NOVA SCOTIA
Environment and Climate Change

Comment Index

McIntyres Mountain Quarry Expansion
Inverness County

Comment Period End Date: July 28, 2025

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Environment and Climate Change

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1	Kwilmu'kw Maw-Klusuaqn (KMK)	18 July 2025

Public

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1	Maritime Aboriginal Peoples Council	25 July 2025

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: June 19, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Environmental Health Consultant, Environmental Health and Food Safety Unit, Sustainability and Applied Science

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Environmental Health

List of Documents Reviewed:

-EARD

Details of Technical Review:

The purpose of the proposed undertaking is to expand the existing <4 ha McIntyres Mountain aggregate quarry up to 20.39ha within the next 40 years. The quarry is located at 486 McIntyres Mountain Road, near Kingsville, Inverness County. Levels of activity include occasional drilling and blasting, temporary operation of a portable rock crusher to process, stockpile, and transport aggregate materials, and asphalt production. Activity levels will be similar to current operations and with continued estimated production of approximately 50,000 tonnes of aggregate annually based on market demands. Aggregate from the McIntyres Mountain quarry is used locally for provincial road construction projects.

A review of the above noted documents was undertaken with a particular focus on the potential for health impacts related to air quality, noise, and drinking water wells. Environmental Health impacts related to this project have been assessed within the EARD and mitigation measures provided.

Key Considerations: (provide in non-technical language)

Environmental Health concerns are either addressed within the provided documents, assessed for and deemed no negative effect, or are already covered withing existing legislative requirements. No additional un-addressed health related considerations have been identified based upon the information provided for this project.

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Newfoundland and Labrador Office
901- 10 Barter's Hill
St. John's NL A1C 6M1

Bureau de Terre–Neuve-et-Labrador
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July 3, 2025

Jeremy Higgins
Environmental Assessment Officer
Policy Division, Environmental Assessment Branch
Government of Nova Scotia
Jeremy.Higgins@novascotia.ca

SUBJECT : McIntyres Mountain Quarry Expansion Project, Inverness County

Dear Jeremy Higgins:

Thank you for the opportunity to review the registration document for the McIntyres Mountain Quarry Expansion Project (the Project), received on June 11, 2025.

The federal environmental assessment process is set out in the *Impact Assessment Act* (IAA). The *Physical Activities Regulations* (the Regulations) set out a list of physical activities considered to be "designated projects" under the IAA.

IAAC reviewed the Regulations and notes that item 19(f) is relevant for this type of project:

> *19(f) The expansion of an existing mine, mill, quarry or sand or gravel pit, in the case 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*

Although the increase in the area of mining operations for the proposed Project is to be greater than 50%, it is understood that the total production capacity of the quarry will be approximately 50,000 tonnes per year which is less than the threshold identified below in the Regulations.

While it is the responsibility of proponents to determine whether their proposed project includes physical activities described in the Regulations of the IAA, based on the information submitted to the Province of Nova Scotia on the McIntyres Mountain Quarry Expansion Project, the Impact Assessment Agency of Canada (IAAC) is of the opinion that, as proposed, the project does not appear to be described in the Regulations. As such, the proponent would not be expected to submit an Initial Project Description of a Designated Project. If the project changes from what has been described in its provincial registration, the proponent is advised to contact IAAC if, in their view, any proposed project activities may be described in the Regulations.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on the Minister's own initiative, by order, designate a physical activity that is

not prescribed by regulations made under the Regulations if, in the Minister's opinion, the carrying out of that physical activity may cause adverse effects within federal jurisdiction or direct or incidental adverse effects. Should IAAC receive a request for a project to be designated, IAAC would contact the proponent with further information.

Please note that for physical activities not described in the Regulations, should the Project be carried out in whole or in part on federal lands, section 82 of the IAA would apply if any federal authority is required to exercise a power, duty or function under an Act other than IAA in order for the Project to proceed, or if a federal authority is providing financial assistance for the purpose of enabling the Project to be carried out. In that case, that federal authority must ensure that any Project assessment requirements under the applicable sections of the IAA are satisfied.

We also note that in proceeding with the Project, the proponent may still be required to obtain or seek amendment to other federal regulatory permits, authorizations and/or licences.

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

Samantha Zabudsky

Environmental Assessment Officer, Newfoundland and Labrador Satellite Office
Impact Assessment Agency of Canada / Government of Canada
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Health Canada Santé Canada

Human Health Considerations in Impact Assessment

Health Canada (HC) provides the following generic considerations for evaluating human health impacts in environmental/impact assessment (EA/IA). Please note that this is not an exhaustive list of human health concerns that may result from projects, and that issues will vary based on project specifics. Please also note that HC does not approve or issue licenses, permits, or authorizations in relation to the IA. HC's role in Impact 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, HC is able to accommodate specific requests for human health advice and guidance related to provincial environmental assessments within a reasonable timeframe.

