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Tote Road Quarry Expansion Project

Publication date: April 29, 2022

**Government**

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### **Mi'kmaq of Nova Scotia**

<b>Number</b>	<b>Source</b>	<b>Date Received</b>
<b>1</b>	Kwilmu'kw Maw-Klusuaqn Negotiation Office (KMKNO)	April 14, 2022

### **Public**

<b>Number</b>	<b>Source</b>	<b>Date Received</b>
<b>1</b>	Anonymous	March 11, 2022
<b>2</b>	Anonymous	March 12, 2022
<b>3</b>	Anonymous	March 12, 2022
<b>4</b>	Anonymous	March 13, 2022
<b>5</b>	Anonymous	March 17, 2022
<b>6</b>	Anonymous	April 8, 2022
<b>7</b>	Anonymous	April 8, 2022
<b>8</b>	Anonymous	April 8, 2022

**From:** @hc-sc.gc.ca> **On Behalf Of** IA-ATL / EI-ATL (HC/SC)  
**Sent:** March 8, 2022 1:35 PM  
**To:** Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>  
**Cc:** @hc-sc.gc.ca>  
**Subject:** RE: Tote Road Quarry Expansion Project\_ EA registration: comments due by April 9, 2022

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\***

**Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien**

Hello Renata,

As per your email below regarding the Tote Road Quarry Expansion Project, please identify any project-related human health impacts to which you require advice and guidance from Health Canada.

HC's role in Impact/Environmental Assessment is founded in statutory obligations under the Canadian Impact Assessment Act, and its knowledge and expertise can be called upon by reviewing bodies (e.g., Impact Assessment Agency of Canada, review panels, Indigenous groups and/or other jurisdictions). In the absence of such a request from one of the above noted groups, HC is unable to carry out a comprehensive review of the project. **However when staff capacity and time permits, we are happy to accommodate requests for human health advice and guidance related to provincial environmental assessments within a reasonable timeframe.**

Health Canada currently possesses expertise in the following areas related to human health: air quality, recreational and drinking water quality, traditional foods (country foods), noise, and methodological expertise in conducting human health risk assessment.

To help with your review of human health impacts, I have attached a document of common human health considerations in project reviews and links to Health Canada's guidance documents.

Kindest regards,

)  
Regulatory Operations and Enforcement Branch  
Health Canada / Government of Canada

Direction générale des opérations réglementaires et de l'application de la loi  
Santé Canada / Gouvernement du Canada

Health Canada currently possesses expertise in the following areas related to human health: air quality, recreational and drinking water quality, traditional foods (country foods), noise, and methodological expertise in conducting human health risk assessment. Based on Health Canada’s “*Guidance for Evaluating Human Health Impacts in Environmental Assessment*”, please consider the following information on these topics to assist in your review.

	Consideration	Reference Document
<b>Receptor Location(s)</b>		
<p>Please ensure the registration document clearly identifies the locations of all receptors that may be impacted by the proposed project, including any receptors located along the transportation route, if applicable.</p>	<ul style="list-style-type: none"> <li>• It is important to clearly describe the location and distance from the proposed site(s) to all potential human receptors (permanent, seasonal or temporary), taking into consideration the different types of land uses (e.g. residential, recreational, industrial, etc.), and identifying all vulnerable populations (e.g. in schools, hospitals, retirement or assisted living communities). Note that the types of residents and visitors in a particular area will depend on land use, and may include members of the general public and/or members of specific population subgroups (Indigenous peoples, campers, hunters, etc.)</li> <li>• If there are any receptors within the vicinity of the proposed site(s), impacts to human health should be considered.</li> </ul>	<p>Section 7.1.3 of <i>Health Canada. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i>  <a href="https://publications.gc.ca/site/eng/9.870475/publication.html">https://publications.gc.ca/site/eng/9.870475/publication.html</a></p>
<b>Atmospheric Environment</b>		
<p>Project impacts to the atmospheric environment include changes to air quality and noise, and can occur in both the construction and operation phases of the project. Project impacts to air quality are commonly caused by emissions from equipment or vehicles as well as by dust. Noise</p>	<ul style="list-style-type: none"> <li>• If there are receptors within the vicinity of the proposed project, impacts to the atmospheric environment should be considered. Atmospheric environment impacts to human health may include:               <ul style="list-style-type: none"> <li>○ impacts to air quality (dust or fumes including NOx, SOx, and PM2.5)</li> <li>○ increased noise from construction or operations</li> </ul> </li> <li>• If there are receptors within the vicinity of the project, it may be necessary to inform receptors prior to loud activities, such as</li> </ul>	<p><i>Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i>  <a href="http://publications.gc.ca/pub?id=9.832514&amp;sl=0">http://publications.gc.ca/pub?id=9.832514&amp;sl=0</a></p>

<p>impacts are commonly caused by equipment as well as by activities such as blasting.</p>	<p>blasting.</p> <ul style="list-style-type: none"> <li>• If there is the potential for impacts to human receptors from noise and/or air quality changes from the project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.</li> </ul>	<p><i>Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i>  <a href="http://publications.gc.ca/pub?id=9.802343&amp;sl=0">http://publications.gc.ca/pub?id=9.802343&amp;sl=0</a></p>
<p><b>Recreational and Drinking Water Quality</b></p>		
<p>The proponent should consider whether any nearby waterbodies are used for recreational (i.e. swimming, boating, or fishing) or drinking water purposes, as well as whether there are any drinking water wells in the vicinity of the project. Nearby drinking and/or recreational water quality may be impacted by accidents or malfunctions, such as a fuel spill; by dust and increased sediment runoff; and by other chemical discharges to the environment. Additionally, wells in the vicinity of the project may be impacted by activities such as blasting.</p>	<ul style="list-style-type: none"> <li>• If there is the potential for impacts to drinking and/or recreational water quality from the project site, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.</li> <li>• The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact drinking and/or recreational water quality. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all recreational and drinking water users in the impacted area as well as all relevant authorities.</li> <li>• In some cases, for projects that are likely to have an impact on drinking and/or recreational water quality, the proponent should consider conducting water monitoring prior to the start of the project (to establish a baseline). Monitoring would continue throughout the construction, operation and decommissioning phases of the project (as applicable) to monitor for any changes in water quality or quantity.</li> </ul>	<p><i>Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i>  <a href="http://publications.gc.ca/pub?id=9.832511&amp;sl=0">http://publications.gc.ca/pub?id=9.832511&amp;sl=0</a></p>
<p><b>Country Foods</b></p>		
<p>If there are plants or animals present in the vicinity of the project that are consumed by humans, there may be potential</p>	<ul style="list-style-type: none"> <li>• If there is the potential for impacts to country foods from the proposed project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.</li> </ul>	<p><i>Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and</i></p>

<p>for impacts to country foods. The proponent should consider all country foods that are hunted, harvested or fished from the vicinity of the project. Impacts to country foods may occur from the release of contaminants into soil or water (including from an accident or spill) or from deposition of air borne contaminants.</p>	<ul style="list-style-type: none"> <li>• The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact country foods. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all potential consumers of country foods in the impacted area as well as all relevant authorities.</li> </ul>	<p><i>Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i>  <a href="http://publications.gc.ca/pub?id=9.855584&amp;sl=0">http://publications.gc.ca/pub?id=9.855584&amp;sl=0</a></p>
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**Fisheries and Aquaculture**

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Date: March 22, 2022

To: Renata Mageste da Silva, Nova Scotia Environment and Climate Change

From: Executive Director, Policy and Corporate Services  
Nova Scotia Department of Fisheries and Aquaculture

Subject: Tote Road Quarry Expansion Project – Environmental Assessment

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Thank you for the opportunity to review the Tote Road Quarry Expansion Project documents.

The Department of Fisheries and Aquaculture has the following comments:

- This project is not likely to have major impacts on any commercial fisheries in the area and there are no active seafood processing operations within the immediate vicinity.
- There are no recreational fishery concerns pertaining to this expansion. Adjacency of the expansion to wetlands should be considered in NSECC assessments.
- There are 4 commercial rockweed leases, 1 Marine Finfish Site, and 2 marine shellfish sites that are in abeyance within a 25 km radius of the proposed project.



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Bedford Institute of Oceanography  
1 Challenger Drive  
P.O. Box 1006, Station P510  
Dartmouth, Nova Scotia, B2Y 4A2

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Date: March 31, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: , Hydro and Flow Unit, Regulatory Review Biologist, Fish and Fish  
Habitat Protection Program

Subject: Tote Road Quarry Expansion EA Project

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Dear Renata Mageste da Silva:

Fisheries and Oceans Canada (DFO), Fish and Fish Habitat Protection Program (FFHPP) received the Nova Scotia Environmental Assessment registration document submitted for the Tote Road Quarry Expansion Project in Halifax County. The project is to expand on the existing quarry that is currently less than four hectares (ha) to a total 24 ha. Quarry operations are anticipated to remain the same, with operations active during the construction season and shut down for the winter.

The study area includes three wetlands and an isolated pond in the southwest corner; the area is bordered by an additional wetland and watercourse. No fish habitat was identified within the study area. Poor fish habitat was identified within the bordering wetland and watercourse, where intermittent access may provide forage habitat. The proposed expansion is not expected to impact fish habitat.

DFO-FFHPP is responsible for administering the fisheries protection provisions of the *Fisheries Act (FA)* and *Species at Risk Act (SARA)* for aquatic species at risk. The fisheries protection provisions of the *FA* includes: section 34.4 which prohibits the death of fish by means other than fishing; section 35 which prohibits the harmful alterations, disruption, or destruction (HADD) of fish habitat; and section 36.3 which prohibits the deposition of deleterious substances into water frequented by fish or in any place where it may enter such water. *SARA* prohibits: the killing, harming, harassment, possession, capturing, or taking of a species listed as extirpated, endangered, or threatened; the damage or destruction of a residence; or the destruction of any part of the critical habitat of such a listed species, unless authorized by the minister.

Below you will find the comments from DFO-FFHPP regarding the above mentioned project:

- The isolated pond, known as Pond1, located at the Any direct or indirect impacts to surface water quantities should be monitored to ensure that the isolated pond is not breached in order to avoid fish stranding and/or release of deleterious substances into downstream fish habitat.



## BLASTING

- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
- Proponents considering the use of explosives are encouraged to consult DFO-FFHPP as early as possible in their planning process to identify possible alternatives to the use of explosives, the biological resources and their habitats at risk, and/or effective mitigation measures.
- If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footprints; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:
  - Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate [timing windows](#).
  - Isolate the work site to exclude fish from within the blast area by using, for example, bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), noise generating devices (e.g., air compressor discharge line) to scare fish away from site, cofferdams, or aquadams.
  - Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting.
  - The use of confined, or in particular, unconfined explosives in or near Canadian fisheries waters is discouraged; the proponent is encouraged to utilize less destructive methods wherever possible.
  - Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
  - Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (ms) delay between charge detonations.
  - After loading a charge in a hole, the hole is to be back-filled (stemmed) with angular gravel to the level of the substrate/water interface or the hole collapsed to confine the force of the explosion to the formation being fractured. The angular gravel is to have a particle size of approximately 1/12<sup>th</sup> the diameter of the borehole.
  - All “shock-tubes” and detonation wires are to be recovered and removed after each blast. Remove all blasting debris and other associated equipment/products from the blast area.
  - Place blasting mats over top of holes to minimize scattering of blast debris around the area.
  - No explosive is to be knowingly detonated within 500 metres (m) of any marine mammal (or no visual contact from an observer using 7x35-power binocular).
  - No explosive is to be detonated in or near fish habitat that produces, or is likely to produce, an instantaneous pressure change (i.e., overpressure) greater than 100 kPa (14.5 psi) in the swimbladder of a fish.
  - No explosive is to be detonated that produces, or is likely to produce, a peak particle

velocity greater than 13 millimetres per second (mm/s) in a spawning bed during the period of egg incubation.

Should the EA be granted conditional approval, DFO will be requesting additional information be provided through the Nova Scotia of Environment Watercourse and Wetland Alteration Approval processes to determine if the project will result in the HADD to fish and fish habitat and require an authorization under the *FA*.



**Department of Municipal Affairs and Housing**

Maritime Centre, Floor 8 North  
1505 Barrington Street  
PO Box 216  
Halifax, NS B3J 2M4

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Date: March 31, 2022  
To: NS Department of Environment and Climate Change  
From: Department of Municipal Affairs and Housing  
**SUBJECT: TOTE ROAD QUARRY EXPANSION EA PROJECT**

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As requested, the Department of Municipal Affairs and Housing has reviewed the Environmental Assessment Registration Documents for the proposed Tote Road Quarry Expansion project located at the Head of St. Margaret's Bay, Halifax Regional Municipality.

Although we have found nothing of concern respecting the Department's areas of mandate, we would like to remind the proponent to ensure that they have undertaken adequate consultation with the Municipality in order to confirm conditions for compliance with municipal planning policies and by-law provisions.

Thank you for the opportunity to review the Registration Documents for the above-noted project.

**From:** @novascotia.ca>  
**Sent:** April 4, 2022 9:20 AM  
**To:** Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>  
**Subject:** RE: Tote Road Quarry Expansion Project\_ EA registration: comments due by April 9, 2022

Renata,

Resource Management Unit of SAS will not be submitting comments.



Suite 200  
1801 Hollis Street  
Halifax NS B3J 3N4

Bureau 200  
1801 rue Hollis  
Halifax, NE B3J 3N4

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Date: April 4, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer, Nova Scotia  
Department of Environment and Climate Change

From: , Environmental Assessment Officer, Impact Assessment Agency of  
Canada

Subject: Tote Road Quarry Expansion Project

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The federal environmental assessment process is set out in the [Impact Assessment Act](#) (IAA). The [Physical Activities Regulations](#) (the Regulations) under IAA set out a list of physical activities considered to be “designated projects.” For designated projects listed in the Regulations, the proponent must provide the Agency with an Initial Description of a Designated Project that includes information prescribed by applicable regulations ([Information and Management of Time Limits Regulations](#)).

The relevant entry in the Regulations for this type of project is:

19(f). *The expansion of an existing stone quarry or sand or gravel pit if the expansion would result in an increase in the area of mining operations of 50% or more and the total production capacity would be 3 500 000 t/year or more after the expansion.*

Based on the information submitted to the Province of Nova Scotia on the proposed Tote Road Quarry Expansion Project, it does not appear to be described in the Regulations. Under such circumstances the proponent would not be required to submit an Initial Description of a Designated Project to the Agency. However, the proponent is advised to review the Regulations and contact the Agency if, in its view, the Regulations may apply to the proposed project.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on his or her own initiative, by order, designate a physical activity that is not prescribed by regulations made under paragraph 109(b) if, in his or her opinion, either the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. Should the Agency receive a request for a project to be designated, the Agency would contact the proponent with further information.

The proposed project may be subject to sections 82-91 of IAA. Section 82 requires that, for any project occurring on federal lands, the federal authority responsible for administering those lands or for exercising any power to enable the project to proceed must make a determination regarding the significance of environmental effects of the project. The Agency is not involved in

this process; it is the responsibility of the federal authority to make and document this determination.

The proponent is encouraged to contact the Agency at (902) 426-0564 if it has additional information that may be relevant to the Agency or if it has any questions or concerns related to the above matters.

Thank you,

Environmental Assessment Officer, Atlantic Regional Office  
Impact Assessment Agency of Canada / Government of Canada

Agente d'évaluation environnementale, région de l'Atlantique  
Agence d'évaluation d'impact du Canada / Gouvernement du Canada

Date: 2022-April-05

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Regional Engineer, ECC Inspection Compliance & Enforcement Division

Subject: Tote Road Quarry Expansion EA Project

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Hello Renata:

Following the review of the Environmental Assessment Registration Document (EARD) for Scotian Material Ltd.'s Tote Road Quarry Expansion EA Project, we have noted the following observations:

- VEHICULAR ACCESS – The report states that access to the site is achieved via Highway 101 (from Tote Road) and via an access road that connects to the Exit 5A (Ingramport) interchange connector.

