathering traditional use information, the MEKS team initiates dialogue with nearby Mi'kmaq communities with historical and contemporary connections to the region. Through discussions with community representatives and MEKS staff, individuals who undertake traditional land use activities or who are knowledgeable about the land and its resources were identified as potential participants.

These individuals are subsequently contacted by members of the MEKS team and invited to participate in interviews.

All interviews are conducted in accordance with the procedures outlined in the **Mi'kmaq Ecological Knowledge Protocol (MEKP)**. Prior to each interview, participants are provided with information about the purpose of the MEKS, how the information would be used, and assurances that their personal information would remain confidential in any resulting reports.

Participants are asked to sign a consent form granting permission for Membertou Geomatics Solutions (MGS) to include their interview information within the MEKS. During each interview, participants are provided with maps of the study area and asked questions regarding Mi'kmaq land use activities, including the locations where activities were undertaken or known to occur, the time period of use, and how particular resources were utilized. Additional information shared during interviews can include species habitats, observed changes in species populations, and general knowledge related to land and resource use. When required or preferred, interviews are conducted in the Mi'kmaq language.

Literature and Archival Research

With regards to this MEKS, various archival documents, maps, oral histories and published works were reviewed to obtain accurate information regarding the past or present Mi'kmaq use or occupation relevant to the Project Site and Study Area.

As part of the historical review process, it should be noted there may be other sources of Historical and Archaeological data available but may have restricted access or not uncovered within this project's Historical Review. A complete listing of the documents that were referenced is outlined within the *Sources* section.

Field Sampling

Field sampling, or site visits, are conducted as another method to gather and document plants, trees, animal signs/tracks, fish and wildlife habitats, or any other land feature

which would hold significance to the Mi’kmaq (food or sustenance, social, cultural, or ceremonial purposes).

Site visits consist of site reconnaissance (to evaluate the entrances to the site, terrain characteristics, and evaluation of any other information that would affect safety or logistics of the site visit), logistics planning, as well as capturing “observation points” with the assistance of a Mi’kmaq knowledge holder. Observation points are stops along the site visit where species or landmarks significant to the Mi’kmaq were observed to be occurring. These are taken at approximate set intervals, or whenever a species or feature was deemed worthy to be noted by the knowledge holder. While every effort is made to ensure the Project Site receives a good coverage of observation points, weather, vegetation, site access (privately owned permission) available paths and trails, difficult terrain, or safety concerns can cause some data gaps.

4. HISTORICAL REVIEW SUMMARY

Mi’kmaq Territorial Context

The Project Site and Study Area are located within Mi'kma'ki, the traditional territory of the Mi'kmaq, specifically within the district of Kespukwik. Mi'kma'ki encompasses present-day Nova Scotia, Prince Edward Island, portions of New Brunswick, the Gaspé Peninsula of Québec, and parts of Newfoundland. Traditionally, Mi'kma'ki was organized into seven districts that supported governance, stewardship of resources, and movement throughout the territory.

The Project Site is situated near the Town of Canso along the Atlantic coast of Guysborough County, overlooking Chedabuctou Bay. The sheltered bays, offshore islands, coastal inlets, and interconnected waterways of this region have long supported Mi'kmaq travel, fishing, hunting, gathering, and seasonal occupation. Access to both marine and inland resources allowed Mi'kmaq families to move throughout the landscape

using established canoe routes and overland travel corridors connecting coastal and interior environments.

Historic accounts also describe the use of family-based hunting territories that were generally organized around watersheds, lakes, and river systems. These territories were managed through Mi'kmaq governance and stewardship practices to support the sustainable use of wildlife and other natural resources while maintaining long-standing connections to the land and waters of the region.

Environmental and Archaeological Context

The landscape surrounding the Project Site is characterized by the **Canso Barrens**, an area of exposed granite bedrock, thin soils, wetlands, and numerous coastal islands formed following the retreat of the last glaciers approximately 10,000 years ago. Quartz veins exposed throughout the region provided an important source of raw material for early stone tool manufacture. Archaeological investigations along the nearby St. Mary's River have recovered numerous white quartz tools, demonstrating the importance of these local materials to Indigenous peoples.

Although relatively few archaeological sites have been formally recorded along Nova Scotia's Eastern Shore, researchers consistently note that this likely reflects limited archaeological investigation rather than an absence of Mi'kmaq occupation. Several important discoveries have nevertheless been documented within the broader region, including Mi'kmaq burials, quartz artifacts, shell middens, and Archaic Period tools associated with the St. Mary's River watershed. Oral histories also reference additional burial locations near Glenelg Lake and Sherbrooke. These findings demonstrate long-term Indigenous occupation of eastern mainland Nova Scotia extending over thousands of years.