HC 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**
Receptor Location(s)		
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.	• 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.)	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* *https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf*
	• If there is the potential that project-related activities could affect human receptors, impacts to human health should be considered.	

Atmospheric Environment		
Project impacts to the atmospheric environment include changes to air quality and noise, and can occur in both the construction, operation and decommissioning phases of the project. Project impacts to air quality are commonly caused by emissions from equipment or vehicles as well as by dust. Noise impacts are commonly caused by equipment as well as by activities such as blasting.	• If there are receptors that could be affected by project-related activities, impacts to the atmospheric environment should be considered. Changes to the atmospheric environment that may impact human health include: ○ impacts to air quality (dust or fumes including $PM_{2.5}$, NO_x, SO_x, PAHs) ○ increased noise from construction or operations	*Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf *Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf
	• If there are receptors who could be impacted by project-related noise, it may be necessary to inform receptors prior to loud activities, such as blasting.	
	• 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.	
Recreational and Drinking Water Quality		
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 area potentially impacted by the project. Nearby drinking and/or recreational water quality may be impacted by	• 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.	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Drinking and Recreational Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

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 area potentially impacted by the project may be impacted by activities such as blasting.	• 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. • 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.	
Country Foods		
If there are plants or animals present in the area potentially impacted by the project that are consumed by humans, there may be potential for impacts to country foods. The proponent should consider all country foods that are hunted, harvested or fished from the area potentially impacted by 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.	• 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. • 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.	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* *https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf*

For more information on HC's guidelines for evaluating human health impacts in environmental assessments, please see:

*Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: **Noise**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a noise environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Air Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of an air quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Drinking and Recreational Water Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a water quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Country Foods**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a country foods environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Human Health Risk Assessment**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a human health risk assessment are completed.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
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Halifax, Nova Scotia
Canada B3J 2P8

Date: July 3, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Janet MacKinnon SAS Protected Areas Branch

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Protected areas _____

List of Documents Reviewed:

Details of Technical Review:
No protected areas in vicinity of project

Key Considerations: (provide in non-technical language)
No Concerns

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: July 4, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Doreen Mackley, Inspection Compliance and Enforcement – A/Regional Director

Subject: **MCINTYRES MOUNTAIN QUARRY EXPANSION PROJECT, Inverness County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Surface water, groundwater, air quality, watercourse alteration, erosion & sedimentation control, environmental and emergency management.

List of Documents Reviewed:

Environmental Assessment Registration Document – McIntyres Mountain Quarry Expansion Project.

Details of Technical Review:

The proposed undertaking involves the expansion of the existing NSECC approved quarry from a less than four-hectare quarry to a 20.39-hectare quarry. Other than the proposed increase in operating footprint, it is expected that continued use of the site will be identical, or very similar, to historic use of the quarry.

An Archaeological Resources Impact Assessment (ARIA) was completed for the land proposed for the quarry expansion. The ARIA concluded that the proposed quarry expansion has low potential for encountering pre-contact and/or early historic First Nation or European archaeological resources.

All wetlands found at the study site are located inside the proposed expansion area and may need to be removed to facilitate practical development of the quarry. Prior to physical disturbance, the wetland dimensions will be confirmed and any wetlands larger than 100m2 will require alteration approvals and appropriate compensation for the loss will be arranged.

A Water Balance Assessment to predict changes in local flow characteristics as a result of the proposed activity was conducted as part of the EA process.

Proponent will be required to meet the NSECC Guidelines for Environmental Noise Measurement and Assessment.

Erosion and sedimentation controls will be required during the project to protect environmental features.

Surface and Groundwater monitoring will be required during the project – to be included in the IA application submission.

Public and Aboriginal Consultation were completed as part of the EA application process. Municipal Enterprises Limited has followed guidance from the “Proponent’s Guide: The Role of Proponents in Crown Consultation with the Mi’kmaq of Nova Scotia”

Key Considerations: (provide in non-technical language)

The ICE division has identified the following key considerations:

- A Wetland Delineation Survey must be provided for the site prior to commencement of any additional clearing or development on the site. Applications for Wetland Alteration Approvals under Division I of the Activities Designation Regulations will be required prior to the alteration of any wetland.
- The IA will require the Approval Holder to meet the NSECC Guidelines for Environmental Noise Measurement and Assessment
- A Groundwater Monitoring Plan must be provided with the Industrial Approval application submission.
- A Surface Water Monitoring Plan must be provided with the Industrial Approval application submission.
- Erosion and sedimentation controls will be required as part of the IA submission.