***Please have Public Works confirm whether access to Highway 103 is permitted via Tote Road, or if all vehicles (commercial, employee, and visitor) are required to access the site via the Exit 5A connector access road.***

- SULPHIDE BEARING MATERIAL – The report provides sufficient detail that the geology of this region is not expected to yield sulphide bearing material. This is supported by laboratory tests that samples tested produced less than 0.4% sulfur; therefore, there is no requirement for additional terms and conditions regarding the management of sulphide-bearing material.
- STORMWATER SEDIMENTATION POND – A stormwater sedimentation pond was included in the application materials and became a requirement of the Approval when approval as per Condition 2.b. *“The Facility shall be constructed and operated as outlined in the original application for industrial approval and supporting documentation.”* Additionally, Condition 13.b. stated *“Any change to the location of the sedimentation pond configuration shall require advance written notification to the Department. The Department will determine if an amendment to the Approval is required.”* During a site audit, it was noted that this sedimentation pond was not constructed, indicating non-compliance with the Approval.

***Please seek confirmation with Inspector A. Nogueira regarding potential non-compliance status of this item, and of all other noted non-compliance items observed.***

- NO EXCAVATION BELOW GROUNDWATER LEVEL – The report states the intention of the proponent to not excavate within one (1) metre of the groundwater level. Although

several groundwater monitoring wells were constructed for the purpose of approximating the groundwater level, it would be advantageous for the purpose of determining compliance if a figure were to be provided by the proponent with isometric lines of elevation above mean sea level, perhaps with decimetre precision, to indicate the lowest elevation for which the quarry floor is to be elevated.

***Please consider incorporating a condition requiring submission of this figure prior to commencement of construction, should this project receive approval by the Minister.***

- MONITORING WELL LOCATIONS – As noted above, the EARD figures demonstrated the locations of four (4) monitoring wells. This is demonstrated on Figure 2, see excerpt below. There is no monitoring well to document the groundwater flow for the portion of the site that drains to the south. Should an additional monitoring well be required, perhaps in the approximate location indicated by the red dot (which is within an island of the access road)?



***Please confirm with SAS Hydrogeologist as to whether an additional monitoring well (and associated background data) should be required, either as required information for***

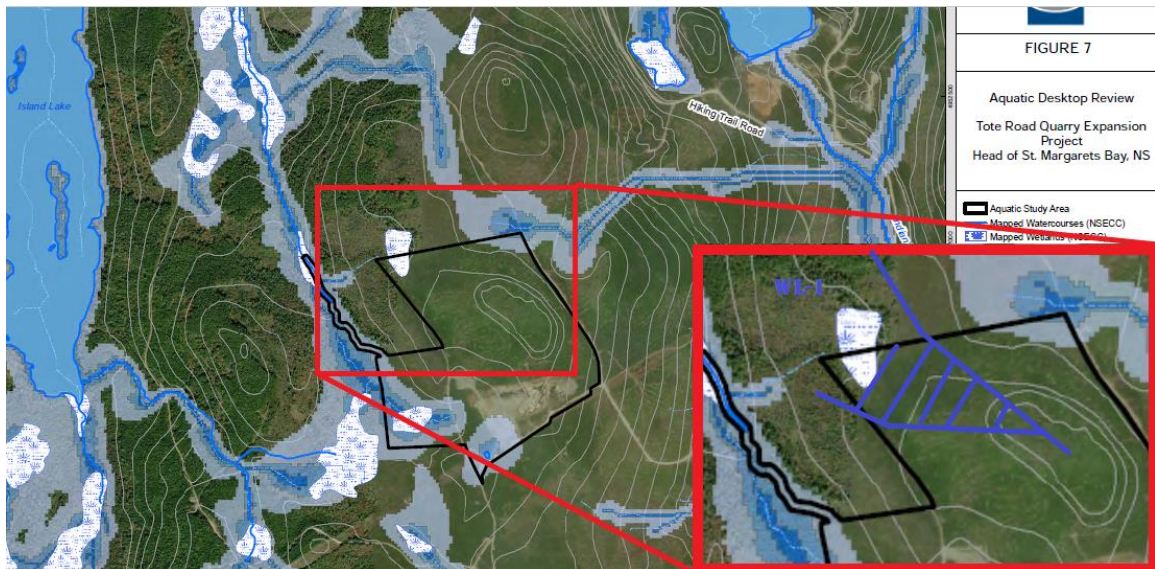


***the EARD or as a potential requirement of a condition of the EA, should this project receive approval by the Minister.***

- SURFACE WATER – Fish Habitat – The report states that there is low potential for fish habitat.

***Please confirm with DFO that this assumption is accepted.***

- POTENTIAL WETLAND ALTERATION – The report lists Wetland 1 (WL-1) as a wetland of special significance due in part to the presence of blue felt lichen. A one-hundred metre (100 m) buffer is proposed around this wetland, but it is unlikely that this 100 m will contain all of the watershed for this wetland. The image below, an excerpt from Figure 7 of Appendix D, shows the approximate contributing watershed for this wetland on the Site lands (blue hatched area):



Within Appendix E, the report states that there will be a loss of 11.7% of the contributing area, and 6.4% of the flow. Any loss of flow to a wetland is an alteration to the wetland. Alterations to a wetland of special significance are typically not permitted.

***Please confirm with SAS Wetland program lead that this proposed buffer is sufficient and/or that an alteration of this nature would be considered.***

Should you require clarification on any of the above items, please do not hesitate to contact me @novascotia.ca.

**Agriculture**

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Date: April 9<sup>th</sup>, 2022

To: Renata Mageste da Silva, Nova Scotia Environment and Climate Change

From: Executive Director, Policy and Corporate Services,  
Nova Scotia Department of Agriculture

Subject: Tote Road Quarry Expansion Project - Environmental Assessment

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Thank you for the opportunity to review the Tote Road Quarry Expansion Project documents.

The Department of Agriculture has no concerns about this proposal, given that:

- The soils around the site are Class 7 and not suitable for agriculture.
- No agricultural land was identified within a 5 km buffer zone of the proposed site.



Date: 7 April, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Environmental Services, Nova Scotia Public Works

Subject: Tote Road Quarry Expansion Project

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The Nova Scotia Department of Public Works (NSDPW) staff have reviewed the Environmental Assessment for the Scotian Materials Ltd. Tote Road Quarry Expansion Project.

The Proponent is expanding an existing quarry on Tote Road. No increase in truck traffic is anticipated, and the current access via Exit 5A through the existing service roads will remain as is. NSDPW is confirming that all vehicle traffic to the quarry shall access the site via Exit 5A. NSDPW does not have any further comments or concerns regarding this project.

Sincerely,

Environmental Services  
Department of Public Works

Date: April 7<sup>th</sup>, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Air Quality Protection Advisor, Air Quality Unit

Subject: Tote Road Quarry Expansion EA Project

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Further to your request, the Air Quality Unit provides the following comments regarding air quality and noise on the Environmental Registration Document for the Tote Road Quarry Expansion.

#### Air Quality

The air quality assessment is reported in Appendix C with a summary in Section 6 of the Registration Document. The air quality assessment concentrates on ambient concentrations of total suspended particles (TSP). This is a reasonable approach for this type of activity. The proponent has undertaken monitoring to assess impacts of TSP from the existing operation. A rationale for the location of monitoring sites was not provided. One monitor was located in the south-east corner of the existing site (A1); a second monitor (A2) was located at a private residence more than 2km east-south-east, and across a highway, from the existing site. Air quality criteria must be met at the site boundary. Consequently, it is unclear how the second monitor (A2) provides utility to the assessment as it is situated too far from the site boundary to detect emissions from operations.

The first monitoring location (A1) is relevant to this assessment. Under prevailing wind directions, which tend to be westerly and south-westerly, this monitoring location would not be expected to sample worst case conditions. However, the meteorological data presented in Figure 2 and Appendix B of Appendix C, which is for the Bedford Range meteorological station, indicates that a north-westerly flow was experienced during the sampling period. The collected data can therefore be considered to be representative of the existing conditions at the site. The samples were collected under light wind conditions with short periods of stronger winds (up to 15km/h).

The TSP monitoring results are presented in Table 3-2 of Appendix C. The three samples indicate that ambient TSP concentrations, at the site boundary, are considerably lower than the current ambient air quality criteria effective under the *Air Quality Regulations*.

Anticipated activities under the proposed quarry extension are reported to remain consistent with current activities (Section 6.2.2). The proposed mitigation methodologies are typical for the type of activities that are proposed. A wheel wash could be considered to prevent the transfer of mud and debris from the site to paved roads. The Department may request monitoring in the future, particularly as the proposed extension will result in TSP-generating activities moving

closer to residences to the west and east of the site (seven properties between 800 and 1500m of the site boundary).

### Noise

The noise assessment is also reported in Appendix C. A rationale for the selection of monitoring locations was not provided. Noise levels at three locations are reported – all three locations are at private residences more than 2km from the site boundary, with two of the sites on the other side of a highway from the site. One noise monitor was co-located with the TSP monitor which involved the use of a high volume pump. Noise from the pump may have contributed to the reported noise levels.

The Nova Scotia Pit and Quarry Guidelines state that noise levels must meet the specified criteria at the site boundary. Therefore it is not possible to compare the monitored sound levels with the criteria.

With respect to mitigation measures, 'blasting and crushing will occur as market demand requires' is not considered to be a method of mitigation. The remaining reported methods are typical of the type of activities proposed. A key mitigation method to minimize complaints due to noise is communication with local residents. Information should be shared with local residents with respect to blasting events and other activities that could generate unusual types or levels of noise. It is noted that 24 hour activity is not anticipated – activities should not occur during hours of darkness.

The proposed extension will result in noise generating activities moving closer to seven residential properties that are between 800 and 1500m from the site boundary. The Department may request monitoring to assess noise at these or other locations.

### General

Neither a Dust Management Plan nor a Noise Management Plan/Complaints Procedure were presented as part of this submission.

Date: April 7<sup>th</sup>, 2022

To: Renata da Silva, Nova Scotia Environment

From: Coordinator Special Places, Culture and Heritage Development

Subject: Tote Road Quarry Expansion Project

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Staff of the Department of Communities, Culture, Tourism, and Heritage has reviewed the Tote Road Quarry Expansion Project EA documents and have provided the following comments:

***Archaeology***

Staff reviewed the sections of the EA document pertaining to archaeology. The EA document aligns with the recommendations and conclusions outlined in the Archaeological Resource Impact Assessment report A2021NS054. No concerns at this time.

***Botany***

Staff reviewed the sections of the EA document pertaining to botany.

Section 3.4.3 – decommissioning and reclamation

- Reforestation should be included in the progressive and final reclamation plans, to enhance carbon sequestration at the site

Section 6.2.1 – existing environment, and 6.2.2 potential effects, mitigation, and follow-up

- On pages 25-26, the proponent qualitatively describes current greenhouse gas (GHG) emissions, and in the subsequent section, states that the planned changes to the operations will not likely change GHG emissions. Given the provincial commitment to be net zero in GHG by 2050, a plan of “no change” is problematic. Does Scotian Materials have a Climate Change mitigation and adaptation plan? If so, it should be referenced here.

Section 6.12.2 – potential effects & proposed mitigation & follow-up

- There is scientific value in either collecting unavoidable plants and lichens as specimens for the provincial herbarium, or in monitoring the health of those plants and lichens as the progressive site development occurs, to refine our understanding of survivorship thresholds in the proximity of extractive land use activities to sensitive species.

***Palaeontology***

Staff have reviewed the sections of the EA document pertaining to palaeontology. Based on the location noted in the documents, the bedrock and surficial geology at this site is not expected to contain any fossil material so there should not be any significant fossil heritage concerns.

***Zoology***

No CCH staff were available to review the sections relating to zoology.

Date: April 8th, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Wetland & Water Resources Specialist, Water Resources Management Unit

Subject: Tote Road Quarry Expansion EA Project

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**Scope of Review:**

The following review of the Tote Road Quarry Expansion (Tote Road, Head of St. Margarets Bay, Halifax County, NS) Environmental Assessment Registration (Scotian Materials Limited) is specific to the mandate of the NSE Wetlands Program within the Sustainability and Applied Sciences (SAS) Division. The review considers whether the environmental concerns associated with wetlands and the proposed mitigation measures to be applied have been adequately addressed within the Environmental Assessment.

**Reviewed Documents:**

Scotian Materials Limited, Tote Road Quarry Expansion, Head of St. Margarets Bay, Halifax County, Nova Scotia. February 25, 2022. *Environmental Assessment Registration Document (EARD)*.

**General Comments:**

*Summary of Wetland Findings*

- There are four wetlands, three north of site and (WL1, WL2, WL3) and one west of the site (WL4).
- WL 1, 2 and 4 are swamps, and WL3 is a Fen.
- WL4 is a headwater wetland contiguous with a watercourse, while WL1, WL2, and WL3 are isolated.
- Buffers have been applied to all four wetlands (30 -100m).

*Wetlands of Special Significance*

- Pursuant to the NS *Wetland Conservation Policy*, WL1 is considered a Wetland of Special Significance (WSS) due to the presence of Blue Felt Lichen and should be avoided by all Project activities.
- In consideration of WL1 being a WSS, indirect project impacts that result in negative trends in wetland hydrology would not be permissible. Based on the water balance study it is not clear how a 11.70% decrease in the contributing area and a 6.43% decrease in runoff is not significant in possible impacts to WL1. Any impact to a WSS is significant.



### *Wetland Impacts*

- All four wetlands will not be directly altered, but possible indirect alterations.
- It is specified that the catchment areas supplying WL2 will have a 75.75% decrease in runoff, and WL3 will have a 38.15% decrease in runoff. These changes are considered significant in impacts to the wetland's functions. NSECC Wetland Alteration Approval Applications will be required for these wetlands.
- It is indicated that the catchment area supplying WL4 will increase by 9.30% and is not considered significant in possible impacts to the wetland function. It is unclear how a 9.30% increase in the catchment area for WL4 during the quarry development, and a 16.94% increase during reclamation conditions is not significant. Further details need to be provided to confirm that WL4 will not be altered indirectly.

### *Monitoring*

- The EARD states *"Final Project design will take into account benching to help reduce impacts on wetlands. A settling pond will be used to aid in allowing fine grained material and silt to settle prior to discharge to the receiving environment. Further, water monitoring will be conducted according to the IA and the NS Pit and Quarry Guidelines"*. Details on proposed on-site mitigation measures specific to the protection of wetlands are not provided in the EARD. More detail should be provided on proposed on-site mitigation measures specific to the protection of the wetlands (especially WL4) including measures for sediment and erosion control, vegetation management (introduction of invasive species), stormwater management, and water quality management.
- The EARD states *"Additional wetland surveying, monitoring, or follow-up will be developed in accordance with all approvals issued in consultation with NSECC"*. Wetland Alteration Approval Applications will be required for all wetlands that are directly or indirectly altered. Monitoring plans are a required as part of the application.

### *Conclusions and Recommendations*

- The proposed alteration to WL1 will not be permitted, due to its WSS designation. The quarry should not be expanded within WL1's catchment area.
- There is insufficient information provided in the EARD to predict whether indirect impacts will alter the adjacent wetlands.
  - It is recommended that Wetland Alteration Approval Application be submitted for WL2, WL3, and WL4. The application should include a detailed ecological and hydrological monitoring plan. Wetland monitoring efforts should include integration of surface water and groundwater monitoring data wherever appropriate. The NSECC Wetland Alteration Approvals process should be submitted prior to any Project activities involving wetland alteration.

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Date: April 8, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: , ICE Inspector Specialist

Subject: Tote Road Quarry Expansion EA Project

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#### *Compliance History*

- Historically, The Tote Road Quarry site has had various non-compliances with it's current Industrial Approval (IA) that relate to the expansion of associated works beyond what's allowable by the approval, non-adherence to setbacks and sediment and erosion control practices, on site, without seeking amendment or department evaluation.
- The Approval Holder has rectified non-compliances to the Department's satisfaction by eliminating all activity on-site, outside of the allowable boundary, submitting current erosion control practices for review, as well as Seeding, Stabilizing, removing equipment, and later registering for Environmental Assessment (EA). The acceptance of an EA, and adherence to the subsequently required IA amendments would complete the process.
- At this time, the Tote Road Quarry site is currently in compliance with the current IA.
- The Department continues to pursue the issuance of financial penalty, within the bounds of the statute of limitations, as they relate to the original offenses.