Mi’kmaq Land Use and Seasonal Patterns

The Canso area occupies a strategic location between mainland Nova Scotia and Cape Breton Island and has long supported Mi'kmaq travel and seasonal resource harvesting. Coastal camps provided access to abundant marine resources including fish, shellfish, seabirds, and marine mammals during the warmer months, while families travelled inland during autumn and winter to hunt moose, deer, bear, and other wildlife.
Seasonal movement between coastal and inland camps followed well-established travel routes along rivers, lakes, and coastal waterways. Fish, berries, shellfish, medicinal plants, and game animals formed an important part of annual subsistence, with camps relocating throughout the year as resources became available. Historic accounts also describe Mi'kmaq stewardship practices in which family hunting territories were carefully managed and passed through generations to maintain long-term sustainability.

Contact History and Settlement

Because of its location at the entrance to Chedabuctou Bay, Canso became one of the earliest and most important points of contact between the Mi'kmaq and European fishing fleets. French, Basque, Portuguese, and English fishermen were regularly using the area by the early sixteenth century, establishing seasonal fishing stations and trading with the Mi'kmaq long before permanent European settlement occurred. Historic accounts describe Mi'kmaq crews sailing alongside Basque fishermen and developing a trading language that facilitated communication between Indigenous peoples and European visitors.

Following the Treaty of Utrecht (1713), Canso became an important British military and commercial outpost situated immediately adjacent to French-controlled Cape Breton. This strategic location placed the community at the centre of numerous conflicts during the eighteenth century. Between 1720 and 1749, Mi'kmaq forces, often supported by French allies, carried out several attacks against British settlements and fishing operations at Canso. These conflicts culminated in 1744, when French soldiers, Acadian militia, and Mi'kmaq warriors captured the settlement and burned Canso to the ground, taking British prisoners to Louisbourg. The prisoners later provided intelligence that contributed to the successful British siege of Louisbourg in 1745.

Following Britain's permanent control of Cape Breton in 1763, permanent English settlement expanded throughout the region. As elsewhere in Nova Scotia, Mi'kmaq communities experienced increasing displacement as Crown land grants transferred traditional territories to European settlers. Historic records indicate that Mi'kmaq families continued to live throughout the Canso region during the nineteenth century, including at Cooks Cove and other nearby communities, despite growing settlement pressures.

Local Historical Significance

The Canso area preserves numerous reminders of its long Indigenous history. Historic Mi'kmaq place names remain associated with communities and landmarks throughout Guysborough County, including Kamsok (Canso), meaning "opposite the lofty cliffs," and Sedabooktook (Chedabuctou Bay), meaning "running far back" or "a deep extending harbour." Several additional place names throughout the Eastern Shore continue to reflect Mi'kmaq knowledge of the landscape and its resources.

Historic accounts also reference Mi'kmaq burial sites in the vicinity of Canso, including reports of graves being disturbed by early European sailors seeking valuable burial goods. While these accounts should be interpreted within their historical context, they illustrate the longstanding cultural significance of the area to the Mi'kmaq and reinforce the importance of considering archaeological and cultural resources during project planning.

Modern Mi’kmaq Communities

Mi'kmaq communities continue to maintain cultural, social, and economic connections to the lands and waters surrounding the Project Site. Historic census records document Mi'kmaq families living at Cooks Cove during the late nineteenth and early twentieth centuries, while additional communities existed elsewhere along the Eastern Shore and Strait of Canso.

Today, the region continues to form part of the traditional territory of the Mi'kmaq. Although historic maps record relatively few permanent Mi'kmaq settlements within the immediate Study Area, this reflects the highly mobile nature of traditional Mi'kmaq land use rather than an absence of occupation. No active Specific Claims were identified within the Project Site or Study Area at the time of the previous study.

5. MI'KMAQ LAND, WATER AND RESOURCE USE

Overview

The Mi'kmaq Land, Water and Resource Use Activities component of the MEKS provides relevant data and analysis in regard to Mi'kmaq traditional use activities that are occurring or have occurred within the Study Area. It identifies what type of traditional use activities are occurring, it provides the general areas where activities are taking place and it presents an analysis regarding the significance of the resource and the activity as well.

The Mi'kmaq traditional use activities information that is provided by interviewees is considered both in terms of "Time Periods" and in regard to the "Type of Use" that the resource is being utilized. The Time Periods that the MEKS team differentiates traditional use activities by are as follows:

"Current Use" – a time period within the last 10 years
"Recent Past" – a time period from the last 11 – 25 years ago
"Historic Past" – a time period previous to 25 years past

The "Type of Use" categories include spiritual use, and sustenance use, such as fishing, hunting or medicinal gathering activities.