Fisheries and Oceans Canada | Pêches et Océans Canada

Bedford Institute of Oceanography
1 Challenger Drive
P.O. Box 1006, Station P500
Dartmouth, Nova Scotia B2Y 4A2

Date: July 7, 2025

To: Jeremy Higgins, Environmental Assessment Officer, EA Branch

From: Donald Sam, Hydro and Flows, Regulatory Review Biologist, Fish and Fish Habitat Protection Program

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:

Fisheries and Oceans Canada (DFO) is responsible for administrating the fish and fish habitat protection provisions of the *Fisheries Act* (FA), the *Species at Risk Act* (SARA), and the *Aquatic Invasive Species Regulations*.

DFO's review focused on the impacts of the works outlined in the McIntyres Mountain Quarry Expansion Project Environmental Assessment Registration Document to potentially result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat, which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- the introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.

Review comments:

DFO review of the supporting documents has not identified any concerns related to fish and fish habitat.

Recommendations:

DFO makes the following recommendations to the proponent:

- If blasting will be conducted, refer to Wright and Hopky 1998 (https://publications.gc.ca/collections/Collection/Fs97-6-2107E.pdf) for Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters.

- Refer to DFO's website, https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html, for further information on DFO's regulatory review process and for further measures to protect fish and fish habitat.

Department of Municipal Affairs

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

DATE: July 7, 2025

TO: Jeremy W. Higgins, Environmental Assessment Officer

FROM: Daniel Bryce, A/ Provincial Director of Planning

SUBJECT: **McINTYRES MOUNTAIN QUARRY EXPANSION PROJECT, MUNICIPALITY OF THE COUNTY OF INVERNESS**

Scope of Review:
This review focuses on the following Department of Municipal Affairs' (DMA) mandates: Statements of Provincial Interest and engagement with municipalities.

Document Reviewed: Registration Document

Details of Technical Review:
The EA Study Area is within the Rural Designation and Rural General (RG) Zone of the new Inverness County planning documents. These planning documents were approved by Municipal Council and are currently under provincial review and have not been approved by the Minister of Municipal Affairs. The most appropriate zone is Rural Industrial (RM), which lists Aggregate Related Industries as a permitted use. A Land Use By-law map amendment (rezoning) would be required.

As set out in the Environmental Assessment Registration Document, on April 8, 2025, the proponent emailed District 6 Municipal Councillor Catherine Gillis and MLA Kyle Mac Quarrie to notify them of the Project and upcoming EA Registration. The proponent emailed the stakeholders the public notice, its publication locations, the location of copies available for review, and the deadline for the submission of comments, on June 9, 2025. No written stakeholder feedback had been received as of the date of the submission. The EA indicates that general questions regarding the Project have been discussed with local elected officials, First Nations representatives and regulatory stakeholders.

Statements of Provincial Interest:

- Drinking Water: Reasonably consistent. There are no Municipal Drinking Water Supplies identified in the area (Municipal Drinking Water Supplies of Nova Scotia, 2017 Map), and there are no designated protected water areas in close proximity to the study area. The nearest registered Municipal Drinking Water Supplies are located near Judique and Port Hawkesbury.
- Agricultural Land: Reasonably consistent. Based on the Canada Land Inventory Soil Capability maps, the area appears to have class 7 soils, which would not be suitable for agriculture.
- Flood Risk: Reasonably consistent. There are no Flood Risk Areas under the Canada-Nova Scotia Flood Damage Reduction Program. The Municipal Flood Line Mapping has indicated that the property is not in a flood hazard area.
- Infrastructure: Reasonably consistent. There is no water or sewer servicing in this area.
- Housing: Reasonably consistent. The nearest residence to the proposed quarry expansion area is approximately 1km away, and the next closest residence is over 2km away. MacEachern Road is very sparsely populated with the nearest low-density residential development occurring at the intersection of MacEachern and Glendale Mountain Roads and Trans Canada Highway 105. Land use conflict mitigation measures are contained within the EA.

Key Considerations
All other components considered under DMA's areas of mandate have been adequately addressed.

NOVA SCOTIA
Fisheries and Aquaculture

Armoyan Centre
1800 Argyle Street
Suite 603
Halifax NS B3J 3N8

Date: July 2, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Lesley O'Brien-Latham, Executive Director, Policy and Strategic Advisory Services

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:

The scope of this review follows the Department of Fisheries and Aquaculture's (DFA) legislated mandate to develop, promote and support fishing, aquaculture, seafood processing, and sportfishing in Nova Scotia. This review considers potential impacts related to the proposed expansion of a long-standing quarry site near Kingsville, Inverness County as described in the Documents Reviewed.