#### *Document Review*

- In review of the registration documentation provided to Inspection, Compliance and Enforcement (ICE), the proposed expansion is noted to have minor anticipated impact on surface water resources, fish and fish habitat, groundwater, Lichens, and priority species. It is important to highlight that these impact significance ratings are dependent on the adherence to mitigation and monitoring.
- Due to the nature of the wetlands north of the site, Nova scotia's commitment to no net loss of wetland, and the potential indirect impacts on a wetland of special significance, any tools available to ensure the proponents adherence to the provided commitments is recommended. Some of these include the incorporation of increased setbacks, Erosion and sediment control plans; progressive reclamation; and Dust control; all of which should be formally defined in terms or evaluated prior to work on-site.
- We recognize the increased wetland buffers, however, there remains concern with encroachment of the developed quarry into WL1 catchment. If possible, this catchment should be marked and avoided as a WSS unless it could be shown that the encroachment can be made to maintain, restore, or enhance the WSS, or is deemed to provide necessary public function through approval.
- Submission of Wetland alteration approval would be acceptable for alterations to WL2 and WL3.

## Environment

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Date: 2022-04-04

To: Environmental Assessment Division, Nova Scotia Environment and Climate Change

From: Climate Change Unit

Subject: Tote Road Quarry Expansion

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### Greenhouse Gas Mitigation

The proponent has not supplied any estimate of GHG emissions expected during this expansion but has indicated no net increase in potential emissions as a result of the project. To mitigate GHG emissions, the proponent mentions that machinery and light vehicles will not be left idle, and all vehicles and machinery will be maintained in proper working order. The emissions estimate and the mitigative methods proposed are acceptable for a project of this nature.

### Climate Change Adaptation

With the Project having an intended duration of 30+ years, it would be valuable to consider climate change projections for mid-century (2050s) and determine whether the changing climate will have any effect on Project operations. Section 6.2.1 provides a summary of the historical climate; it could also include a summary of climate projections for this location (data can be accessed through [ClimateData.ca](https://climate.data.ca)). Section 9 includes an assessment of climate change risks, which does demonstrate a basic understanding of the major trends, but there is no projection data referenced to draw the conclusions.

The impact of rising temperatures, in particular, may be underestimated. Section 9 refers to a slight cooling experienced in the Atlantic Region over the past 50 years; this does not align with the trends we have seen in Nova Scotia. With mean temperatures projected to rise another 2°C or so during the Project's operation (consistent across emission scenarios), there could be increasing risks of extreme heat to outdoor work, for example.

The registration document does not include a specific assessment of the climate change risk category (as per the Guide to Considering Climate Change); based on the location and intended operations it is likely that the Project would be assessed as low/no risk and not require further assessment, but this could be explicitly stated.

**From:** @novascotia.ca>  
**Sent:** April 8, 2022 2:43 PM  
**To:** Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>  
**Cc:** @novascotia.ca>  
**Subject:** FW: Tote Road Quarry Expansion Project\_ EA registration: comments due by April 9, 2022  
**Importance:** High

Hi Renata,  
The Environmental Health Program completed a review of the above noted EA.

Provided best management practices are adopted for this project, and adherence to NSECC Industrial Approval(s) are achieved, no adverse public health impacts are expected to occur throughout all phases of the project.

Thank you for the opportunity to review the EA.

Regards,

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Date: April 8, 2022

To: Renata Mageste da Silva  
Environmental Assessment Officer

Cc: Manager, Water Resources Management Unit

From: Senior Hydrogeologist, Sustainability and Applied Science Division

Subject: Tote Road Quarry Expansion Project

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Environmental Assessment (EA) reviews from the NSE Sustainability and Applied Science Division Senior Hydrogeologist focus primarily on groundwater resources. This includes the potential for the proposed undertaking/project to adversely affect groundwater resources, including general groundwater quality, quantity, municipal water supplies, local water supply wells and groundwater contributions to stream baseflow, groundwater recharge and wetlands. The review is conducted of materials provided by the proponent during the EA registration process. Any recommendations made are based on this review.

Scotian Materials Limited (Scotian) owns and operates the Tote Road Quarry, currently with Industrial Approval (IA) (2014-090423-01 - listed as Head of St Margaret's Bay Quarry). The purpose of the proposed new undertaking is to expand the existing approved 4 hectare (ha) quarry to 24 ha in size so that Scotian may continue to extract and supply aggregate to meet local and regional demand.

The Project is located on Tote Road, Head of St. Margaret's Bay, Halifax County, HRM. Quarry expansion is anticipated to commence in 2022, at a planned production rate of up to 200,000 tonnes per year, unchanged from current production, for 30+ years depending on demand.

The scope of the proposed Project includes the activities associated with construction, operation, and decommissioning of a quarry, as follows:

- Site preparation (removal and stockpiling of overburden, vegetation)
- On-site processing (blasting, crushing, stockpiling aggregate)
- Transportation/trucking
- Reclamation
- Closure

## Comments

- The location of the undertaking is not within a municipal drinking water Source Water Protection zone or Wellfield Protection Area (WHPA) or a regulated Protected Water Area. The nearest Protected Water Area is the Pockwock Lake Watershed Protected Water Area (PWA) which is about 7 km northeast of the site. This PWA is located in a different secondary watershed than the project site.
- The nearest Public Registered Drinking Water Supply is about 3 km southeast of the project site in the community of Head of St. Margaret's Bay. This is located in a different secondary watershed.
- The Nova Scotia Environment Well Logs Database (WLB) was accessed through the Natural Resources Nova Scotia Groundwater Atlas interactive map. Although the map indicates up to 6 potential well locations within a 2 km radius of the middle of the project area, a review of aerial photography and satellite imagery indicates that it is unlikely that any of these 6 are in fact located in the search area. No buildings, residential houses or otherwise are noted in the imagery of the well locations, most of which are shown in forested, undeveloped areas.

It has been noted previously that the Well Logs Database Records and any mapping based on these records need to be considered in terms of locational errors/accuracy of the original data. In addition, the Well Logs Database does not contain a complete listing of every water supply well in the province and some areas may contain water supply wells not reported. Field truthing and field surveys for actual water supply well locations would be needed for verification.

- Scotian notes the following information concerning wells:

*"There are no known wells located within 2.3 km of the Project. The Project is located approximately 2.3 km west of the community of Westwood Hills, Upper Tantallon and 2.4 km northwest of the community Head of St. Margarets Bay."* p. 41 (Environmental Assessment Registration Document - EARD)

The communities mentioned above do rely on groundwater for water supplies, however it is noted that they are in different secondary watersheds than the project site.

However, the possibility of seasonal cottage locations on Island Lake (with several islands), within 1-2 km to the west of the site exists and was noted by the proponent as well as was observed in satellite imagery. The existence of seasonal cottages and the use of either a well, or lake water, for water supply in these areas was not confirmed.

- Scotian notes the following regarding potential interactions with groundwater and the quarrying floor elevations:

*“The elevation range of the Site is 120 to 148 metres above sea level (masl). The existing quarry floor has been established at approximately 116 masl and will continue at this elevation in the expansion area, rising towards the north in benches (5 m). (p 3. EARD), and*

*“No interactions are anticipated with surface water resources from the Project. The proposed quarry floor will be maintained at a minimum 1.0 m above the groundwater table. The elevation of the quarry floor will be benched in the northern portion of the Site to reduce potential groundwater/surface water interactions. The distances from the bench to the wetlands increases from 30 to 125 m.”, and*

*“The Project was developed in consideration of the wetlands to the north. The elevation of the quarry floor will be benched to reduce potential surface water/groundwater interactions.” (p. 45 EARD)*

With consideration of the above and the site topography, it is clear that the quarrying operation plans to excavate into and remove a local topographic high, which currently controls local surface water and groundwater drainage. The actual planned quarry floor elevations are stepped in benches, beginning presumably from the existing floor at 116 m, and assuming 5 m benches for two additional steps possibly indicated on Figure 4 of Appendix E (the actual bench details were not located in the report), this would result in a finished floor elevation of about 125 m in the north areas of the site. This is estimated at up to 20 m or more below the current topographic elevations. As will be discussed next this is well below the current groundwater table location.

- The groundwater and water table, based on the data from the Monitoring Well Program information provided in Appendix F appears relatively shallow, within a few metres of ground surface at the site, at both wetland areas (MW 2 and MW 3) and in the centre of the site (MW 4) – this is a typical water table response relative to topography seen in many locations in Nova Scotia. The water level and elevation data from four Monitoring Wells in Table 1 of Appendix F of the EARD, shows the following (for April, maximum water levels):
  - MW 1 - 123.25 m water elevation, or 4.36 m below ground surface (mbgs)
  - MW 2 – 129.55 m water elevation, or + 0.2 m above ground surface (note that this indicates slight groundwater artesian pressure conditions in the downgradient location)
  - MW 3 – 127.60 m water elevation, or 0.28 mbgs
  - MW 4 – 140.88 m water elevation, or 0.73 m mbgs
- This data shows water table conditions within 1 metre of current surface for MW 4 (0.73 mbgs) at the centre of the site. It is evident that any excavation as planned for northern expansion sections of the site will therefore occur below this pre-development water table.
- It is noted that typically the best evaluation of water table is at atmospheric conditions, when monitoring wells are screened directly across the water table. This was not the case for any of the wells (Appendix F, Attachment 1 Borehole Logs). As

a result, all wells may indicate a biased head condition relative to the actual screened zone (however any errors are likely not significant).

- Scotian indicates that their intention during the quarrying operations is to maintain at minimum 1.0 m elevation above the groundwater table. This does not seem possible given the information presented in the EARD. Typically, any operating approvals for which a request for excavation below the water table is made require additional information concerning the details of such activity to demonstrate environmental impacts are not present, or are otherwise mitigated. Such requests would be subject to Departmental review and approval.
- Sample results assessing Acid Rock Drainage (ARD) from the quarry was not presented in the EARD. It was stated that “*Total Sulphur (S) and acid producing potential analysis was not completed for rock at the Site because the granitic rock is not considered to be acid producing.*” (p. 19 EARD). However, due to the long-term operations, potential variability in local geological conditions and significance of any ARD, site sampling is highly recommended. This could include testing of composite sample(s) already collected from the borehole locations.
- As there are no known water supply wells located within 1 km of the project boundaries that could reasonably be expected to be affected by the activity, a baseline water survey for water supply well data is not considered necessary.

#### Wetlands

- Water balance information for the project was presented in Appendix E of the EARD. The water balance indicates some degree of impact to wetlands by reductions in surface water runoff:
  - It is not clear if the impacts include reduced groundwater baseflow as well as reduced runoff due to the planned quarry footprint and diversion of both surface water and groundwater from wetland areas. Groundwater baseflow reductions to wetland areas should also be quantified and included in evaluations where needed.
  - The significance of reductions to water baseflow that maintains wetland areas requires better risk quantification. What is the impact on risk for – 6.43 % reductions in runoff to WL 1 (Table 6, p.4, Appendix E of the EARD) for example, where at risk lichens, sensitive to water conditions, were identified?
  - Can additional mitigation methods be used to further minimize water loss to WL1 or other sensitive wetland areas?
- The new settling pond for the expanded quarry is shown in Figure 2 (p. 5 EARD). The presence of a potential discharge outlet for the pond, volumes of site discharge and where site drainage flow is likely to go could not be seen in the submission.



## Recommendations

### Recommendations

The following recommendations are suggested based on the proposed Tote Road Quarry Expansion groundwater effects environmental assessment review:

#### **Planning/Design Issues**

The operations of the planned expanded Tote Road Quarry, based on the data shown, will interact with and extend below the water table. In order to evaluate the significance of operating below the water table, additional information and analysis is needed that shows what are the potential impacts due to groundwater dewatering, as well as any proposed mitigation measures.

Proposed quarry floor elevations are generalized in the submission and will require more detail. More detail on quarry depths relative to the current location of the water table is needed across the site. A more detailed analysis of groundwater dewatering due to quarry depth and the effects both on-site and off-site is needed.

Concerns for changes in water flow due to the quarry particularly relate to potentially significant water reduction effects on nearby wetlands. More information is needed to assess the potential impacts that may result from this, as well as any proposed mitigation measures.

#### **Operational Issues/Other Permitting Processes**

#### **Other Observations**

Groundwater-surface water discharge from the site (either subsurface or as surface water discharge and stream baseflow discharge) should be expected to meet the Canadian Guidelines for Drinking Water Quality, CCME Environmental Quality Guidelines – Freshwater Aquatic Life, and other regulatory requirements related to any water quality changes resulting from the site (accounting for natural background conditions). Any exceedances likely due to quarry activities should be properly mitigated.

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Date: April 8, 2022  
To: Renata Mageste da Silva, Nova Scotia Environment and Climate Change  
From: Nova Scotia Office of L'nu Affairs  
Subject: Tote Road Quarry Expansion Project

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The Nova Scotia Office of L'nu Affairs (OLA) has reviewed the Environmental Assessment Registration Document for the proposed Tote Road Quarry Expansion Project, submitted by Scotian Materials Ltd. on March 10, 2022. The following review considers whether the information provided will assist the Province in assessing the potential of the proposed Project to adversely impact established and/or asserted Mi'kmaq Aboriginal and Treaty rights.

### **Section 6.4 Noise**

Section 6.4 states that Quarry activities are anticipated to increase noise. Due to potential concerns over disturbance, it is recommended that a Mi'kmaq communications Plan be required as part of the EA approval, if approved.

### **Section 6.12.1.3 Mammals**

Section 6.12.1.3 states that the Study Area is within a mainland moose concentration area and mainland moose core habitat. Mainland moose were also reported by the ACCDC as being observed within 20.1km of the project. Although there were no observations or signs of moose reported during the PGI field surveys and moose hunting activities do not occur in the proposed region where the project is located, moose are a culturally important species to the Mi'kmaq of Nova Scotia. As such, additional information should be provided to determine the potential of moose presence in the Study Area and the potential for the project to impact moose and moose habitat.

### **Section 6.15.2 Potential Effects**

It has been noted that Mi'kmaq traditional use activities occur adjacent to the proposed project site or in the immediate vicinity. The EA Registration document indicates that discussions and engagement with Mi'kmaq organizations are ongoing in order to minimize and, where possible eliminate any potential impacts to traditional land and resource use. It is recommended that the proponent continue these discussions and engagement with the Mi'kmaq to address mitigation measures for potential impacts on traditional land and resource use.



Environmental Protection Branch  
16<sup>th</sup> Floor Queen Square  
45 Alderney Drive  
Dartmouth, NS B2Y 2N6

April 11, 2022

Renata Mageste da Silva  
Department of Environment and Climate Change  
1903 Barrington Street, Suite 2085  
Halifax, NS B3J 2P8

Dear Renata:

**RE: Tote Road Quarry Expansion Project, Head of St. Margarets Bay, Halifax, Nova Scotia 22-NS-005**

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Environment and Climate Change Canada (ECCC) has reviewed the Environmental Assessment (EA) registration document for the Tote Road Quarry Expansion Project located in Halifax, Nova Scotia (NS), and offers the following comments:

### **Water Quality**

The report states that “Acid rock drainage (ARD) is not expected to be an issue at this quarry based on bedrock geology at the Site” and that “Total Sulphur (S) and acid producing potential analysis was not completed for rock at the Site because the granitic rock is not considered to be acid producing.” Table 15 (Summary of Potential Impacts and Mitigation Measures) lists “Ongoing acid generating potential monitoring of site aggregate” in the “Mitigation, Monitoring, and Natural Limiting Factors” column. It would be useful to provide more detail on this monitoring.

The proponent is reminded that the general prohibition against the deposit of a deleterious substance as stated in Section 36(3) of the *Fisheries Act* applies at all times and all stages of the project. As it is a general prohibition, there are no permits or approvals issued. Ultimately, it is the proponent’s responsibility to continuously ensure that there is no deposit of a deleterious substance. Additional information on the *Fisheries Act* can be found here: <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/fisheries-act-registry.html>. The Registry contains an overview of the pollution prevention provisions of the *Fisheries Act* as well as information on associated regulations, policy and administration and compliance and enforcement. There is also a link for “Frequently Asked Questions”.

### **Wildlife and Wildlife Habitat**

- *Avian Species at Risk (SAR)*: The following avian SAR (listed on Schedule 1 of the *Species at Risk Act*) have been observed and/or have the potential to be found present on-site or adjacent to the site: Olive-sided Flycatcher, Wood Thrush, Common Nighthawk, Eastern Whip-poor-will, Bank Swallow, Barn Swallow, Canada Warbler, Chimney Swift, Rusty Blackbird, Eastern Wood Pewee and a number of priority species of conservation concern.