Finally, the study analyzes the traditional use data in consideration of the type of land and resource use activities and the resource that is being accessed. This is the Mi'kmaq Significant Species Analysis, an analysis which ascertains whether a species may be

extremely significant to Mi'kmaq use alone and if a loss of the resource was to occur through project activities, would the loss be unrecoverable and prevent Mi'kmaq use in the future. This component is significant to the study as it provides details as to Mi'kmaq use activities that must be considered within the environmental understanding of the Project Site and Study Area.

By analyzing the traditional use data with these variables, the MEKS thoroughly documents Mi'kmaq traditional use of the land and resources in a manner that allows a detailed understanding of potential effects of project activities on Mi'kmaq traditional use activities and resources.

Limitations

By undertaking a desktop background review and interviews with Mi'kmaq participants in traditional activities, this study has identified Mi'kmaq Traditional Use activities that have occurred or continue to occur in the Study Area and Project Site. This has allowed the study to identify traditional use activities in a manner that the MEKS team believes is complete and thorough, as required by the MEKP. Historical documents within public institutions were accessed and reviewed and individuals from nearby Mi'kmaq communities were interviewed. The interviews were undertaken with key Mi'kmaq community people, identified by the MEKS team, who are involved and are knowledgeable regarding traditional use activities. Through the historical documentation review and the interview process, the MEKS team is confident that this MEKS has identified an accurate and sufficient amount of data to properly reflect the traditional use activities that are occurring in the Study Area.

The MEKS process is highly dependent on the information that is provided to the team. Because only some of the Mi'kmaq traditional activity users and not all Mi'kmaq traditional activity users are interviewed, there is always the possibility that some traditional use activities may not have been identified by this MEKS.

Site Visit

Site visits took place in June of 2026. MGS staff, accompanied by a Mi'kmaq knowledge holder from Paq'tnkek First Nation conducted the site visits of the Project Site. Throughout the site visit, various species of interest were observed.



Figure 2. Documented species and associated usage categories recorded during fieldwork.

Mi'kmaq Traditional Use Findings

For analytical purposes, traditional use activities reported by interview participants were evaluated at two spatial scales: the Project Site and the broader Study Area. The Project Site analysis includes the development footprint and areas within approximately 100 metres of the Project Site boundary. The Study Area represents the larger 5 km study buffer used to understand broader patterns of traditional land use in the region.

This section presents a summary analysis of reported traditional use within the Project Site and Study Area. The visualizations below illustrate temporal patterns of reported activity, distribution of Categories across time periods, and the generalized spatial representation of documented use.

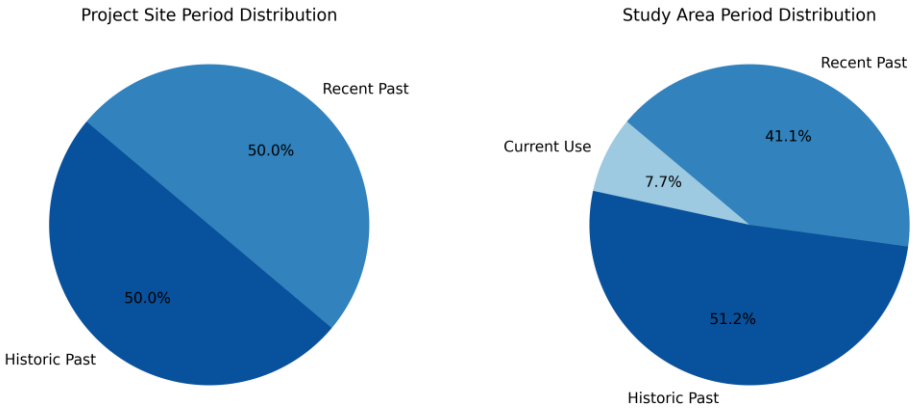


Figure 3. Percent distribution of reported use periods within the Project Site.

The pie charts illustrate the proportional distribution of reported use across the Historic Past, Recent Past, and Current Use periods. Each segment represents the percentage of documented traditional use associated with each time period, providing an overview of temporal patterns within the Project Site and the broader Study Area.

Within the Project Site, reported use is evenly divided between the Historic Past (50.0%) and the Recent Past (50.0%), with no Current Use documented within the Project Site itself. In contrast, the Study Area contains documented use across all three time periods. The Historic Past accounts for the largest proportion of reported use (51.2%), followed by the Recent Past (41.1%), while Current Use (7.7%) represents a smaller proportion of documented activity.

Overall, the results indicate that documented traditional use associated with the Project Site is entirely historical in nature, while the broader Study Area reflects continued use over time, including a smaller amount of reported Current Use. The greater representation of Historic and Recent Past use in both spatial scales suggests a long-standing pattern of traditional land and resource use throughout the region.