List of Documents Reviewed:

McIntyres Mtn EARD Part 1
McIntyres Mtn EARD Part 2
McIntyres Mtn EARD Part 3
McIntyres Mtn EARD Part 4
McIntyres Mtn EARD Part 5

Details of Technical Review:

Aquaculture:

The project was reviewed in four key areas which could affect the aquaculture and rockweed harvesting industries. These areas are sediment creation, power outages, water withdrawal, and water discharge.

There are a total of 0 rockweed leases and 2 aquaculture sites within 25km of the proposed project. Of these, both are marine shellfish sites.

Sediment
Expansion of the quarry is not anticipated to create additional dust or sediment that would impact nearby marine shellfish sites, depending on their location and sensitivity. Dust management will be achieved using water spray systems designed to reduce air borne dust from crushing operations and from construction vehicle movement by gravelling work areas and reducing vehicle and equipment speed. Monitoring of airborne particulate emissions will be conducted. These active mitigations and monitoring steps should result in low risk of negative effects of sedimentation on aquaculture sites if applied appropriately.

Power Supply and Disruption
There is no mention of power supply disruption in the reviewed document; if a power disruption is required during this project, outages should be planned whenever possible and adequate notice should be given to aquaculture operators to allow back-up power sources to be utilized to prevent

equipment disruptions. Aquaculture facilities can be negatively affected by unexpected power outages. The implications can vary depending on the species, the scale of the operation, the duration of the power outage, and specific technologies used. Power disruptions to equipment can be detrimental; to aquatic animal health through inability to maintain water flow, monitor and maintain water conditions, or feeding conditions or feeding systems operations. Fluctuations in environmental conditions caused by power outages can generate cumulative stress and weaken the immune system of aquatic animals, making them more susceptible to disease. Interruptions in power can also affect data logging and record-keeping systems, making it challenging to track daily production and feeding data.

Water Withdrawal, Discharge and Groundwater
The impact of the proposed quarry expansion on local flow and quality of water is expected to be similar to the existing operation. With appropriate mitigation applied, potential impacts on groundwater and local hydrology are expected to be negligible and if applied appropriately should result in low risk to aquaculture operations.

Inland Fisheries:
The Inland Fisheries Division notes that intermittent drainage down McIntyre Mountain may occur (pg. 25). This is not fish habitat, with the nearest potential fish habitat approximately 400m west and 800m east and southeast of the proposed quarry expansion area. Most precipitation is expected to infiltrate the quarry floor and not directly reach watercourses. No impacts to inland fisheries or fish habitat are anticipated.

Marine Fisheries:
There are several licensed NS Seafood Buyers/Processors located in Richmond, Inverness and Guysborough Counties, which could be considered “nearby.” The closest NS Buyer, BST Lobster Sales Inc are in Aulds Cove. DSM Nutritional Products are in Mulgrave and Waycobah fisheries is in Waycobah.

From a fisheries related perspective, the site location is located between the Gulf waters and the Bras d’Or Lakes. Commercial, aquaculture and recreational fisheries occur in both these bodies of waters. Species include lobster, groundfish, snow crab, tuna, trout, salmon, and oysters to name a few. Adherence to policies and guidelines should result in insignificant risk to marine activities and NSDFA interests.

Key Considerations:
Risks to aquaculture sites from sediments, groundwater contamination and surface runoff appear to be minimal yet need to be monitored and mitigated appropriately. The applicant should be made aware of the aquaculture operations and fisheries activities within the area and ensure mitigations are implemented appropriately. If power disruptions are going to occur, the applicant needs to update their plans and provide appropriate mitigations for review.

Based on the activities proposed, and with adherence to the environmental assessment policies and guidelines, there is negligible risk to adjacent marine and land-based aquaculture sites.

Project proponent should also be made aware of:
- the Fisheries and Coastal Resources Act
- Provincial Aquaculture License and Lease Regulations
- Provincial Aquaculture Management Regulations
- the Nova Scotia Rock Weed Harvesting Regulations
- the Department’s Site Mapping Tool for information on the location of sites and leases in the area of their proposed project

NOVA SCOTIA
Public Works

J.W. Johnston Building
1672 Granville Street
6th Floor
Halifax, Nova Scotia
Canada B3J 2N2

Date: June 26, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Department of Public Works, Environmental Services – Brent MacDonald, P.Eng., Manager

Subject: **McIntyres Mountain Quarry Expansion Project, Inverness, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Traffic Engineering and Road Safety_____

List of Documents Reviewed:
Municipal Enterprises Limited, McIntyres Mountain Quarry Expansion Project Environmental Assessment

Details of Technical Review:
The Proponent is expanding an existing quarry. Future production and output are projected to be similar to what currently exists. No changes to the existing access were identified.