Nightjar surveys targeted Common Nighthawk since potential habitat is available in the study area. Any nightjar survey effort in NS should also include monitoring for Eastern Whip-poor-will (EWPW), although very rare, it is listed in Provincial and Federal species at risk legislation as Threatened. ECCC-Canadian Wildlife Service (ECCC-CWS) recommends the Canadian Nightjar Survey Protocol (2022) (Attached). Note: While Common Nighthawk (CONI) are crepuscular and begin to vocalize 30 minutes before sunset, Eastern Whip-poor-will (EWPW) are nocturnal and begin to vocalize 30 minutes **after** sunset and survey timing varies from one year to year due to the changing lunar cycle.

- ECCC-CWS generally does not recommend nest searches or sweeps in vegetation prior to clearing or land disturbance activities during the breeding season, except when nests are known to be easy to locate without disturbance (e.g. previously cleared area, simple habitats, low vegetation) and carried out by experienced observers using appropriate scientific methodology.
- Non-avian SAR: The Blue Felt Lichen and Frosted Glass Whiskers lichen, listed as Special Concern on Schedule 1 of the *Species at Risk Act*, are found on site, and a 100m buffer has been identified as mitigation as recommended in the Management Plans for these species. ECCC-CWS also recommends the development of a lichen-monitoring program and proposed adaptive management measures if adverse effects to lichen SAR are detected.
- ECCC-CWS recommends that the provincial department responsible for SAR be contacted for technical expertise and advice on non-migratory bird SAR under their jurisdiction and responsibility (e.g. birds that are not protected by the MBCA such as raptors, bats, reptiles, amphibians, land-mammals, insects, plants and lichen).
- ECCC-CWS request that SAR observations and records from 2021 field surveys be submitted to the Atlantic Canada Conservation Data Centre, directions on how to contribute data can be found at: <http://accdc.com/en/contribute.html>.

### **Migratory Birds**

Migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include all seabirds (except cormorants and pelicans), all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). The list of species protected by the MBCA can be found at <https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act.html>. Bird species not listed may be protected under provincial legislation.

Under Section 6 of the *Migratory Birds Regulations* (MBR), it is illegal to disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the MBR, no permits can be issued for the disturbance or harm of migratory birds caused by development projects or other economic activities. Furthermore, 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, results 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.”

It is the responsibility of the proponent to ensure that activities comply with the MBCA and regulations.

### Vegetation Clearing

Clearing vegetation may cause disturbance to migratory birds, and may inadvertently cause the destruction of their nests and eggs. Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Eastern Whip-poor-will, Killdeer, sandpipers), in forest, hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams. Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters. In developing mitigation measures, it is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA. The following should be considered during project planning:

- Avoid scheduling high disturbance activities, such as vegetation clearing, during the regional nesting period for migratory birds. Information regarding regional nesting periods can be found at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html>. Some species protected under the MBCA may nest *outside* these timeframes.
- The risk of impacting active nests or birds caring for pre-fledged chicks discovered during project activities *outside* of the regional nesting period can be minimized by measures such as the establishment of vegetated buffer zones around nests and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area.
- In developing and implementing a wildlife management plan, preventative measures to minimize the risk of impacts on migratory birds should be considered (see “Avoiding harm to migratory birds: guidelines to reduce the risk to migratory birds” at <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>).

### Nest Searches

ECCC-CWS generally does not recommend nest searches or sweeps in vegetation prior to clearing during the breeding season. Nests in complex habitat are difficult to locate, and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. In many circumstances, harm to migratory birds is still likely to occur even when active nest searches are conducted prior to development activities, except when the nests searched are known to be easy to locate without disturbance (e.g. previously cleared area, simple habitats, low vegetation).

Some ground nesting species of migratory birds, including the threatened Common Nighthawk, may be attracted to previously cleared areas for nesting in the spring and summer if there is a delay between clearing activities (e.g. clearing conducted in the fall/winter and construction scheduled in the spring and summer).

Nest surveys may be carried out successfully by experienced observers using scientific methodology in the event that activities would take place in simple habitats (often in human-made

settings) with only a few likely nesting areas or a small community of migratory birds. Examples of simple habitats include:

- An urban park consisting mostly of lawns with a few isolated trees;
- A vacant lot with few possible nest sites;
- A previously cleared area where there is a lag between clearing and construction activities and where ground nesters may have been attracted to nest in cleared areas or in stockpiles of soil; or,
- A structure such as a bridge, a beacon, a tower or a building (often chosen as a nesting spot by robins, swallows, phoebes, Common Nighthawk, gulls and others).

Nest searches can also be considered when looking for:

- Conspicuous nest structures (such as nests of Great Blue Herons, Bank Swallows, Chimney Swifts);
- Cavity nesters in snags (such as woodpeckers, goldeneyes, nuthatches); or,
- Colonial-breeding species that can be located from a distance (such as a colony of terns or gulls).

Should any nests or unfledged chicks be discovered, protection with an appropriate-sized buffer is expected. Note: Nests should not be marked using flagging tape or other similar material as this increases the risk of nest predation. ECCC-CWS can be contacted for further advice on bird monitoring and/or mitigation if a nest is found.

### Noise

Anthropogenic noise produced by construction and human activity can have multiple impacts on birds, including causing stress responses, avoidance of important habitats, changes in foraging behaviour and reproductive success, and interference with songs, calls, and communication. Activities that introduce loud or random noise into habitats with previously low levels of anthropogenic noise are particularly disruptive.

ECCC-CWS recommends the development of mitigation measures for operational activities that could introduce very loud and random noise disturbance (e.g. blasting) during the migratory bird breeding season (e.g. prioritize construction works in areas away from natural vegetation; scheduling high disturbance activities outside the migratory bird breeding season; keeping equipment and vehicles in good working order and well muffled).

### Banks & Stockpiles

Migratory birds such as the Bank Swallow may nest in banks or large piles of soil left unattended/unvegetated. The guidance document “*Bank Swallow (Riparia riparia) in Sandspit and Quarries*” (ECCC, 2020) offers advice in preparing mitigation measures in the management of stockpiles during construction activities: <https://species-registry.canada.ca/index-en.html#/documents/1602>;

Note: A Bank Swallow residence (i.e. burrow) is protected under the MBCA and SARA. A Bank Swallow Residence Description (GoC 2019) is available at: <https://species-registry.canada.ca/index-en.html#/documents/3521>. The *Recovery Strategy for the Bank Swallow (Riparia riparia) in Canada* [Proposed](2021) is also available at: <https://species-registry.canada.ca/index-en.html#/consultations/1586>

### Species at Risk

The *Species at Risk Act* (SARA) “General prohibitions” apply to this project. In applying the general prohibitions, the proponent, staff and contractors, should be aware that no person shall:

- kill, harm, harass, capture or take an individual;

- possess, collect, buy, sell or trade an individual, or any part or derivative;
- damage or destroy the *residence* of one or more individuals.

General prohibitions only apply automatically:

- on all federal lands in a province,
- to aquatic species anywhere they occur,
- to migratory birds protected under the MBCA (1994) anywhere they occur.

Section 33 of SARA prohibits damaging or destroying the residence of a listed threatened, endangered, or extirpated species. For migratory birds species at risk (SAR), this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

For federal environmental assessment (EA), SARA ss.79(2) requires that person(s) responsible for an EA to: 1) identify adverse effects on all listed species 2) if the project is carried out, must ensure that measures are taken to avoid or lessen those effects; and, 3) monitor them. These measures must be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and respect the terms and conditions of the SARA regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species. *While there is no federal EA for this project, ECCC advocates a similar approach to avoiding impacts to species at risk (SAR).*

For species which are not listed under SARA, but are listed under provincial legislation only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA.

### **Wetlands**

The Federal Policy on Wetland Conservation (FPWC) recognizes the importance of wetlands to the environment, the economy and human health, and promotes a goal of No Net Loss of Wetland Function as a result of the Government of Canada exercising a duty, function, or power in areas of Canada where wetland loss has reached critical levels. In support of this goal, the FPWC identifies the importance of planning siting and designing a project in a manner that accommodates a consideration of mitigation options in a hierarchical sequence – avoidance, minimization, and as a last resort, conservation allowances (i.e. compensation). A copy of the FPWC can be found at: <http://publications.gc.ca/pub?id=9.686114&sl=0>.

In order to promote wetland conservation, ECCC-CWS recommends the following general beneficial management practices:

- Developments on wetlands should be avoided;
- Where development does occur in the vicinity of wetlands, a minimum vegetation buffer zone of 30 meters should be maintained around existing wetland areas;
- Hydrological function of the wetland should be maintained;
- Runoff from development should be directed away from wetlands;
- The use of a 30 meter buffer from the high water mark of any water body (1:100 Flood Zone) in order to maintain movement corridors for migratory birds.

### **Invasive Species**

A variety of species of plants native to the general project area should be used in remediation and revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be

invasive. Measures to diminish the risk of introducing invasive species should be developed and implemented during all project phases. These measures could include:

- Cleaning and inspecting construction equipment prior to transport from elsewhere to ensure that no vegetative matter is attached to the machinery (e.g., use of pressure water hose to clean vehicles prior to transport).
- Regularly inspecting equipment prior to, during, and immediately following construction in areas found to support Purple Loosestrife to ensure that vegetative matter is not transported from one construction area to another.

### **Accidents and Malfunctions**

Hazardous materials (e.g. fuels, lubricants, hydraulic oil) and wastes (e.g. waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. For example, the proponent should encourage contractors and staff to undertake refueling and maintenance activities on level terrain, at a suitable distance from environmentally sensitive areas including watercourses, and on a prepared impermeable surface with a collection system.

The proponent is encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response*, CAN/CSA-Z731-03, reaffirmed 2014), is a useful reference.

All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery), and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633)

I trust the above comments will be of assistance. Please feel free to contact me at [@ec.gc.ca](mailto:@ec.gc.ca) if you have any questions or concerns.

Yours truly,

Environmental Assessment  
Environmental Protection Operations Directorate – Atlantic



# Canadian Nightjar Survey: Protocol 2022

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This protocol is the product of a series of working group meetings held from November 2015 to April 2016, and is adapted from the *Nightjar Survey Network* protocol from the Center for Conservation Biology (USA).

Contributions were made by the following individuals: Allison Manthorne (Birds Canada), Andrea Sidler (University of Regina; WildResearch), Audrey Heagy (Birds Canada), Elly Knight (WildResearch; University of Alberta), Gabriel Foley (University of Regina; WildResearch), Gilles Falardeau (Canadian Wildlife Service), Jean-Sébastien Guénette (Regroupement QuébecOiseaux), Jon McCracken (Birds Canada), Julie McKnight (Canadian Wildlife Service), Kathy St. Laurent (Canadian Wildlife Service), Kevin Hannah (Canadian Wildlife Service), Marie-France Julien (Regroupement QuébecOiseaux), Mark Brigham (University of Regina), Pam Sinclair (Canadian Wildlife Service), and Rhiannon Pankratz (Canadian Wildlife Service; WildResearch).



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada

This protocol was prepared by Elly Knight, and the French translation was produced by Kevin Quirion Poirier and Audrey Lauzon.

Photo credits: Anne C. Brigham (Common Nighthawk); Alan Burger (Common Poorwill); Nicholas Bertrand (Eastern Whip-poor-will).

For more information, please contact:

Andrew P. Coughlan: [acoughlan@birdscanada.org](mailto:acoughlan@birdscanada.org)

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## 1. INTRODUCTION

Thank you for contributing to nightjar monitoring in Canada! Prior to surveying, please read this protocol in its entirety and familiarize yourself with the identification of nightjar species that may be found in your area. A one-page summary of the protocol can be found in Appendix A and used as quick reference in the field.

Conducting a Nightjar Survey is easy – anyone with good hearing and a vehicle can participate!

- Each route is a series of 12 road-side stops
- Each route needs to be surveyed once per year between June 15 and July 15
- Each survey starts 30 minutes before sunset
- At each stop, you will listen quietly for nightjars for six minutes and record information about your survey

## 2. OBJECTIVES

The data you are helping to collect will be used to expand our understanding of Common Nighthawks, Common Poorwills, and Eastern Whip-poor-wills across the country. Due to their nocturnal habits, nightjars are understudied, but there is concern about their declining populations. Common Nighthawks and Eastern Whip-poor-wills are listed as Threatened under the federal *Species at Risk Act*. Common Poorwills were assessed as Data Deficient by the Committee on the Status of Endangered Species in Canada (COSEWIC) in 1993. Information on nightjar distribution, abundance, habitat associations, and population trends is critical for conservation and management efforts.

The Canadian Nightjar Survey has been designed with four objectives in mind, to increase our understanding of nightjar species:

- 1. Habitat associations and critical habitat mapping:** roadside citizen science data will cover a large geographic expanse and can be integrated with more locally-collected, non-roadside data to characterize nightjar habitat.
- 2. Long-term population monitoring:** data collected will be compared to Breeding Bird Survey data after several years of data collection to determine whether the protocol increases the precision of population trend estimates.
- 3. Distribution and abundance mapping:** data collected will help refine our understanding of the distribution and abundance of nightjars across Canada.
- 4. Environmental assessment:** survey data could be used to inform environmental assessments by providing a baseline against which we can evaluate the potential impacts of development to nightjar species and their habitat.

### 3. NIGHTJAR BIOLOGY & IDENTIFICATION

Nightjars are a family of cryptic birds that forage for flying insects at night. These beautiful birds have long, pointed wings and are well camouflaged against the leaves and branches they roost upon during the day. Many of these species are highly migratory, some spending their winters as far south as Argentina. During the summer, nightjars breed across Canada, generally laying two eggs directly on the ground with no nest.

Due to their nocturnal behaviour and cryptic appearance, nightjars are rarely seen, so it is most important to learn how to identify nightjars by ear!

#### 3.1. Common Nighthawk (*Chordeiles minor*)

##### 3.1.1. Biology

The Common Nighthawk is found almost everywhere in Canada, except Newfoundland and the far north. This species is one of the last migrants to arrive, showing up across the country in late May and early June. It is generally found in open habitat such as grasslands, clearcuts, sandy areas, peatlands, rocky bluffs, open forests, and even urban areas. The nighthawk uses large areas – males are thought to defend territories for mating and nesting, but forage and roost outside those territories, sometimes up to several kilometres away. The Common Nighthawk is listed as Threatened due to steep population declines based on existing Breeding Bird Survey data.

##### 3.1.2. Identification

The Common Nighthawk is the nightjar the most likely to be seen during surveys because it is more crepuscular than the others, meaning that it is most active at dawn and dusk. This species becomes active approximately 30 minutes before sunset, and remain active until 60 or 90 minutes after sunset. Nighthawks forage for insect prey during sustained-flight, much like swallows and swifts. Their bright white wing bars are a tell-tale way to identify it in flight.



The Common Nighthawk can be identified by two different sounds. The first is a vocal “peent” or “beerb” call that is frequently made while in flight. The second is a mechanical wing-boom, made by air rushing through the down-curved wing tips of the male at the bottom of a steep vertical dive. Wing-booms are thought to be for territorial defense and mate attraction, much like the songs of male songbirds.

### 3.2. Common Poorwill (*Phalaenoptilus nuttallii*)

#### 3.2.1. Biology

The Common Poorwill is found in the southern-most areas of central British Columbia, eastern Alberta, and western Saskatchewan. This species arrives in Canada in late April to early May to breed in semi-arid open habitats such as rocky bunchgrass hillsides and open forests. Common Poorwill population trends in Canada are unknown. The species was assessed as Data Deficient by the Committee on the Status of Endangered Species in Canada (COSEWIC) in 1993 due to insufficient information. The Common Poorwill is physiologically noteworthy in that it is one of the only bird species that can enter torpor (i.e., hibernation) for weeks at a time to conserve energy!

#### 3.2.2. Identification



The Common Poorwill is rarely seen because it is truly nocturnal and remain on the ground or perched, taking flight only to sally up and catch insects from the air. True to its name, the Common Poorwill is most readily detected by its “poor-will” call. This species begins calling about 30 minutes after sunset, and is most vocal during clear nights when the moon is at least half full.