The heatmaps below display the percent distribution of Categories across Historic, Recent, and Current use periods. Each column represents the share of total documented mentions recorded within that period. The values reflect proportional distribution within each period rather than overall frequency, allowing comparison of how reported activities and species vary over time. For readability, less frequently reported categories are grouped together under the single category, 'Other' in the figure.

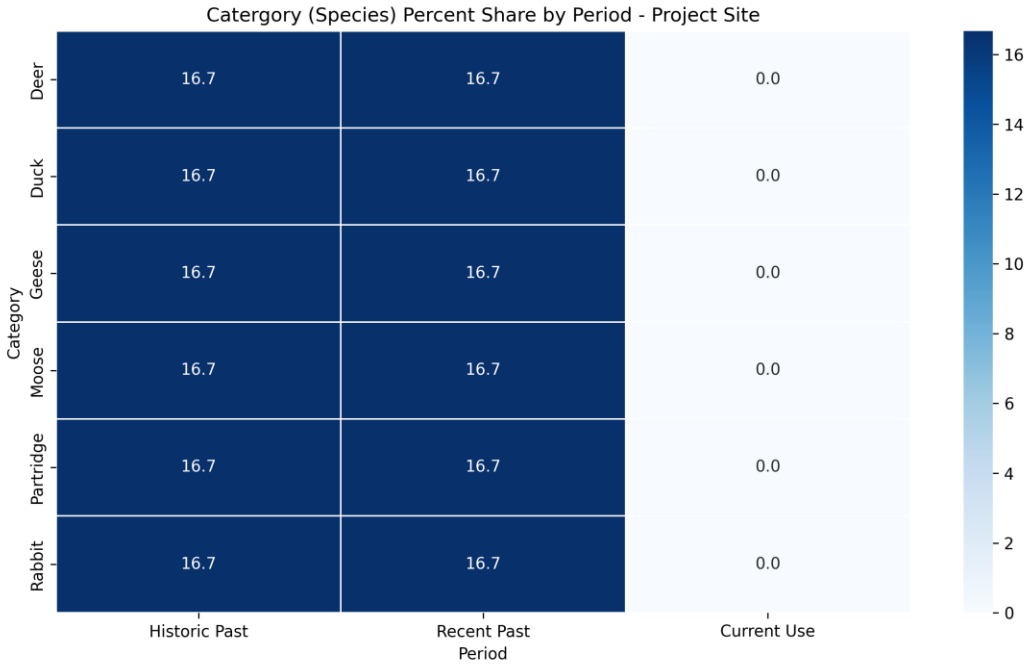


Figure 4. Percent distribution of Categories by period within the Project Site.