The Nova Scotia Department of Public Works provides the following comments on this EA Registration Document:

1. In Section 6.2.8 Residential Use, with the description for quarry truck movements, there is a reference to increases in potential for "accidental loss of gravel and rock products from trucks during transport." Additionally, Section 5.3.8 mentions that the loss of gravel or rock "can be hazardous." While this is true, the proponent is legally required to secure their loads and to ensure that loss of material does not occur.

2. The mitigation measures identified in Table 14, Summary of Mitigations pertaining to Transportation (specifically potential collisions involving quarry trucks) are identified. While very comprehensive regarding reference to safety training for truck drivers, this should include mitigation measures for the previously mentioned potential loss of loads, and having loads secured.

3. In Section 6.2.7 Transportation, there are references to signage for speed limit and warning signs that may need to be erected on MacIntyre Mountain Road with regards to the quarry operations. This should be coordinated with the local NSDPW Office and approved by the local Area Manager.

4. References to blasting are made through the document. Frequency is indicated at 1-2 times per year. Any impacts on any provincially owned roads (mainly MacIntyre Mountain Road) should be mitigated to provide for safety of all road users.

Key Considerations: (provide in non-technical language)

1. The proponent should include additional information to ensure secure loading practices.
2. The proponent should communicate with the local Area Manager if signs are to be erected on public roads.
3. The proponent should communicate blasting schedules with the local Area Manager.

Public works is a substantial aggregate consumer in the region of Inverness County through both Capital Construction and Maintenance activities. Private industry expanding their capabilities, in accordance with the applicable regulatory review, in the region would enhance our access to said aggregate. This should lead to more competitive pricing and reduce any supply constraints which may have been present in the past.

NOVA SCOTIA
Environment and Climate Change

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Canada B3J 2P8

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Climate Change Division – Lori Skaine

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Climate Change Adaptation and Mitigation

List of Documents Reviewed:
McIntyres Mountain Quarry Expansion EA Registration Document – Part 1

Details of Technical Review:

Adaptation:

- In Section 6.3 (Biophysical Components), the proponent discusses several important environmental factors such as air quality, groundwater, and local flora and fauna. This section does not include local weather conditions or historical climate data, such as 30-year historical averages and extreme temperature and precipitation to characterize local climate variability and conditions.
- Section 6.3.10 of the Environmental Assessment (EA) Registration document addresses climate change and identifies extreme rainfall events as a potential impact to the site. The proponent indicates that management plans will consider the potential for extreme rainfall (e.g., on equipment loss). However, the EA does not use climate projections to understand the range of potential impacts and consequences from climate change and propose adaptation measures.

Mitigation:
- No comments

Key Considerations: (provide in non-technical language)

Adaptation:

- We suggest the proponent consider incorporating the most recent 30-year historical climate normal to assess climate variability and characterize local conditions.
- We suggest the proponent consider examining climate projections over the lifetime of the project to understand how the climate is changing and identify relevant climate hazards and potential consequences to the undertaking to plan for measures to reduce risks. Intensity-Duration-Frequency (IDF) curves (version

3.30) and climate projection data are available through ClimateData.ca.

Mitigation:

- No comments

NOVA SCOTIA
Communities, Culture, Tourism and Heritage
Special Places Protection

1747 Summer Street, 2nd Floor
Halifax, Nova Scotia, Canada B3H 3A6
902-424-6450 T
SPP@novascotia.ca E

Date: July 8, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Beth Lewis, Director of Special Places Protection

Subject: **McIntyres Mountain Quarry Expansion Project, Inverness County**

Scope of review:
This review focuses on the following mandate: ***Archaeology and Geology***

List of Documents Reviewed:
EA Registration Document, Final Report for HRP A2024NS078 from Cultural Resource Management Group Limited, Report Approval Letter for HRP A2024NS078

Details of Technical Review (Archaeology):

The archaeological resource impact assessment for the McIntyres Mountain Quarry Expansion Project concluded that no areas of moderate to high archaeological potential, archaeological features, or cultural materials were identified during the assessment, and the proposed development area was ascribed low archaeological potential.

Key Considerations: (provide in non-technical language):

The content in Section 6.2.5 which covers archaeology, aligns with the conclusions and recommendations. So long as the recommendations are adhered to, we have no concerns at this time.