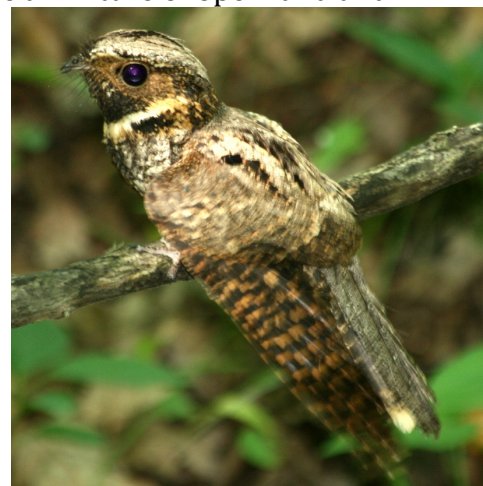
### 3.3. Eastern Whip-poor-will (*Antrostomus vociferus*)

#### 3.3.1. Biology

The Eastern Whip-poor-will is found from east-central Saskatchewan to Nova Scotia, with the majority of the population likely occurring in Ontario and Québec. This species arrives in Canada in early to mid-May, and occupies areas that are a mixture of open land and woods. It forages in open areas and uses wooded areas for perching and nesting. The Eastern Whip-poor-wills is listed as Threatened also due to steep population declines.

#### 3.3.2. Identification

The Eastern Whip-poor-will is also rarely seen, but the species is distinguished by a white ring around the base of the neck and white spots on the outer tail feathers. It is most vocal during clear nights in June when the moon is at least half full, and it can repeat its characteristic



“whip-poor-will” call up to 100 times without stopping! It begins calling about 30 minutes after sunset, and calls for about 90 minutes each night.

### 3.4. Other Species of Interest

Other nocturnal and crepuscular species of conservation interest that it is useful to document, and that you might want to learn include:

- Owls
- Yellow Rail
- American Woodcock
- Chimney Swift

### 3.5. Identification Resources

To practice your nightjar and nocturnal bird species identification, we recommend the following resources:

#### 3.5.1. Online – Before You Survey

- [Dendroica](#): an interactive website designed to help learn bird identification. Listen to recordings and look at photos of potential species.
- Xeno-canto: an online database of recordings of birds from volunteers across the world.
  - [Common Nighthawk](#) (make sure to listen to some recordings with wing-booms)
  - [Common Poorwill](#)
  - [Eastern Whip-poor-will](#)
- [The Cornell Lab of Ornithology’s Macaulay Library](#) is the world’s largest collection of wildlife sounds and videos.

#### 3.5.2. Apps – While You Survey

- [iBird](#) (nightjars are in the Pro, Canada, Ultimate, and Plus editions)
- [Audubon Birds of North America](#) (free)
- [The Sibley eGuide to Birds](#)

## 4. SURVEY OVERVIEW

### 4.1. Route

The Canadian Nightjar Survey uses unlimited radius point counts along permanent road-side survey routes so that survey data can be compared between years. The route framework is made up of permanent routes from:

- Breeding Bird Survey (every second stop of the first 23 stops)
- Routes in target habitat for Common Poorwills or Eastern Whip-poor-wills

**Please contact your Regional Coordinator if there are no nightjar survey routes available near your area.** It may be possible to establish a route designed to target a specific habitat, and in certain cases Breeding Bird Survey staff may consider establishing an additional route.

## 4.2.Stops

Each route consists of **12 survey stops each spaced 1.6 km apart** (straight line distance). Some routes may have 10 or 11 stops if there is not enough space for 12. The starting point of your route will be named Stop 1. Subsequent stops are sequentially numbered (i.e., 2, 3, 4, etc.). **It is critical that surveys be conducted at these same stops each year** so that data can be compared between years. To ensure the same stop locations are surveyed each year, volunteers will be able to access a route map and the coordinates of their survey stops via the NatureCounts sign-up and data entry portal or the coordinator.

### 4.2.1. New Routes

Some routes may never have been surveyed before, in which case the location of the stops will need to be determined by you and the coordinator, and will require extra time. You will be able to obtain a map of your route including satellite imagery, and **you will be required to collect information on stop location** (see Section 5.4). Stop locations are chosen with the following in mind:

- Stops should ideally be 1.6 km apart, and no less. Use your car odometer to measure the distance on straight roads.
- If your survey route road has curves, try to place stops at least 1.6 km apart (straight-line distance). Using a GPS will help determine the distance.
- Your safety is of first priority during nightjar surveys, so please ensure that your stops include a safe place to pull over and park.
- Avoid stop locations with excessive noise (e.g., near running water, barking dogs, etc.)
- It is better to add distance between stops rather than placing stops less than 1.6 km apart. This is to avoid counting the same birds twice.
- Not all of your stopping points need to be on the same road. Turning onto different roads may be necessary to find a safe place to park.
- We recommend scouting your route during daylight to become familiar with the stops.

## 4.3.Survey

At each survey stop, count all nightjars seen or heard for a period of **SIX minutes**. Counting birds and recording data should be done from a stationary position outside of your vehicle. To avoid data omission errors, record birds as you hear them, rather than waiting for the end of the six-minute period. Most importantly, be consistent. Use the same technique at each stop including how you focus your listening between nearby and distant birds. To ensure data are comparable between surveys by different volunteers, please:

- **DO NOT** use whistles, audio calls, or any method that coaxes birds to call or come closer
- **DO NOT** use a flashlight to search for reflections of bird eyes

See Section 5.3 for further details on how to record your nightjar observations.



#### 4.4. Date

Surveys must be conducted between **June 15 and July 15. Each route needs to be surveyed once per year.**

**If there is the potential for Common Poorwill or Eastern Whip-poor-will in your area,** survey in the two-week period centered on the full moon (June 15 to 21 and July 6 to 15, 2022).

Excessive wind and rain will diminish the quality of surveys. **Do not complete surveys when wind speeds are Beaufort level 3 or greater, or if there is any precipitation.** If you begin a survey route and conditions deteriorate for more than 3 survey stops, we advise you to abort the survey and attempt it on another night with better conditions.

#### 4.5. Time

Surveys **begin 30 minutes before sunset**, the time when nightjars are most active. Due to this timing requirement, only one route may be surveyed per night. Sunset is considered the beginning of official civil twilight for your survey route area and can be looked up online at:

<http://www.nrc-cnrc.gc.ca/eng/services/sunrise/advanced.html>.

**To cover both the 6-minute nightjar survey and driving to your next survey stop, each stop will require about ten minutes to complete.** The entire route will require a total time of approximately two hours.

## 5. DATA COLLECTION

A datasheet for data entry is available in Appendix B. Fill in each section of the datasheet according to the instructions in this section.

### 5.1. Survey Info

Fill in the route name, date, start time, and end time of the survey. Describe the general location and condition of the route including road condition and any safety concerns. Record the temperature at the beginning and end of your survey. Provide your name, mailing address, phone number, and email address for our records.

### 5.2. Stop Conditions

For each stop surveyed, **record the time the survey began.** We also ask that you record data on the conditions at each stop because factors such as wind and moon visibility can affect your chances of detecting a nightjar.

#### 5.2.1. Wind

Record the wind speed using the Beaufort scale below. Do not conduct surveys if the wind force is greater than code 3.

Code	Wind Speed	Description
0	< 1 km/h	Calm: smoke rises vertically.
1	1-5 km/h	Light air: smoke drifts, leaves and wind vanes are stationary.
2	6-11 km/h	Light breeze: wind felt on exposed skin, leaves rustle, wind vanes begin to move.
3	12-19 km/h	Gentle breeze: leaves and small twigs constantly moving.

#### 5.2.2. Cloud Cover

Rate the approximate amount of cloud cover at the time of your survey using tenths of sky covered. The codes are 0=clear; 1=10% cloud cover; 2=20% cloud cover; 3=30% cloud cover; 4=40% cloud cover, etc. up to 10=100% cloud cover or completely overcast. Code 11 can be used to indicate fog.

#### 5.2.3. Moon

Enter yes or no to indicate if the moon can be seen while surveying. This is particularly important to record in deep valleys where the moon is often obstructed by the surrounding hills or mountain ridges.

#### 5.2.4. Noise

Record the level of background noise at each stop using the following codes:

Code	Noise	Description
0	None or slight	Relatively quiet, little interference (e.g., distant traffic, dog barking).
1	Moderate	Some interference when listening for nightjars (e.g., airplane, moderate traffic)
2	High	Substantial interference when listening for nightjars (e.g., fairly constant flow of traffic)
3	Excessive	Extreme interference when listening for nightjars (e.g., continuous traffic passing, construction noise, loud frog chorus).

#### 5.2.5. Cars

Count the number of cars that pass on the road during your survey.

### 5.3. Nightjar Detections

#### 5.3.1. Nightjars

**Each line on the data sheet represents an individual bird's detection history (see example on next page).** Use a new line for each new bird detected at a stop. Do not record any detection data if no nightjars (or owls) were heard at a given stop. If you cannot accurately count the number of individuals by sight or by concurrent calls, make a note in the "comments" column of your data sheet. Use the following nightjar codes:

- CONI = Common Nighthawk
- COPO = Common Poorwill

- EWPW = Eastern Whip-poor-will

### 5.3.2. Detection Type

The survey period is broken into **6 one-minute intervals** on the data sheet. **For each bird heard or seen during each one-minute interval, indicate the highest ranked type.**

1. **Wing-boom (W):** If the bird performed a territorial wing-boom in that one-minute interval (Common Nighthawks only).
2. **Call (C):** If you heard the bird call during that one-minute interval.
3. **Visual (V):** If you saw the bird, but did not hear it during that one-minute interval.
4. **Not detected (N):** If you did not detect the bird during a given one-minute interval.

**Please also note whether or not you think the individual is a repeat bird, that is, one that you already reported at the previous stop.**

**Sample data entry:** The observer detected one Common Nighthawk calling during the first 3 minutes of the survey at Stop 1, and performing wing-booms in minute 3. The observer then detected a second Common Nighthawk calling at Stop 1 during the 3<sup>rd</sup> and 4<sup>th</sup> minute of the survey, so began a new row on the data sheet for this bird. Using best judgment, the observer decided these were two individual Common Nighthawks, and not the same bird that moved after initial detection. At Stop 2, the observer did not detect any birds during the survey period, so did not record anything on the data sheet. At Stop 3, the observer detected one Common Nighthawk several hundred metres to the northeast, calling and performing several wing-booms per minute for the entire 6 minutes. A Common Poorwill was also heard calling in minutes 2 to 5 less than 100 metres to the south. At Stop 4, the observer saw two Common Nighthawks fly over in minute 2, one of which made a “peent”. None of the birds were thought to be individuals recorded at a previous stop.

Stop (1-12)	Species	Time Interval						Repeat bird (circle)	Distance (circle)	Direction
		1	2	3	4	5	6			
1	CONI	C	C	W	N	N	N	Y (N)	< 100 m > 100 m	
1	CONI	N	N	C	C	N	N	Y (N)	< 100 m > 100 m	
3	CONI	W	W	W	W	W	W	Y (N)	< 100 m > 100 m	NE
3	COPO	N	C	C	C	C	N	Y (N)	< 100 m > 100 m	S
4	CONI	N	C	N	N	N	N	Y (N)	< 100 m > 100 m	
4	CONI	N	V	N	N	N	N	Y (N)	< 100 m > 100 m	

### 5.3.3. Distance and Direction

Recording the location of particular observations may help us learn more about the specifics of nightjar habitat requirements. Please estimate the distance and direction to your first detection of:

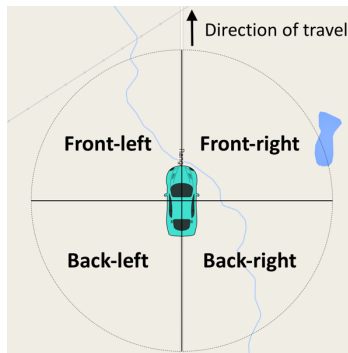
- Common Poorwills
- Eastern Whip-poor-wills
- Common Nighthawks performing repeated wing-booming in the same location (3 or more wing-booms).

You do not need to estimate distance and direction for Common Nighthawks that are not performing repeated wing-booming.

**Estimate distance** as one of the following:

- near (< 100 m)
- far (> 100 m)

**Estimate direction using cardinal or intercardinal directions** (e.g., north, east, south, west, northeast, north-northeast, etc.). If you are unsure of the direction, you may describe the direction relative to your vehicle and the road:



### 5.4. Stop Locations

This section of the datasheet should **only be filled out if your route has never been surveyed before or if you wish to recommend a stop location amendment.**

Stop coordinates must be recorded and submitted so that surveys can be conducted at the same stops in subsequent years. Ideally, location coordinates should be submitted as latitude and longitude in **decimal degrees** to six digits (e.g., 49.884128 N, 119.496301 W). There are several ways to obtain the coordinates for your new stop locations:

1. Use a handheld GPS and take waypoints at each of your stops.
2. There are many excellent GPS apps available for smartphones. If you have an iPhone, Android, or BlackBerry, you can turn it into a handheld GPS. Here are a few app options:
  - [MotionX-GPS](#) for iPhone
  - [Free GPS](#) for iPhone (Free)
  - [GPS Test](#) for Android (Free)
  - [GPS Maps Location Finder](#) for BlackBerry (Free)

3. Locate coordinates after survey completion in Google Earth. If you choose this option, we recommend marking stops on a printed map as you survey and using your car's odometer to keep track of how far apart your stops are.

## 6. EQUIPMENT

### 6.1. Essential

- Vehicle
- Protocol
- Datasheets (blank)
- Flashlight (ideally headlamp type)
- Watch or other device with a timer (e.g., phone)
- Several pencils/pens

### 6.2. Recommended

- An assistant/driver
- Map of route and stops
- GPS and/or phone with GPS app
- Thermometer for recording temperature at the beginning and end of your survey
- Road map for getting to your route
- Compass (for determining cardinal or intercardinal direction to birds)
- Clipboard
- Spare batteries (for flashlight or GPS)
- Insect repellent and/or mosquito-repellent clothing
- Safety vest or other reflective clothing.

## 7. SAFETY

Your safety is most important, so please ensure that you are conscious of your safety when conducting a survey. Please take the follow points into consideration:

- Consider conducting surveys in a team of two.
- If surveying alone, make sure someone knows where your survey route is and what time you will return. Please make sure that you contact this person when you get back.
- Park your vehicle well off the road during survey stops.
- Stand off the road surface when conducting surveys.
- Leave parking lights on throughout the duration of a count.
- Wear a reflective vest or use a headlamp so that other drivers are aware of your presence.
- Conduct the survey near the road to avoid trespassing on private property.
- Check your clothing and skin for ticks when you get home to prevent the transmission of Lyme disease and other tick-borne illnesses.

## 8. DATA SUBMISSION

### 8.1. Data Entry via NatureCounts

If possible, please set aside sufficient time (20 minutes or so, depending on whether you are adding comments or not) to enter all your data for a given survey in one sitting. If you are unable to do this, you can save an incomplete form and come back to it later (see below for details), but you will need to complete the page that you are working on, as saving an incomplete page is not allowed.

#### Step 1: Log on

Log on to the survey's NatureCounts portal:

<https://www.birdscanada.org/naturecounts/nightjars/main.jsp>

Click on "Sign in" in the main menu, enter your Login name and Password, and click on the blue "Sign in" button at the bottom of the page.

#### Step 2: Check that your stations are in the database

This step is facultative if you know that your stations are set up correctly.

Once you are signed in, place your cursor over the "Explore" tab and open the "Available Routes" map. Click on the blue marker for your route and select "adoption preferences" to see your route. Make sure that all the stations you wish to enter data for are showing and in the correct place. If your stops are not correctly displayed, please contact your coordinator so that the full route can be set up in the system.

#### Step 3: Submit data

Once you have checked that your stations are all showing, place your cursor over the "Submit" tab in the main menu bar at the top of the page and then click on "Submit Data".

This will open a new window and you can select your survey site from the drop down list. Routes are listed alphabetically by name. Be careful that you select your route and not an adjacent one in the list. You can also select your route by using the map and zooming into your area and clicking on the route button. Once your route is selected, click the blue "Continue" button

A data entry form will open. The first page is the Form Header. Enter the survey date and the name of any assistants. You can add names to the list by clicking on "Add observers". Save any changes to this list and click on the "Return to data form" button. You can then tick the appropriate box or boxes to add any assistants to the data form. You do not need to include your name as you are associated with the form as the primary observer.

Then enter the start and end temperatures that you recorded during the survey. Please just enter numbers here and not text.

You can add any relevant general survey or route comments to the "Comments" box. There are additional comments boxes for each station.