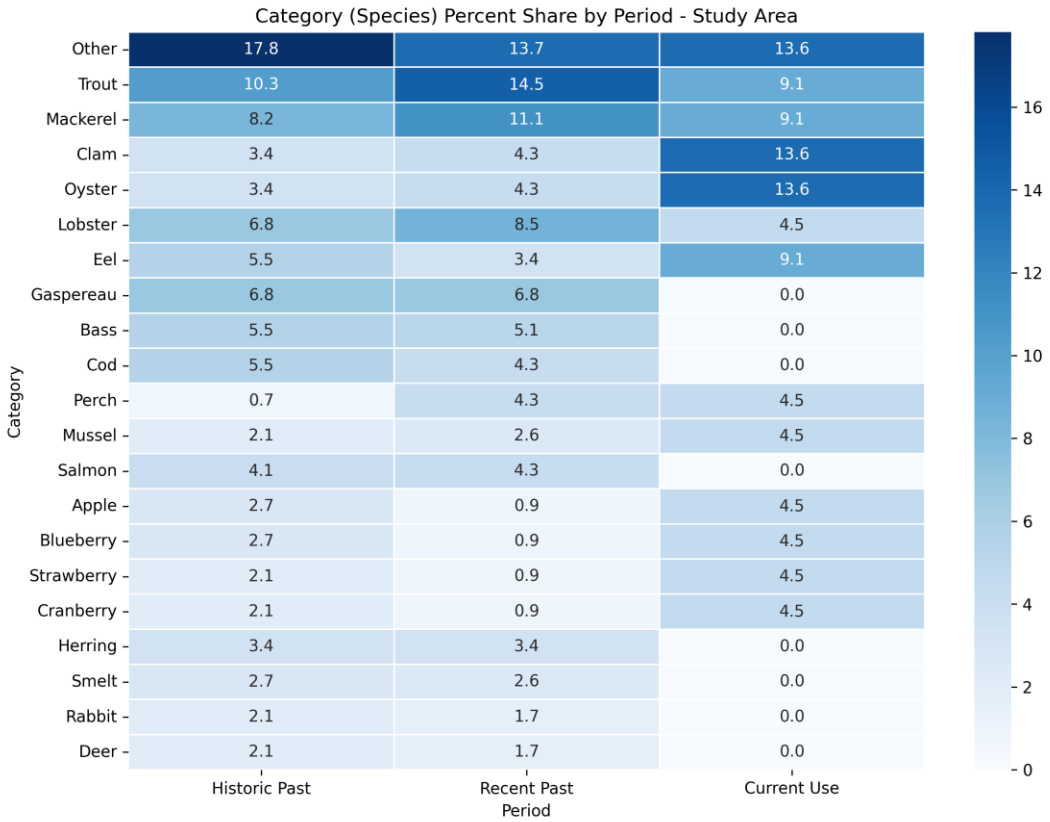


Figure 5. Percent distribution of Categories by period within the Study Area.

Within the Project Site, reported Categories are identical between the Historic Past and Recent Past periods. Deer, Duck, Geese, Moose, Partridge, and Rabbit each account for an equal share (16.7%) of documented use within both periods, indicating an even distribution of reported Categories. No Current Use was documented within the Project Site.

Within the Study Area, a broader diversity of Categories is represented across all three time periods. The Historic Past and Recent Past are characterized by a wide range of fish, marine resources, wildlife, and plant species. Trout and Mackerel consistently represent some of the largest individual categories, while Lobster, Gaspereau, Eel, Cod, Bass, and several plant resources contribute to the overall distribution. The Current Use period reflects a smaller number of documented Categories, with Clam and Oyster representing the largest individual shares, alongside Trout, Mackerel, and Eel. Several plant resources,

including Apple, Blueberry, Strawberry, and Cranberry, also contribute to the Current Use distribution.

Overall, the results indicate that the Project Site contains a relatively limited and evenly distributed set of reported Categories associated exclusively with Historic and Recent Past use. In contrast, the broader Study Area demonstrates a greater diversity of documented traditional use across all time periods, reflecting continued use of a wide variety of terrestrial, freshwater, marine, and plant resources throughout the region.

Spatial Representation of Reported Use

Centroid locations may vary between figures depending on the scale of analysis. Reported use areas often span broad geographic extents and can overlap substantially, which can limit map readability when displayed in full. As a result, centroids are used as a generalized representation of documented activity, and their placement may be adjusted relative to the scale of each figure to better illustrate overall patterns of use.

The halo effect further emphasizes that these points represent generalized areas rather than precise locations. This visual approach is intended to communicate the presence and distribution of reported use in a clear and interpretable manner, without implying exact boundaries or specific point locations.

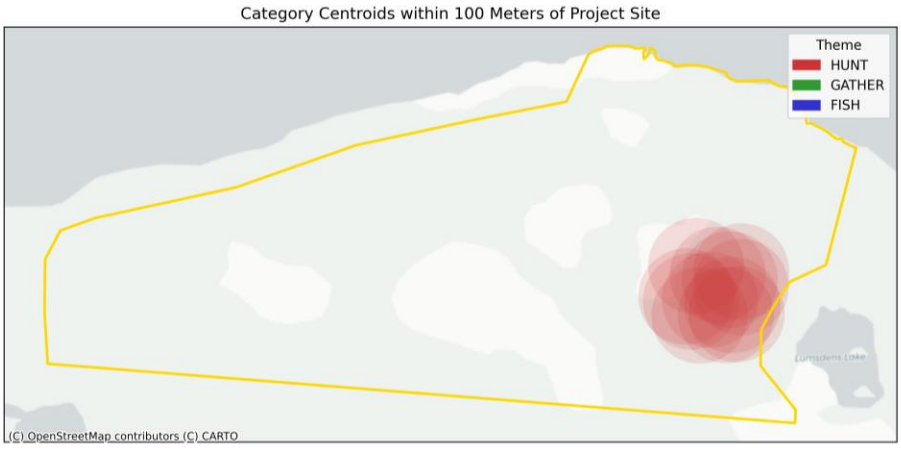


Figure 6. Generalized centroid locations of reported use within 100 metres of the Project Site.