Details of Technical Review (Geology):

The bedrock geology in the project area is mapped as Neoproterozoic granite therefore there will not be any palaeontology resources encountered in this area.

Key Considerations: (provide in non-technical language):

No concerns from a palaeontology point of view.

NOVA SCOTIA
Natural Resources and Renewables
Energy

1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Department of Natural Resources and Department of Energy

Subject: McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia

Scope of review:

This review focuses on the following mandate: Authorities and approvals required from the Land Services Branch, Geoscience health and safety, mineral exploration, mineral development, abandoned mines openings, biodiversity, species at risk (SAR) status and recovery, wildlife species and habitat management and conservation including Old Growth Forest.

List of Documents Reviewed:

Land Services Branch:

- Environmental Assessment Registration Document
- Appendices A-G
- GIS Shapefiles

Geoscience and Mines Branch:

- McIntyres Mountain Quarry Expansion EARD document (Parts 1 through 5).
- Mineral Occurrence Database (MODB, Version 12, 2024)
- Google Earth
- Provincial Geoscience Atlas
- Nova Scotia's Registry of Claims (NovaROC)
- OFM ME 2017-013: Bedrock Geology Map of the Whycocomagh Area, NTS 11F/14, Inverness County, Nova Scotia [1:50 000]

Wildlife Division:

- Environmental Assessment Registration Document (EARD) - McIntyres Mountain Quarry Expansion Project
- Shapefiles showing Study Area and wetlands

Details of Technical Review:

Land Services Branch:

Based on the information provided, the Project is located on privately owned land and is accessed by an easement over Crown lands.

The information indicates the Project is on privately owned land (PID 50019975). PID 50019975 adjoins Crown lands currently identified as PIDs: 50157627; 50141480; and 50318088. No authorities or approvals are required from the Land Services Branch unless the scope of the Project changes to include Crown lands. Should the proponent require expansion or modification of the Project that includes adjoining Crown lands, Department of Natural Resources (DNR) approvals will be required.

A portion of the road being used to access the Project site (gravel road located between McIntyre Mountain Road and private PID 50019975) is located on Crown lands currently identified as PIDs 50167758 and 50318088. Using the Crown lands road for access is currently authorized under an easement recorded as document number #124983710, shown on Plan Number 123963804, registered in the Inverness County Land Registration Office (the Easement Agreement). The easement is 20.117 metres (66 feet) wide. Should the proponent require modifications to the size, approved use or location of the easement, DNR approvals will be required. Should the proponent require access over Crown lands not included under the Easement Agreement, DNR approvals will be required.

Geoscience and Mines Branch:

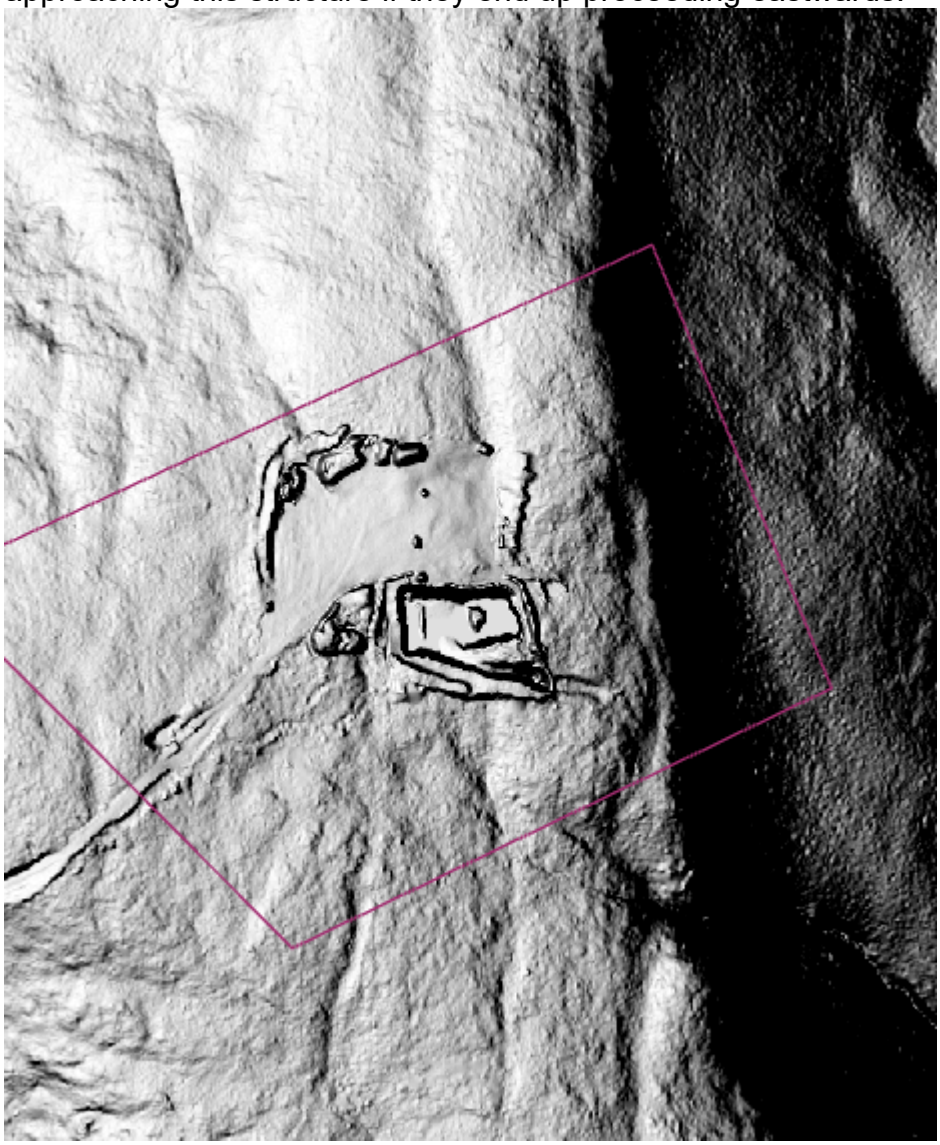
The Geoscience and Mine Branch notes that the geological characterization of the proposed site is appropriate and identifies the non-sulphide bearing nature of the material. Additional samples should be analyzed in the expansion phase to ensure results remain below maximum thresholds. The proposed expansion area is entirely underlain by the Neoproterozoic Creignish Hills Pluton – (Echfm) fine grained and locally porphyritic biotite monzogranite with phenocrysts of plagioclase and quartz. Geological maps included in the application also display relative location to planned project development area and confirm the area to be dominated by thin stony basal till derived from local bedrock with adjacent established aggregate resources in the form of glacial till deposits, in this case both kames and eskers.

Mineral Occurrences

The proposed Project Area is considered to be within a high-level area for mineral and aggregate potential using the 2009 model with numerous established surficial resources defined in the area comprised primarily of outwash sand and gravel deposits. In addition, there has been historic gold, gypsum, limestone and graphite development in the area. Exploration licences are located within 300 m to the east of the Project Area. It is not anticipated that the proposed project will result in any negative impacts to the nearby mineral exploration licences.

Of note, reviewing LiDAR imagery, a steep escarpment trending north south approximately 100 m east of the current quarry footprint could be indicative of a regional fault. While the proponent has indicated their plan is to continue to advance the quarry

west along the active face, they may seek to monitor material quality and face stability approaching this structure if they end up proceeding eastwards.



Wildlife Division:

1. Description of the Undertaking (Section 5.0): More detail on the current and future scope of quarry activities is needed to better assess the effects of the project on the terrestrial environment and how it is anticipated to change with the quarry expansion. For example, future production is anticipated to be up to 50,000 tonnes/year during years in which the site is active, but current annual aggregate production and frequency of operations since the quarry was approved in 2011 is not stated. Current magnitude of operations would put future estimates in context (e.g., how much traffic, including aggregate trucks, is associated with quarry operations and how does this compare to non-active years).

2. Biophysical Components (Section 6.3): The presence of significant wildlife habitat (IN343 - Species at Risk) approximately 150m to the east of the study area should be addressed and incorporated into the development of mitigations. This information is available on the Provincial Landscape Viewer: https://nsgi.novascotia.ca/plv/.

3. Biophysical Assessment (Appendix D):
    a. Section 4.2.6.2 states that “no species of conservation concern were found in either the owl survey or breeding bird surveys;” however, the following section states Long-eared Owl, a species of conservation concern, was observed 50 m to the northwest. Mitigations to minimize impacts to migratory birds, including avoiding disturbance during the breeding season, should be developed.
    b. There is potential for interaction between Onsite Materials Storage and both Terrestrial Flora & Fauna & Habitat and Species At Risk; as well as between Accidents (Fires/Oil & Fuel Spills) and Species At Risk. A Wildlife Management Plan (WMP) should include appropriate mitigations.
    c. In Table 14 in the Biophysical Report (Summary of impacts and mitigation on Valued Environmental Components, McIntyre Mountain Quarry),
        i. It is important to assess the likelihood of impacts; for example, with proper mitigations in place, accidental spills (which would have a negative impact with varying degrees of severity depending on the size of the spill) would presumably be unlikely to occur, whereas removal of existing forest communities is certain to occur.
        ii. There is potential to attract Species at Risk turtles and Bank Swallows to open areas and stockpiles. Appropriate mitigations should be outlined in the WMP.
        iii. Removal of forest communities should avoid sensitive timing windows such as the bird nesting season for migratory birds.
        iv. Appropriate equipment maintenance and avoiding refueling close to sensitive habitats (e.g., wetlands and watercourses) can mitigate risks during construction and operation.