Once the Form Header page is completed, click on the “Next Page” button at the top or bottom of the sheet. This will save the sheet you have just completed and open the sheet for your first survey stop (called station on these forms).

You will see that “Station 1” is indicated in the “Jump To” box at the top of the page. Next, you will need to select the number of the stop that you surveyed first for the “Station” box. The drop down or scroll through list associated with this box lists all the stops for the route. For the first station, you will normally select “Stop 1”, but if you did your route in reverse order, it will be “Stop 12” (for standard routes).

In the “Time and Effort” box, enter the time that you started surveying the stop. Do this using the 24 hour clock (i.e., 8:30 p.m. should be entered as 20 in the hour box and 30 in the minute box). Please note that for subsequent stops, if you accidentally enter a time that is earlier than the previous station, this will generate an error message. You can put a later time on the page that you are working on, then save it and go back to the previous station and correct the time. Once this is done, you can return to the page you were working on and indicate the appropriate time.

Under “Weather and Survey Conditions” enter the wind speed and its direction (if noted), and the cloud cover (this is in tenths of sky covered, so 1 is equal to 10% covered, etc.)

Under “Other Variables”, enter whether the moon was visible or not, the number of vehicles that passed as you were surveying (enter 0 if no vehicles passed by), and the noise level you recorded.

Then go to the “List of Species” box. If you did not hear or see nightjars at the stop, tick the box that indicates that you completed the survey for the stop but no nightjars were present.

If you did record night jars, use one row in the box per individual. Enter the name of the species in the first box. Let’s say it was a Common Nighthawk. Then for each of the one minute time periods, note for that individual what you recorded. You might start with “N-Not detected” for the first two minutes, then perhaps “W-Wing boom” in the third minute and then a “C-Call” in the fifth minute and “W-Wing boom” during minute 6. If there were more than three wing booms given in total, note the distance to the individual (i.e., less than or greater than 100 m) and the direction it was in.

If, at a given stop, you think that you are hearing a bird from a previous stop, please indicate this by ticking the “repeat bird” box. But please don’t use this box to indicate that a bird called multiple times at the stop that you are entering data for. *If this option is not in place yet, please add this information to the comments box for the stop.*

You can note other species that you may have recorded (e.g., owls) in the comments box for the stop and you can also note stop-specific comments. Then click on “Next Page”, this will save your data and open the data form for the second stop you surveyed. Please only click on “Next Page” (or “Previous Page”) after completing a page.

Complete this process for the number stops that you surveyed. If for whatever reason you were unable to collect data from one of your stops, simply take this into account in your choice of stop number. For example, if you were unable to survey stop 4, but were able to survey stop five, on the Station 4 page you would select Stop 5 and continue on from there.

If you have a problem you can delete the sheet for a given stop and start again from the last completed stop. Once you have entered all the data for all the stops you visited, click on “Finish Form” at the bottom of the page. Your form will then be submitted. This opens a summary of the data you have entered. Please read through this to make sure there are no errors. If everything is correct, you can simply log out. If you do need to make a correction, click on “Modify” and then go to the page you want to correct using the “Jump To” box at the top of the page. Then make the correction and click on “Finish Form” again.

If you need to take a break during the data entry process, complete the page of the form you are working on and click on “Save” and log out. When you are ready to complete the form, log in again and instead of going to “Submit data”, select “Explore” and “View data forms”. Then click on the “Edit” button associated with the form you wish to complete and simply continue from where you left off. Occasionally, if you return quickly to a form, it may generate an access error message. If this is the case, wait a while, preferably overnight and try again.

Your form is available for you to modify until it has been validated by the coordinator and finalized. Up until that point, you can make further modifications. Once the form has been finalized, you will still be able to consult it, but you won’t be able to modify it. If you notice a mistake in a finalized form, you will need to contact your coordinator and request a correction.

If you have any persistent problems during data entry, simply contact your coordinator.

## 8.2. Other Options for Data Submission

If you are unable to enter your data online, you can also submit your data using one of the following options:

- Scan/photograph your data sheets and email them to [acoughlan@birdscanada.org](mailto:acoughlan@birdscanada.org)
- Mail your data sheets to:

Andrew P. Coughlan  
Director, Québec Region  
Birds Canada  
346, rue Fraser  
Québec (Québec) G1S 1R1



## **APPENDIX A: QUICK-REFERENCE PROTOCOL SUMMARY**

# Quick-Reference Protocol Summary

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The Protocol Summary is intended as a quick reference when you are in the field. Please use the summary once you have read and are familiar with the full survey protocol.

**Survey:** Listen quietly for a period of six minutes.

**Route:** Each route consists of 10 to 12 survey stops spaced at least 1.6 km apart and numbered consecutively.

**Date:** Survey once between June 15 and July 15. For 2022, survey between June 15 and 21 or July 6 and 15, if you may have Common Poorwills or Eastern Whip-poor-wills in your area. Do not survey when wind speed is greater than Beaufort Scale 3, or rain is stronger than a light drizzle.

**Time:** Begin at 30 minutes before sunset (civil twilight for your area). It will take about 10 mins to survey one stop and travel to the next, for a total survey time of 2 hours.

**Data collection – Stop Conditions:** At each survey, record the time your survey began, wind strength, cloud cover, whether the moon is visible, the level of background noise, and the number of cars that pass.

**Data collection – Nightjar Detections:** Each line on the data sheet represents an individual bird's detection history.

- If you did not detect nightjars at a given stop, you do not need to fill out a row for that stop.
- The survey period is broken into six one-minute intervals on the data sheet.
- For each bird detected in each one-minute interval, record the code for the highest ranked detection type you observed:
  1. W (wing-boom, Common Nighthawks only)
  2. C (call)
  3. V (visual)
  4. N (not detected)
- Use Repeat box to record whether you think you are reporting a bird recorded at a previous stop or not.
- Record the distance (< 100 m or > 100 m) and direction to your first detection of
  - Common Poorwills
  - Eastern Whip-poor-wills
  - Repeat wing-booms of Common Nighthawk(i.e.,  $\geq 3$  wing-booms at the same location)

**Data collection – Stop Locations:** Record stop coordinates as latitude and longitude in decimal degrees if your route has no pre-established stop locations or if you wish to suggest an amendment to your route.

## Essential Equipment Checklist:

- Data sheets
- Survey protocol
- Route map
- Flashlight
- Stopwatch/timer
- Pens/pencils
- GPS or map of route to mark new stops on (new routes only)
- Location of stops (previously surveyed routes only)

## APPENDIX B: CANADIAN NIGHTJAR SURVEY DATASHEET

**1. SURVEY INFO:** Fill this out before you start. Don't forget to fill in "End Temperature" at the end of your survey!

<b>Observer Name:</b>		<b>Co-Observer Name:</b>	
<b>Address:</b>		<b>Email:</b>	<b>Phone:</b>
<b>Route Name:</b>		<b>Date:</b>	

Comments: \_\_\_\_\_

**2. STOP CONDITIONS:** Record the conditions at each survey stop.

Start Temperature: \_\_\_\_\_

Stop	Start Time (24 hr)	Wind (circle)	Wind direction	Cloud (10ths of sky covered)	Moon (circle)	Noise (circle)	# Cars	Comments
1		0 1 2 3			Y N	0 1 2 3		
2		0 1 2 3			Y N	0 1 2 3		
3		0 1 2 3			Y N	0 1 2 3		
4		0 1 2 3			Y N	0 1 2 3		
5		0 1 2 3			Y N	0 1 2 3		
6		0 1 2 3			Y N	0 1 2 3		
7		0 1 2 3			Y N	0 1 2 3		
8		0 1 2 3			Y N	0 1 2 3		
9		0 1 2 3			Y N	0 1 2 3		
10		0 1 2 3			Y N	0 1 2 3		
11		0 1 2 3			Y N	0 1 2 3		
12		0 1 2 3			Y N	0 1 2 3		

End Temperature: \_\_\_\_\_

Code	Wind Description	Cloud Description	Noise Description
0	Calm: smoke rises vertically	0=No clouds	None or slight (e.g., distant traffic)
1	Light air: smoke drifts, leaves and wind vanes are stopped	1=10% cover	Moderate (e.g., airplane, moderate traffic)
2	Light breeze: wind felt on exposed skin, leaves rustle, wind vanes begin to move	2=20% cover	High (e.g., fairly constant traffic)
3	Gentle breeze: leaves and small twigs constantly moving, light flags extended	3=30% cover	Excessive (e.g., construction, frog chorus)
4	Do not survey	4=40% cover, etc.	N/A

**3. NIGHTJAR OBSERVATIONS:** At each stop, listen for 6 minutes and fill out one line for each individual heard. Record the code for the highest ranked detection type you observed in each one-minute time interval: 1. W (wing-boom), 2. C (call), 3. V (visual), 4. N (not detected). Indicate whether you think it is a repeat bird recorded at another stop or not. Only record distance and direction for COPO, EWPW, and repeat wing-booming CONI.

Stop (1-12)	Species	Time Interval						Repeat bird (circle)	Distance (circle)	Direction	Comments
		1	2	3	4	5	6				
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		

**3. NIGHTJAR OBSERVATIONS:** At each stop, listen for 6 minutes and fill out one line for each individual heard. Record the code for the highest ranked detection type you observed in each one-minute time interval: 1. W (wing-boom), 2. C (call), 3. V (visual), 4. N (not detected). Indicate whether you think it is a repeat bird recorded at another stop or not. Only record distance and direction for COPO, EWPW, and repeat wing-booming CONI.

Stop (1-12)	Species	Time Interval						Repeat bird (circle)	Distance (circle)	Direction	Comments
		1	2	3	4	5	6				
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		
								Y N	< 100 m > 100 m		

**4. STOP LOCATIONS:** This section of the datasheet should **only be filled out** if your route has never been surveyed before or if you wish to recommend a stop location amendment.

Stop	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Comments
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			



## Natural Resources and Renewables

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### MEMORANDUM

**TO:** Renata Mageste da Silva, NS Department of Environment and Climate Change

**FROM:** Nova Scotia Department of Natural Resources and Renewables

**DATE:** April 8, 2022

**RE:** Tote Road Quarry Expansion Project

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The Department of Natural Resources and Renewables (herein the Department or NRR) provides the following comments on the above project:

#### **Crown Lands:**

The current project expansion is not located on lands under the administration and control of the Department. The proponent will not require approvals/permits/authorities from the Land Administration Division for the land on the project footprint.

The access to the site is by Highway 103 at exit 5A and crosses Crown PIDs 41388133, 40088957, and 41388141. The proponent will require licence/authority from Land Administration to use and maintain this part of the road.

#### **Wildlife, Wildlife Habitat and Species-at-Risk:**

The Department offers the following comments and recommendations for conditions of approval (in bold text):

##### Rare, Sensitive, or At-risk Lichens

The spatial scope of the lichen surveys is inadequate to address potential impacts and design appropriate mitigations.

Additional lichen surveys are warranted given the potential for rare, sensitive, or at-risk lichen habitat associated with the wetland features within the "Aquatic Study Area", including candidate Boreal Felt Lichen habitat, and the potential impacts of the project to these features.

**The Department recommends that a qualified lichenologist from the approved provincial list conduct surveys on any suitable rare, sensitive, or at-risk lichen habitats associated with any aquatic feature in the Aquatic Study Area (not just the**



**“Site”). Wetlands 1, 2, and 3, in their entirety, should be considered within the Aquatic Study Area.**

The EA recognizes that the proposed activities have the potential to result in changes to the hydrological environment (e.g. changes in runoff, as indicated); as well as changes to the air quality via emissions and suspended fine particulate matter. However, the potential impacts to known occurrences and habitats may be understated by the EA and the proposed mitigation may be inadequate. Frosted Glass-whiskers (*Sclerophora peronella*) and Blue Felt Lichen (*Degelia plumbea*) both exhibit habitat specificity and sensitivity to changes in exposure, pollutants, temperature, humidity, or other microclimatic conditions that are easily influenced by nearby activities and land-uses. Even minor changes to these localized conditions can result in a once-suitable habitat becoming inhospitable. Furthermore, it is expected that, as the footprint of the project expands, the benefit to adjacent areas to the quarry afforded by the role of contiguous vegetative cover in the stabilization of the exposure regime will be reduced. It follows that depending on the mitigation measures that are employed, the singular, or combined effects of some of the predicted changes, even if otherwise minor insofar as other Valued Components are concerned, may result in unacceptable impacts to the local conditions that support Blue Felt Lichen, Frosted Glass-whiskers, or other rare, sensitive, or at-risk species.

It is recognized that some setbacks have been proposed to attempt to mitigate the potential impacts to rare, sensitive, or at-risk lichens in accordance with the NRR special management practice (SMP). These may be adequate, however; the SMP is designed to address a range of species and land-uses and mitigate impacts to an acceptable level based on the best information available. The opportunity provided by the EA process through the gathering of site-specific information on values and threats means that consideration of the ‘best information available’ may warrant mitigation measures that differ than those provided in the SMP.

**The Department recommends that the proponent consult with NRR to finalize mitigation measures and setbacks related to rare, sensitive, or at-risk lichen species that reflect the specific sensitivities and needs of the identified species and the specific nature of the impacts of the proposed activities. (see the Wildlife Management Plan section below).**

Wetlands of Special Significance (WL1) (WSS)

**The Department recommends that the proponent:**

**designate a *minimum* buffer of 100m due to the presence of Blue Felt Lichen; and: Consult with NRR and ECC on the appropriate setback and other mitigation measures to ensure the continued function of this WSS as it relates to Blue Felt Lichen**

Mainland Moose

The EA understates or omits the potential impacts of the undertaking on Endangered Mainland Moose, particularly as it relates to noise, light, and transportation to and from the quarry. The EA does not acknowledge the responsive behaviour and sensitivity of moose to

disturbance, or recognize that the impact of an undertaking on the landscape often greatly exceeds the spatial confines of that undertaking and therefore has the potential to impact moose habitat.

While moose studies were completed to the satisfaction of the Department and these studies resulted in no new occurrence information; these studies, along with limited Atlantic Canada Conservation Data Centre records of moose in the area, and an absence of moose shelter patches (per the mainland moose SMP) seems to have led the proponent to a premature conclusion on the impacts of the project to mainland moose. This conclusion was drawn despite other available information on the use or importance of the area to Mainland Moose, such as the mapped Moose Concentration Areas (based largely on NRR's Biodiversity Incident Reporting System) and the identification of Core Habitat in the updated Recovery Strategy (2021) under the NS *Endangered Species Act*. While the area may not be considered a 'hotspot' or possessing what is expected to be a stronghold of the moose habitat essential to the survival and recovery of the population, it nonetheless has a role in supporting mainland moose, and warrants a discussion, especially considering that mining & quarry activities are discussed as a serious threat to Mainland Moose in Section 4 of the Recovery Strategy. Section 4 cites the following potential impacts:

“Incursion into habitat, causing loss, fragmentation, conversion, degradation from the mine, construction, extraction, spoil, tailings, tail ponds, lighting, noise, dust, human presence and access, roads, increased road traffic/hauling, indirect effects related to opened up access (recreation, poaching, new developments, invasion by deer); hazards due to dramatic changes in terrain (deep pits; steep cut faces).”

At the present time, core habitat has not been designated and therefore, there are no regulations that would legally limit activities within those areas. Moose concentration areas, while informative, are also not a concept with regulatory implications outside of the *Crown Lands Act*.

The EA did identify one mitigative measure for moose as a response to a stakeholder comment made through the public information session. It referred to additional consultation to be made with the Recovery Team regarding mainland moose. NRR supports this suggestion and,

**The Department recommends that the proponent consult with NRR as well as the Recovery Team to ensure that Endangered Mainland Moose in the project area are identified and proper measures are put in place to mitigate threats to the population, habitat and individuals. It is also recommended that the proponent prepare an educational plan for employees to report sightings or evidence of moose presence and submit it to the local NRR office (see the WMP section below).**

### Owls

Great-horned owl and Northern saw-whet owl were both detected during the nocturnal owl surveys. **The Department recommends that surveys be conducted by a qualified professional prior to undertaking activities that could cause wildlife/habitat**

**disturbance to determine the presence of owls. If owls are found to be present, then appropriate mitigation measures shall be established in consultation with NRR.**

### Breeding Bird Window

**The Department recommends that the clearing of vegetation and grubbing must occur outside of the breeding season for most bird species (April 15 to August 15). If the activity must be conducted during the breeding season, approval may be granted following the development and implementation of an appropriate bird/nest survey, and only following approval by NRR.**

### Wildlife Using the Developed Quarry

Many wildlife species, particularly snakes and turtles, and some bird species (e.g. Common Nighthawk, killdeer, some swallow species, some raptors) are attracted to the various open areas, vantage points, or substrates available in the developed portions of quarries, including stockpiles, roads, compacted aggregate, cliff faces and exposed banks, topsoil and overburden piles, settling ponds and ditches. Some uses may be very temporary (transiting, thermoregulating, foraging); others may be for a longer period, perhaps seasonally, like nesting or overwintering.