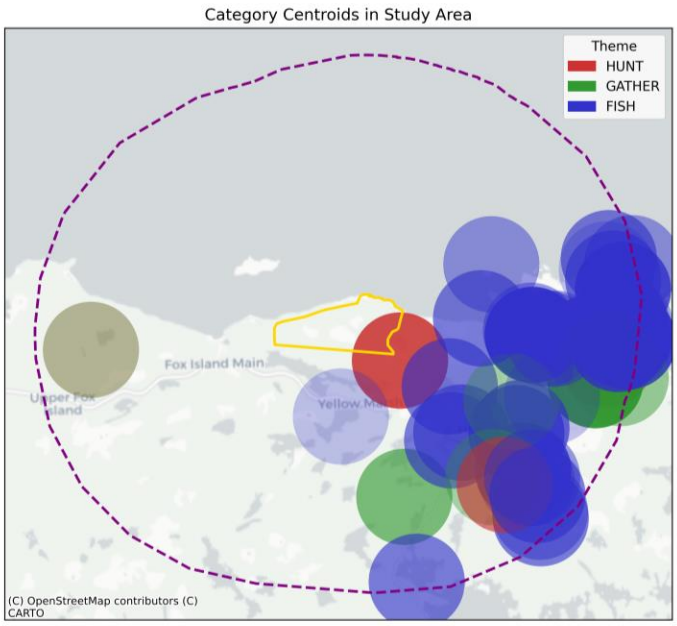


Figure 7. Generalized centroid locations of reported use within 5000 metres of the Project Site.

Polygon outlines are presented to illustrate the full spatial extent of reported traditional use areas. These areas often cover large and overlapping regions, reflecting the broad nature of land use activities described during interviews. While this representation provides a more complete depiction of reported use, the scale and overlap of polygons can reduce map readability. For this reason, centroid-based representations were are also provided as a complementary visualization to summarize spatial patterns more clearly.

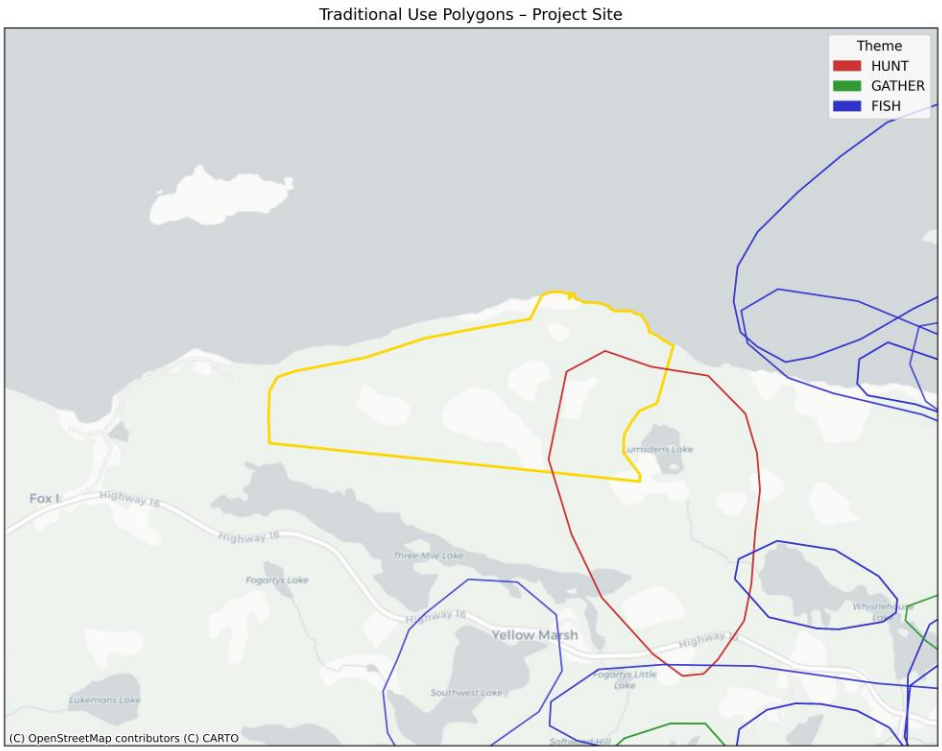


Figure 8. Traditional use polygon outlines within the Project Site.

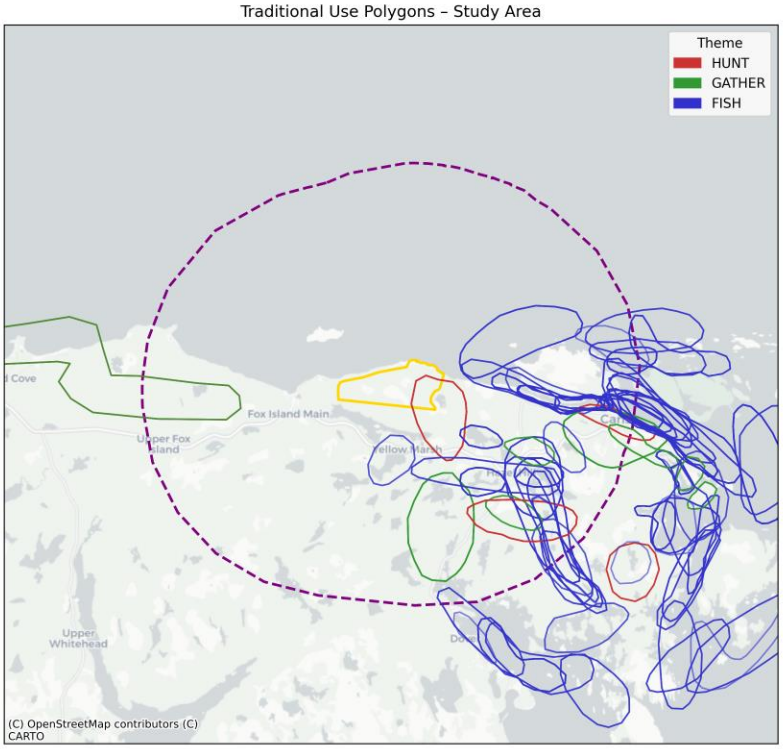


Figure 9. Traditional use polygon outlines within the Study Area.

Other Information

During the interviews, informants were given the opportunity to describe any other information they felt would be considered a culturally significant area, or information about an area. Generally, this is where informants would describe, for example, areas of past settlements, migration routes, culturally significant areas, or places with ties to legends, as well voice any concerns they might have towards a particular area or towards the project, itself.

One interview participant identified Durells Island as a location of Mi'kmaq burial grounds, noting the area as culturally significant. This information was documented as part of the interview process and represents knowledge shared by the participant.

Mi'kmaq Significant Species Process

To identify possible project activities which may be of significance to the Mi'kmaq with regards to traditional use of the Study Area, the project team undertakes a number of steps in order to properly consider the MEKS data. This involves three main components: Type of Use, Availability, and Importance.

Type of Use

The first component of analysis is the "Type of Use" of the resource which involves the categorization of the resource. All resources are placed into various general categories regarding the Type of Use**.** The category headings are Medicinal/Ceremonial, Food/Sustenance, and Tool/Art. These general headings are used so as to ensure further confidentiality with respect to the resources and the area where they are harvested. As well, the total number of instances where a resource harvest has been documented by the study is quantified here as well.

Availability

After the data is considered by the Type of Use, it is considered in accordance with its availability. This involves considering whether the resource is abundant in the Study Area or whether it is rare or scarce. Based on the information that is provided to the team from the ecological knowledge holders and/or written literature sources, the availability of the resource is then measured in regard to other water or land areas that are outside of the Study Area. This measuring is primarily done in the context of the areas adjacent to the Study Area, and if required, other areas throughout the province. By proceeding in this manner, the study can provide an opinion on whether that resource may be **Rare, Scarce** or **Abundant**.

The data is classified in accordance with following:
Rare – only known to be found in a minimum of areas, may also be on the species at risk or endangered plants list;
Common – known to be available in a number of areas; and
Abundant – easily found throughout the Study Area or in other areas in the vicinity.
This allows the study team to identify the potential impact of a resource being destroyed, by the proposed project activities, will affect the traditional use activity being undertaken.

Importance

The final factor the MEKS team considers when attempting to identify the significance of a resource to Mi'kmaq use is whether the resource is of major importance to Mi'kmaq traditional use activities. This can be a somewhat subjective process, as any traditional resource use will be of importance to the individual who is acquiring it, regardless of whether its use is for food or art, and regardless if the resource is scarce or abundant. However, to further identify the importance, the MEKS team also considers the frequency of its use by the Mi'kmaq; whether the resource is commonly used by more than one individual, the perceived importance to the Mi'kmaq in the area, and finally the actual use itself. These factors support the broad analysis of many issues in formulating an opinion on significance and supports identifying whether the loss of a resource will be a significant issue to future Mi'kmaq traditional use, if it is impacted by the project activities.

Mi’kmaq Significance Species Findings

This MEKS identified resource and land/water use areas within the Project Site and Study Area that continue to be utilized by the Mi’kmaq people, to varying degrees.

Type of Use

Activities identified in this study are primarily associated with **Food and Sustenance harvesting**, which accounts for the majority of documented use. A smaller proportion of activities are associated with **Ceremonial purposes**, with limited instances of **Tool/Art** and **Medicinal** uses also reported. These activities reflect the continued importance of wildlife, fish, and plant resources to Mi’kmaq traditional land use practices within the Study Area.