**The Department recommends that the proponent be required to prepare a Wildlife Management Plan (WMP) to monitor and manage wildlife (see the section below under WMP).**

Areas of the developed quarry that are immediately adjacent to wetlands, watercourses, or their riparian zones are particularly vulnerable to use by wildlife species associated with these features. **The Department recommends that the proponent put in place reptile exclusion fencing between the developed quarry and the wetland and riparian areas as well as between the settling pond and any working areas.**

### **Conditions of Approval:**

In addition to the conditions of approval identified above, the Department requests the following conditions of approval:

1. **With respect to the proposed undertaking, the proponent must ensure they are compliant with the *Wildlife Act* and *Endangered Species Act*, and that any regulatory requirements such as obtaining permits are adhered to.**
2. **Wildlife Management Plan**

**NRR requires the proponent to develop a WMP to ensure that activities are compliant with relevant Acts and regulations pertaining to wildlife and species at risk (*Migratory Birds Convention Act*, *federal Species at Risk Act*, , Nova**

**Scotia *Species at Risk Act*, Endangered Species Act, and Wildlife Act). The Department requires that:**

- 1. The WMP be developed in consultation with the Department's Regional Services biologist and be approved by NRR and Environment and Climate Change before any work on the project commences.**
- 2. Any wildlife surveys required as part of the WMP should be conducted by qualified professionals.**
- 3. At minimum, the WMP should include the following:**
  - Mitigation measures and setbacks related to rare, sensitive, or at-risk lichen species that reflect the specific sensitivities and needs of the identified species and the specific nature of the impacts of the proposed activities.**
  - Monitoring and mitigation measures for Endangered Mainland Moose following consultation with NRR as well as the Recovery Team to reduce impacts on the population and habitat.**
  - An educational plan for employees to report sightings or evidence of moose, turtle, or other species-at-risk or protected wildlife presence to be submitted to the local NRR office.**
  - Monitoring and management measures for wildlife observed in the developed portion of the quarry,**
  - Education and prescriptive actions to be taken by workers upon the incidental discovery of wildlife interacting with the working area as well as identifying the circumstances that require reporting and/or consultation with NRR.**
  - Annual targeted surveys for Common Nighthawk nesting.**
  - An invasive species management plan that includes elements of education, prevention, monitoring, reporting, and management**

Date: April 7, 2022

To: Renata Mageste da Silva, Environmental Assessment Officer

From: NSECC, Protected Areas and Ecosystems Branch

Subject: Tote Road Quarry Expansion EA Project

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The Protected Areas and Ecosystems (PAE) Branch is responsible for the planning, designation, and management of provincially designated protected areas (wilderness areas and nature reserves) in Nova Scotia.

The Branch also promotes biodiversity conservation and ecological connectivity on unprotected lands that may affect the ecological health and resilience of sites in the provincial protected areas network, and/or that may be of interest for future protected area contributions towards provincial and federal protected area targets.

The Branch reviewed the registration document primarily in the context of potential impacts to existing and pending protected areas in the region. It should be noted that protected areas function as a network of disjunct sites connected by intervening lands that provide connectivity for species and ecological processes between them, meaning that cumulative impacts from land development projects can negatively impact protected areas without those projects being adjacent to them.

The registration document references an “Ingramport Wilderness Area” that is “in review and pending regulatory approval” and “within 1km” of the project site. These passages are likely intended to refer to the pending Island Lake Wilderness Area, an ecologically significant tract of Crown land and waters that the Province announced its intent to designate as a wilderness area in June 2021. Required public consultation has since been completed, with final boundaries and designation subject to Cabinet approval. (The pending Island Lake Wilderness Area is a portion of the “Ingram River Wilderness Area” proposal that has been promoted by various local organizations and others, but is not a government initiative.).

**The registration document does not address potential impacts to the pending Island Lake Wilderness Area, nor does it propose mitigation measures.** This is a significant information gap. Negative impacts on the pending wilderness area, primarily from fragmentation and disturbance, can be expected given the nature of the project and the proximity of both the project site and associated trucking routes to the pending wilderness area. The project site comes within 150m of the pending wilderness area, while trucking routes run immediately adjacent to 8km of the area’s boundary.

**To address the above it is recommended that:**

- No terms and conditions recommended for the EA. The protected areas branch is available should the proponent wish to discuss ways to minimize affects to the nearby proposed wilderness area.

**Date:** April 9, 2022

**To:** Renata Mageste da Silva  
Environmental Assessment Officer

**From:** , Director, Mineral Management Division (MMD)  
, Director, Geological Survey Division (GSD)

**Subject:** Comments on the Environmental Assessment Registration Document  
Tote Road Quarry Expansion  
Scotian Materials Limited  
Head of St. Margarets Bay Road, Nova Scotia

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The Geoscience and Mines Branch within the Nova Scotia Department of Natural Resources and Renewables has conducted a review of selected sections of the Environmental Assessment Registration Document submitted by GHD Limited, on behalf of Scotia Materials Limited, for the proposed expansion of the Tote Road Quarry. This document is dated February 25, 2022.

The applicable legislation governing this project as it related to the approval of the Environmental Assessment includes, but not limited to, the *Environment Act* and its associated regulations and guidelines.

The review of the Environmental Assessment Registration Document was conducted based on the department's experience with similar undertakings, and with the intention of identifying potential concerns which may be proactively addressed prior to the initiation of the expansion, or throughout the completion of this project.

The following comments are provided regarding the project and is limited to the review of selected sections of the Environmental Assessment Registration Document submission:

General Comments/Questions:

1. Provide clarity on the use of straw versus hay for use as a temporary erosion and sedimentation control measure.

Background Conditions (Air Quality, Noise, and Lighting):

2. Provide details with regards to the source for water to be used in dust control.
3. Provide details related to dust control measures presently installed on the mobile crusher and conveyor systems (if any, and particularly if radial stacking conveyors are utilized).

4. Provide details as to activities occurring onsite, if any, during the collection air samples for suspended particulate matter.
5. Provide details as to activities occurring onsite, if any, during the collection noise measurements.
6. It is noted that total particulate matter measurements were well within allowable limits, however, if available, provide the particle size breakdown (less than or equal to 2.5 micron, less than or equal to 10 microns) within the samples.
7. It is noted that 24-hour operation of the site is not expected, provide details if this includes the use of onsite security lighting.

#### Groundwater and Surface Water Conditions

8. Please confirm with a study(s) related to groundwater and surface water conditions was completed during the initial approval of the quarry (i.e., initial baseline conditions). If this study(s) occurred, please provide a copy for review and comparison.
9. There appears to be an error in the application of the CCME FWAL guideline (Aluminum parameter) for Monitoring Well MW-04 in the April sampling event, please conduct a quality control/quality assurance review of the data and the guidelines applied.
10. It is understood that the groundwater table will require to be drawn down to an elevation of 115 masl (1 m below the proposed quarry floor) from the present groundwater elevation of approximately 123 to 140 masl across the site. Please provide details as to how the groundwater drawdown is planned to occur and be maintained, and what affect this will have on the surrounding wetlands and water courses, and the water balance analysis.

#### Petroleum Hydrocarbon Use:

11. It is noted that propane and gasoline is expected to be utilized on-site. Please clarify the intended use for these fuels and if other alternatives to these fuels was considered.

#### Post Reclamation Geotechnical Stability:

12. It is noted that rock-face slopes will be blasted as required and graded to 45 degrees (1H:1V), please provide clarification as to the rational for this design and its long-term stability.

#### Geology

13. It is recommended that access be given at least twice per annum to members of the Nova Scotia Geological Survey to continue to monitor the possibility of such important discoveries within the boundaries of the proposed operation for the purpose of study. This should not have any significant impact on the operation itself whether pegmatites are, or are not, found.



-----Original Message-----

From: [@eastlink.ca](mailto:@eastlink.ca)  
Sent: March 11, 2022 5:22 PM  
To: Environment Assessment Web Account <[EA@novascotia.ca](mailto:EA@novascotia.ca)>  
Subject: Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\*** Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: tote road quarry expansion project Comments: I am strongly opposing the expansion of the quarry. The negative environmental impact of such huge project will be immense. The area of Exit 5 is near the old growth forest and needs to be protected, and all negative environmental risks eliminated.

Name:                      Email: [@eastlink.ca](mailto:@eastlink.ca) Address:                      Municipality:  
Ingramport, NS email\_message: Privacy-Statement: agree x: 20 y: 20

**From:** [@gmail.com](#)>  
**Sent:** March 12, 2022 7:41 PM  
**To:** Environment Assessment Web Account <[EA@novascotia.ca](mailto:EA@novascotia.ca)>  
**Subject:** Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\***

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Project: tote road quarry expansion project Comments: Pits and quarries disrupt the existing movement of surface water and groundwater they interrupt natural water recharge and can lead to reduced quantity and quality of drinking water for residents and wildlife near or downstream from a quarry site. Most old pits and quarries are not being properly rehabilitated. I am opposed. Name:

Email: [@gmail.com](#) Address:

Municipality:

Boutilier Point email\_message: Privacy-Statement: agree x: 57 y: 21

-----Original Message-----

From: [@gmail.com](#)>

Sent: March 12, 2022 4:44 PM

To: Environment Assessment Web Account <[EA@novascotia.ca](mailto:EA@novascotia.ca)>

Subject: Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\*** Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: tote road quarry expansion project Comments: I would like to see some firm answers to a few basic questions how many employees were/will be hired from the area? Will the jobs that are created pay a living wage, or min wage? Name: Email: [@gmail.com](#) Address: Hubbards ns Municipality: email\_message: Privacy-Statement: agree x: 59 y: 30

-----Original Message-----

From:

Sent: March 13, 2022 10:57 AM

To: Environment Assessment Web Account <[EA@novascotia.ca](mailto:EA@novascotia.ca)>

Subject: Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\*** Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: tote road quarry expansion project  
Comments: I'm not opposed to an expansion in the area. It looks like due diligence has been carried out based on the assessment. I'm concerned about the inclusion of a mobile asphalt plant. This has been denied by the local community more than once. I'd like to see more on this, but again, I'm not opposed. I want to ensure that it won't be permanent and that the local waterways will be consistently monitored. Will the back road be upgraded to allow for the increase in traffic?  
Name: \_\_\_\_\_ Email: \_\_\_\_\_ Address: \_\_\_\_\_

, Municipality: Queensland email\_message: Privacy-Statement: agree x: 69 y: 16

**From:** gmail.com>  
**Sent:** March 17, 2022 1:21 PM  
**To:** Environment Assessment Web Account <EA@novascotia.ca>  
**Subject:** Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\***

Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: tote road quarry expansion project Comments: The noise from this quarry will affect my quiet enjoyment of my property, and the quiet enjoyment of over a thousand surrounding homes in the area. When crushing rock for the 103 twinning, I could not sit on my deck 2.5 km away and could feel the vibrations of rock crushing operations in my chest throughout the day and night. Allowing this as a permanent operation is not considerate of local residents. This is a chance for the Progressive Conservative Government to show they care about residents and the environment. Allowing this quarry to expand will definitely affect who I vote for in the next election. Time to let words turn into actions.

Name: Email: [@gmail.com](#) Address: : Upper

Tantallon email\_message: Privacy-Statement: agree x: 31 y: 30



# Native Council of Nova Scotia

The Self-Governing Authority for Mi'kmaq/Aboriginal Peoples Residing Off-Reserve in Nova Scotia throughout traditional Mi'kmaq Territory

*"Going Forward to a Better Future"*

P.O. Box 1320  
Truro, Nova Scotia  
B2N 5N2

Tel: 902-895-1523  
Fax: 1-902-895-0024  
Toll Free: 1-800-565-4372  
chiefaugustine@ncns.ca  
www.ncns.ca

Aboriginal/Treaty Rights  
Negotiations Facilitating  
Directorate

NCNS Citizenship  
Information Office

Education & Student  
Services

Rural & Native  
Housing Group

Aboriginal Peoples  
Training & Employment  
Commission (APTEC)

Netukulimkewe'l  
Commission

Wejkwom Housing  
Commission

Social Assistance  
Recipient Support for  
Employment & Training  
(SARSET)

Micmac Language  
Program

Native Social  
Counselling Agency

Child Help Initiative  
Program (CHIP)

E'pit Nuji Ilmuet  
Program (Prenatal)

Reaching Home  
Indigenous Program

Parenting Journey  
Program

Youth Outreach Program

Mi'Kma'ki Environments  
Resource Developments  
Secretariat (MERDS)

Aboriginal Connections  
in Trades & Apprenticeship  
(ACITA)

April 8, 2022

Environmental Assessment Branch  
P.O. Box 442  
Halifax, Nova Scotia  
B3J 2P8

## **RE: Tote Road Quarry Expansion Project**

To Whom It May Concern,

The Native Council of Nova Scotia was organized in 1974 and represents the interests, needs, and Rights of Off-Reserve Status and Non-Status Section 91(24) Indians/Mi'kmaq/Aboriginal Peoples continuing on our Traditional Ancestral Homelands throughout Nova Scotia as Heirs to Treaty Rights, Beneficiaries of Aboriginal Rights, with Interests to Other Rights, including Land Claim Rights.

The Native Council of Nova Scotia (NCNS) Community of Off-Reserve Status and Non-Status Indians/Mi'kmaq/Aboriginal Peoples supports projects, works, activities and undertakings which do not significantly alter, destroy, or impact the sustainable natural life ecosystems or natural eco-scapes.

Our NCNS Community has continued to access and use natural life within those ecosystems and eco-scapes. The equitable sharing of benefits arising from projects and undertakings serve a beneficial purpose towards progress in general and demonstrate the sustainable use of the natural wealth of Mother Earth. These projects are accomplished with respect for the Constitutional Treaty Rights, Aboriginal Rights, and Other Rights of the Native Council of Nova Scotia Community continuing throughout our Traditional Ancestral Homeland in the part of the Mi'kma'ki now known as Nova Scotia.

## **Introductory Vectors for Invasive Alien Species**

The NCNS is concerned with introductory vectors, and the presence of invasive alien species that may already inhabit the quarry and the surrounding areas. While Scotian Materials Limited (the proponent) briefly acknowledges these vectors as potentially impactful in section 6.5.4, "proximity to roads, even if they are unpaved, may introduce invasive species and/or human activities that may alter their (wetland) functions", the proponent has neglected to establish any mitigative measurements, or publish an invasive alien species survey within the EA. This is of particular concern as the proponent has also established that, "all wetlands analyzed had moderate-higher risk scores for Wetland Risk benefit, due to their small size, lack of outlets (WL1, 2, and 3), stressors (WL3), and proximity to clearings and forestry roads", within Appendix D, section 3.3.1.2.3.

Invasive alien species are predisposed to establish themselves in recently disturbed environments due to the localized eradication of natural predators and removal of resource

competition resulting from anthropogenic activity. Activities such as grubbing, that will take place during the expansion of this quarry are one of such heavy stressors on the environment that will provide an opportunity for invasive alien species to establish themselves. As the environment is stressed, there is then an increased potential for invasive alien species to be successfully introduced via vehicles, mobile facilities, on the boots of workers, and other vectors if no preventative measures are taken.

The NCNS requests Scotian Materials Limited develop procedures to mitigate introductory vectors for invasive alien species. This could include mandated practices to clean mobile facilities and vehicles prior to entry of the project site to ensure they do not act as introductory vectors. Additionally, we request clarification if an invasive alien species survey has been performed, and if not, that one be conducted.

### **Wetlands and Runoff**

Within the EA, it is notable that no runoff will be redirected towards Wetland 1 (WL1) during or after quarry operations. Section 6.5.1 states that “Under end-of-quarry (EOQ) conditions... runoff decreases 11.70% in WL1 watersheds”, and respectively, under reclamation conditions, runoff in WL1 watershed will be decreased by 6.43%. The proponent further states that these “changes are not significant in terms of possible impacts to the function of... WL1.”

However, when the location species of special significance within WL1 (I.e. frosted glass whiskers (*Scelerophora peronella*) and blue felt lichen (*Pectenium plumbeum*)) are taken into consideration, these species proximity to the outskirts of the wetland, as illustrated in Figure 9 of the EA, may be put at risk by a decrease in runoff. Using the water balance equation ( $R = P - ET - IG - \Delta S$ ), we can infer a decrease in runoff (R) will have an equal effect on the opposite side of the equation. Redirecting or removing runoff from a watershed that feeds directly into WL1 will affect the average amount of water received and held by said wetland. This will manifest itself as a decrease in the surface water area of WL1, and will further stress the already stressed vegetation residing within the outskirts.

The proponent has also overlooked an exploration of the bedrock unit for fracture flow within the EA. The hydrogeology, characterized by the proponent in section 6.7.1 states,

“In the deeper bedrock aquifers, groundwater flow is dependent upon the degree to which fractures and voids within the strata are connected and the hydraulic head differences between these openings.”

The project location’s bedrock is entirely composed of late Devonian aged biotite monzogranite. Granitoids are generally described as very competent, and fracture apertures, pre-existing or otherwise within granite tend to stay open as they not smear and shut down. If a fracture does exist within the geological unit and is unaccounted for within the PCSWMM software, or is created through further blasting, hydrologic models of the area are liable to be inaccurate and place WL1 at further risk. We assert that the notion that a change in runoff will not impact the function of WL1 to be unsubstantiated, and that the hydrological model needs further investigation.

### **Lichen Within the Project Footprint**

Within the project footprint, it is noted that there is an instance of fringe lichen (*Heterodermia neglecta*). The proponent has acknowledged the species designation as ACCDC S3S4, and has opted to consult with NS NSDL&F and NSECC regarding mitigation options such as transplantation, as described in section 6.9.2. We would ask for further clarification regarding the proposed consultation, and to elaborate on the methodology will be used for any such transplantation within the EA.

## Consultation with the Mi'kmaq of Nova Scotia

We would like to take this opportunity to reiterate that it is important for all proponents of projects to understand that the Off-Reserve Aboriginal Community represented by the NCNS is included within the definition of the word “Indian” of Section 91(24) of the *Constitution Act*, 1982. The Supreme Court of Canada in a landmark decision in *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12, declared that “the exclusive Legislative Authority of the Parliament of Canada extends to all Indians, and Lands reserved for the Indians”, and that the “word ‘Indians’ in s. 91(24) includes the Métis and non-Status Indians”.<sup>1</sup> Since 2004, in multiple decisions passed by the Supreme Court of Canada: *Haida Nation*<sup>2</sup>, *Taku River Tlingit First Nation*<sup>3</sup>, and *Mikisew Cree First Nation*<sup>4</sup>, has established that,

Where accommodation is required in making decisions that may adversely affect as yet unproven Aboriginal Rights and title claims, the Crown must balance Aboriginal concerns reasonably with the potential impact of the decision on the asserted right or title and with other societal interests.

Further, both the Government of Nova Scotia and the Government of Canada are aware that the “Made in Nova Scotia Process”, and the *Mi'kmaq-Nova Scotia-Canada Consultation Terms of Reference* does not circumvent the Provincial Government’s responsibility to hold consultations with other organizations in Nova Scotia that represent Indigenous Peoples of Nova Scotia. While the proponent may have to engage with the thirteen Mi'kmaq First Nations through the Assembly of Nova Scotia Mi'kmaq Chiefs, represented by the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO), the KMKNO does not represent the Off-Reserve Aboriginal Community who has elected to be represented by the NCNS, since 1974.

We assert the Off-Reserve Aboriginal Communities, as 91(24) Indians, are undeniably heirs to Treaty Rights and beneficiaries of Aboriginal Rights as substantiated by Canada’s own Supreme Court jurisprudence. As such, there is absolutely an obligation to consult with the Off-Reserve community through their elected representative body of the NCNS. The Crown’s duty to consult with all Indians extends beyond that only with Indian Act Bands, or as through the truncated Terms of Reference for a Mi'kmaq Nova Scotia Canada Consultation Process.

Going Forward To  
A Better Future

Habitat and Impact Assessment Manager  
Maritime Aboriginal Aquatic Resources Secretariate

Cc: \_\_\_\_\_, Chief and President, NCNS  
\_\_\_\_\_, Commissioner, Netukulimkewe’l Commission  
\_\_\_\_\_, Executive Director, MAARS & MAPC Projects  
\_\_\_\_\_, Director of Intergovernmental Affairs, MAPC

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<sup>1</sup> *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12, [2016] 1 S.C.R. 99

<sup>2</sup> *Haida Nation v. British Columbia (Minister of Forests)*, (2004), 3 S.C.R. 511.

<sup>3</sup> *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, (2004), 3 S.C.R. 550.

<sup>4</sup> *Mikisew Cree First Nations v. Canada (Minister of Canadian Heritage)*, (2005), 3 S.C.R. 388.



April 8, 2022

*Via Email: EA@novascotia.ca*

Environmental Assessment Branch  
Nova Scotia Environment  
P.O. Box 442  
Halifax, NS, B3J 2P8

To Whom It May Concern:

***Re: Public Comments on the Tote Road Quarry Expansion Project Registration for Environmental Assessment, located at the Head of St. Margarets Bay, Halifax Regional Municipality, Nova Scotia***

My home is near the Tote Road Quarry and I write to express my deep concerns regarding the request by Scotian Materials Ltd., to expand its current site operations.

I respectfully request that the Tote Road Quarry Expansion Project be rejected on the basis that it will cause adverse effects or significant environmental effects which are unacceptable, pursuant to section 13(1)(e) of the *Environmental Assessment Regulations*.

My concerns relate to the following:

1. Scotian is currently operating in a manner that is grossly non-compliant with its Industrial Approval for the site (Approval No. 2014-090423-01). Consistent with the Department's past practice, this expansion request should be rejected as Scotian is "likely non-compliant" with its Industrial Approval.
2. Scotian has disregarded the environmental assessment process. Accordingly, Scotian cannot be trusted to comply with future environmental requirements.
3. The lands near the site include environmentally sensitive wetlands, which will be subject to increased risk of contamination as a result of an expansion.
4. The access road network is not sufficient to sustain the increased use associated with expansion.
5. The safety of recreational access road users.
6. The six-fold increase in size of the site.

I provide further information and details with respect to each of these concerns below.

***1. Scotian is grossly non-compliant with its Industrial Approval.***

Scotian has failed to comply with its current Industrial Approval in the following ways:

- a) Operating well outside of permitted area;
- b) Violation of separation distance requirements;
- c) Extraction below the water table; and
- d) Apparent safety violations.

(a) Operating well outside of permitted area

Scotian is operating well outside of its permitted area, violating Item 2(c) of its Industrial Approval.

Item 2(c) of its Industrial Approval states:

*2(c) The Site shall not exceed the area as outlined in the application and supporting documentation.*

Below are a series of aerial photographs taken of the site on April 6, 2022. Superimposed on some of these photographs, in red outline, is the approximate four hectare area of the approved, existing quarry.

As can be clearly seen from these photographs, Scotian is operating its quarry activities well outside the permitted four hectare area.







April 6, 2022



April 6 2022



April 6 2022



April 6 2022





April 6 2022



Additionally, Item 13(a) of Scotian's Industrial Approval states:

*13 (a) The boundaries of the Site will be cut out and kept reasonably clear of new growth and the corner boundaries shall be clearly marked with permanent markers no less than four feet high.*

In the above photographs, no permanent boundary markers can be seen. If the boundary markers were in place as required by Item 13(a), I expect they would only emphasize the striking difference between the permitted four hectare area and the vast expansion that Scotian has already undertaken.

(b) Violation of separation distance requirements

Scotian is likely operating in violation of the separation distance requirements of its Industrial Approval. Item 9 of its Industrial Approval states:

*9. Separation Distances*

- a. The Approval Holder shall not locate the Active Area of the quarry within:
  - i. 30 m of the boundary of a public or common highway.*
  - ii. 30 m of the bank of any watercourse or ordinary high water mark.*
  - iii. 30 m of the boundary of the quarry property.**
- b. The Approval Holder shall not blast within:
  - i. 30 m of the boundary of a public or common highway.*
  - ii. 30 m of the bank of any watercourse or ordinary high water mark.*
  - iii. 800 m of the foundation or base of a structure located off site.*
  - iv. 15 m of the property boundary when a structure on the abutting property is not involved.**

Given the large expanse of the quarry's operation outside of the permitted area and very near the boundaries of its property, it seems clear that Scotian is also in breach of the separation distances/setbacks required by Items 9(a)(i) and (iii) of its Industrial Approval. It is possible that Scotian's quarry activities are also in breach of the other separation distances required by Item 9 of its Industrial Approval.

(c) Extraction below the water table

Scotian is most likely extracting below the water table, in violation of Item 8(b) of its Industrial Approval. Item 8(b) of its Industrial Approval states:

*8 (b) The Approval Holder shall secure from the Administrator an approval amendment prior to excavating below the watertable.*

The above photos show a large sediment pool, which certainly appears to be deeper than the water table level based upon its size. Scotian is therefore violating Item 8(b) of the Approval. Uncontrolled surface runoff with localized erosion may also be contributing to this pool.

Ensuring the safety and integrity of groundwater in the area is paramount, especially as the quarry site is so near to environmentally sensitive wetlands.

Based upon Scotian's clear disregard for water management in its quarry operations, I have grave concerns regarding Scotian's ability to operate the current quarry, and any expansion thereto, in a manner that will ensure the safety and integrity of groundwater in the area.

The serious and potentially devastating consequences of permitting Scotian to continue to operate in a manner that threatens groundwater in the area cannot be overstated.

(d) Apparent Safety Violations

In addition to an absence of corner boundary markers, there appears to be no safety signage to identify the area as a quarry based upon the above-photographs and my personal observations. In September of 2020, I saw the site in operation while I was biking along the public access roads in the area. I did not see any signage or fencing of any kind around the site. From my observations, any member of the public could have easily gained access to the site. This is extremely dangerous. I would expect that "danger" signs should be clearly posted around the boundaries of the site to protect the public; however, it appears no such efforts have been made by Scotian. Safety is a key component in operating a quarry, and the larger the quarry, the greater the danger. Scotian has shown no efforts to post signage protecting the public on its current footprint so I fear this danger will only increase if the quarry is expanded.

***Conclusion re: Non-Compliance with Scotian's current Industrial Approval***

Scotian is no doubt aware of the seriousness of non-compliance with its Industrial Approval, as Item 3(f) provides that non-compliance can result in the cancellation or suspension of the Approval:

*3 (f) i. If the Minister or Administrator determines that there has been noncompliance with any or all of the terms and conditions contained in this Approval, the Minister or Administrator may cancel or suspend the Approval pursuant to subsections 58(A)(1) and 58(A)(2) of the Act, until such time as the Minister or Administrator is satisfied that all terms and conditions have been met.*

*ii. Despite a cancellation or suspension of this Approval, the Approval Holder remains subject to the penalty provisions of the Act and regulations.*

Additionally, Item 3(i) of its Industrial Approval requires Scotian to "immediately notify the Department of any instance of non-compliance" with the Approval.

The Industrial Approval is Scotian's only authority to operate quarry activities on the site. Based on the above-noted evidence, Scotian is operating in a manner that is non-compliant or likely non-compliant with its Industrial Approval. Accordingly, Scotian's request to expand should be rejected pursuant to section 13(1)(e) of the *Environmental Assessment Regulations*.

I understand that it is the Department's practice to reject expansion requests if the applicant is in "likely non-compliance" with an Industrial Approval. In December 2001 the Honourable David Morse (then Minister), rejected the Troy Quarry Expansion proposed by S. W. Weeks Construction Limited "based on likely non-compliance issues with the Industrial Approval #2001-020402 and

that there is a likelihood these non-compliance issues will cause adverse effects or significant environmental effects which are unacceptable”. In my view, Scotian’s expansion application should also be rejected for the same reasons. Rejection is the only way to ensure the safety of Nova Scotians and the fairness in the environmental assessment process.

***2. Scotian has demonstrated a complete disregard for the environmental assessment process.***

The environmental assessment process required by the *Environment Act* and the Department was developed to ensure the safety of the environment and the community. In addition to the legislative requirements, Section 3(g) of Scotian’s Industrial Approval specifically requires Scotian to obtain an amendment to the Approval before implementing any extensions to the site:

*3 (g) The Approval Holder shall notify the Department prior to any proposed extensions or modifications of the Facility, including the active area, process changes or waste disposal practices which are not granted under this Approval. An amendment to this Approval will be required before implementing any change. Extensions or modifications to the Facility may be subject to the Environmental Assessment Regulations.*

Based upon all the above-noted violations by Scotian of its Industrial Approval, it is clear that Scotian has already begun expanding its quarry operations on site and is now seeking permission for what it has already done. This egregious conduct shows a complete disregard by Scotian of the environmental assessment process.

Scotian has demonstrated a pattern of disregarding the regulatory processes. That pattern should give the Department serious pause. At a minimum, a complete review of Scotian’s compliance with its current Industrial Approval should be undertaken immediately.

***3. Environmentally sensitive wetlands next to site.***

Scotian’s site is near environmentally sensitive wetlands. Accordingly, further expansion of the quarry activities on this site will undoubtedly place the sensitive wetlands nearby at greater risk of contamination. Such an increased risk is unacceptable. In Scotian’s Environmental Assessment Registration Document dated February 25, 2022 and prepared by GHD, (the “Registration Document”), the work of GHD appears premised on current compliance by Scotian. The Registration Document does not reference GHD’s awareness that the boundaries of the current Industrial Approval have been ignored. One consequence of the unsanctioned boundary expansion is that quarry activity is occurring in very close proximity to the wetlands. This reality is not referenced in the Registration Document.

***4. The access road network is not sufficient to sustain the increased use.***

The proposed expansion also gives rise to transportation and safety concerns.

The Registration Document states the site “can be accessed via an access road to both Highway 103 and 3A the Ingramport interchange”. I understand that these logging and forestry roads were turned over for public use following the sale of the lands by Bowater.

As I understand it, Scotian intends to transport the 200,000 tons of rock approximately 6 km along the woods road in order to access the Ingramport Interchange. There is no basis to suggest that the woods road can sustain that level of commercial traffic without substantial upgrades. The likely scenario is that the Scotian traffic will severely damage the woods road and that damaged road will become a safety hazard for other users.

***5. Safety of recreational access road users.***

Regarding safety more broadly, anyone familiar with the local area knows that the area surrounding the quarry (and the 6km to the Ingramport Interchange) is frequently used for recreational purposes. Those frequent recreational users will be placed at risk of significant injury if the commercial trucking proposed by Scotian is permitted. Having cycled along these roads myself, I have witnessed first hand that the dump trucks servicing the quarry are travelling too fast along these roads. Their high speeds could easily endanger the recreational users of the road. I am also concerned that these roads were not properly designed and constructed for commercial use. In particular, are these roads wide enough to enable safe passage of both commercial vehicles and recreational vehicles? Scotian's application materials do not address this important point.

***6. Six-fold increase in size of site.***

I also have grave concerns about Scotian expanding its quarry operations by six (6) times its current (approved) footprint (from four hectares to 24 hectares). This will undoubtedly produce more noise and more dust in the area. While I understand there would be an economic benefit to Scotian in increasing its footprint, I feel that the adverse and significant environmental effects of the expansion which would affect all residents should outweigh the economic benefit to Scotian.

**Conclusion**

In closing, I feel that based upon the foregoing concerns I have identified, the adverse effects and significant environmental effects of an expansion of the Tole Road Quarry would be unacceptable, and therefore Scotian's application to expand should be rejected.

Sincerely,

Upper Tantallon, NS

**From:** [@live.com](#)>  
**Sent:** April 8, 2022 7:46 PM  
**To:** Environment Assessment Web Account <[EA@novascotia.ca](mailto:EA@novascotia.ca)>  
**Subject:** Proposed Project Comments

**\*\* EXTERNAL EMAIL / COURRIEL EXTERNE \*\***

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Project: tote road quarry expansion project Comments: No mining expansion Name:  
Email: [@live.com](#) Address: Municipality: New Westminster email\_message:  
Privacy-Statement: agree x: 64 y: 33