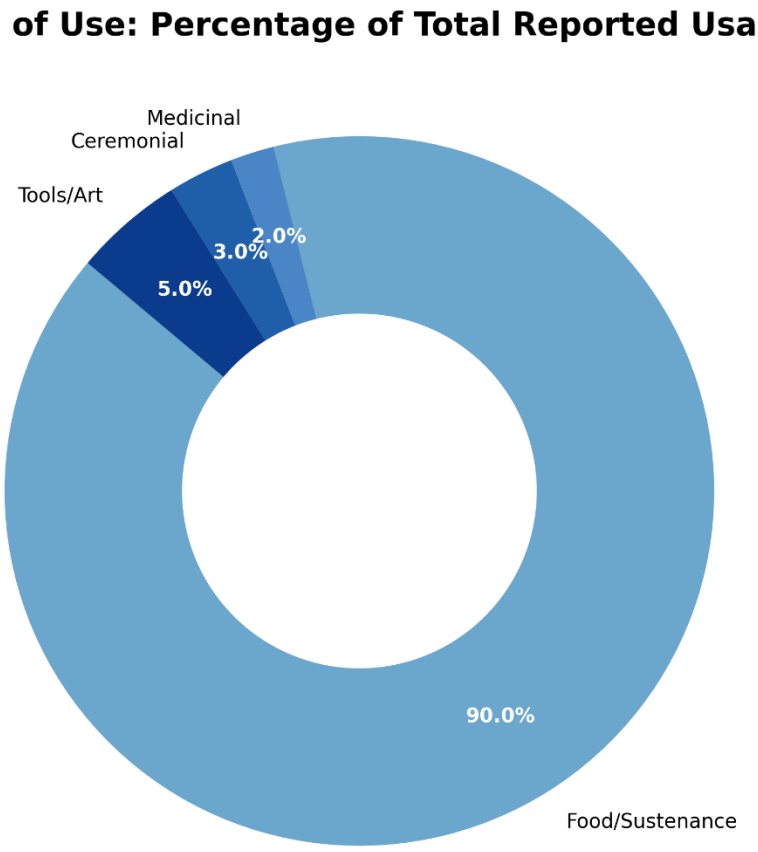


Figure 10. Percent distribution of reported traditional use by Type of Use within the Study Area.

Availability

Based on the information provided by knowledge holders and the range of species identified in the study, the resources documented during interviews are generally considered to be **common or locally abundant within the broader region**. No specific concerns were expressed regarding the availability of these resources within the Study Area at the time of the interviews.

Importance

As noted previously, assigning an importance designation to traditional activities can be

subjective, as all traditional resource use contributes to maintaining Mi'kmaq cultural practices and ways of life. The relative importance of a resource may also be influenced by its availability, cultural significance, and the frequency with which it is used by knowledge holders.

Based on the frequency of reported activities within this study, fish and marine resources represent the most commonly identified traditional use categories within the Study Area. Trout and mackerel are among the most frequently reported species, with additional contributions from shellfish and marine resources including clam, oyster, lobster, eel, and gaspereau. Terrestrial species, including deer and rabbit, are also documented but occur less frequently than aquatic resources. Plant resources, including blueberries, cranberries, strawberries, and apples, are also represented at lower frequencies. Collectively, these findings reflect a broad range of traditional harvesting activities, including fishing, hunting, gathering, and the collection of marine resources, that continue to form part of Mi'kmaq land use practices in the region.

6. CONCLUSION

This Mi'kmaq Ecological Knowledge Study (MEKS) has documented Mi'kmaq traditional land and resource use within the Project Site and surrounding Study Area through interviews with Mi'kmaq knowledge holders, a historical review, and analysis of existing traditional use information.

The findings indicate that the Project Site and broader Study Area have supported a range of traditional land and resource use activities over time. Reported use includes hunting, fishing, gathering, and the harvest of marine resources. The Study Area reflects a diverse range of traditionally utilized resources, with fish and marine species such as trout, mackerel, clam, oyster, lobster, eel, and gaspereau representing many of the documented activities, alongside terrestrial species including deer and rabbit and a variety of gathered plant resources.

Temporal analysis indicates that documented traditional use is primarily associated with the Historic Past and Recent Past, while Current Use represents a smaller proportion of reported activity. Although fewer Current Use activities were documented, the information collected indicates that the broader Study Area continues to form part of the traditional land and resource use landscape of the Mi'kmaq.

No concerns regarding resource scarcity were identified during the interview process. The resources documented in this study are generally considered locally available within the region; however, their importance extends beyond availability and reflects their continued role in supporting Mi'kmaq cultural practices, traditional harvesting activities, and ongoing connections to the land and waters.

The information presented in this MEKS provides a summary of documented traditional use within the Project Site and Study Area and is intended to inform project planning and future engagement. As with all Mi'kmaq Ecological Knowledge Studies, the findings reflect the information shared by participating knowledge holders and available sources

at the time of the study. Additional traditional use information may exist beyond what has been documented in this report.

7. REFERENCES

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