Key Considerations: (provide in non-technical language)

Energy Resource Development Branch:
No comments.

Land Services Branch:
No further comments.

Geoscience and Mines Branch:
No further comments.

Wildlife Division:
Based upon a review of the information submitted, the following recommendations are provided:

- It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident, migratory and at-risk bird species and their habitats (e.g., *Species at Risk Act*, *Migratory Birds Convention Act*, *Fisheries Act*, NS *Endangered Species Act*, NS *Wildlife Act*, and their regulations). The absence of effective mitigations may lead to breaches in prohibitions as per s.13(1) of the *Endangered Species Act*.

- Obtain all necessary permits as required under legislation related to wildlife, species at risk, watercourses and wildlife habitat alterations.
- Provide digital way points and/or shapefiles for all species detected during flora and fauna surveys, including Species at Risk and Species of Conservation Interest to DNR (those species listed and/or assessed as at risk under the *Species at Risk Act*, *Endangered Species Act*, COSEWIC, and all S1, S2 and S3 species). Data should adhere to the format prescribed in the DNR Template for Species Submissions for EAs and are to be provided within two (2) months of collection.
- Develop a Wildlife Management Plan (WMP) in consultation with DNR and ECCC which includes at minimum:
    - Details on current and projected activities, and anticipated duration of the project.
    - Communication protocol with regulatory agencies, including communications protocol for reporting observations of SAR/SOCI and unexpected wildlife species to Department of Natural Resources.
    - General wildlife concerns (e.g., human-wildlife conflict avoidance).
    - Education sessions and training materials for project personnel on Species at Risk, non-Species at Risk wildlife, and other important biodiversity features (e.g., sensitive habitats) they may encounter on-site and how to appropriately respond to those encounters, including educating site personnel to look for evidence of nesting turtles and birds including Bank Swallows and Common Nighthawks.
    - Noise, dust, lighting, blasting, and herbicide use mitigations.
    - Emergency response plans for accidental spills, pollution, chemical exposure, and fire. Mitigation measures should include considerations such as appropriate equipment maintenance and avoiding refueling close to sensitive habitats (e.g. wetlands and watercourses).
    - A blasting plan with a completed pre-blast survey, a blast monitoring plan, and a blast damage response plan.
    - Apply best management practices to prevent erosion, and sedimentation from entering any watercourses or wetlands. Develop protocol for regular monitoring of these systems to ensure proper functioning during significant weather events.
    - Apply standard best management practices for any material stockpiles to avoid creating artificial habitat for wildlife, including bank swallows and herpetofauna. For example, ensure any stockpiles or banks have a slope of less than 70 degrees to deter bank swallow nesting in high disturbance areas; and develop a mitigation/response plan should a turtle be found on site.
    - Measures to protect and mitigate against adverse effects to migratory birds during all Project phases. The incidental take of migratory birds, as well as their nests and/or eggs, is not permitted under the *Migratory Birds Convention Act* and the *NS Wildlife Act*. Mitigations include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, restricting lighting use at night during seasonal migration periods, and other best management practices.
    - Mitigation measures consistent with recovery documents (federal and/or

provincial recovery and management plans, COSEWIC status reports) to avoid and/or protect Species at Risk/Species of Conservation Interest found in the area or with the potential to be found in the area (e.g., Bank Swallow, Common Nighthawk, bats, turtles, especially wood turtle, and Canada lynx), including mitigations to avoid the destruction of critical and core habitat.
    - Areas of avoidance or mitigation should be clearly flagged and visible to workers.
    - Standard practices for development, construction, and operation of the site to prevent wildlife interactions that may result in entanglement, entrapment, or injury. As part of daily operations staff should be trained to survey the site, identify issues, and consult as appropriate for solutions when wildlife is found to be utilizing artificial or existing habitat conditions during the operation of the site.
    - Details on monitoring and inspections to assess compliance with the WMP.
    - The components of the WMP that address expected impacts during each phase of the project must be finalized before that phase begins; this includes the construction phase.
- Employ standard operational practices to minimize external lighting during nighttime operations to mitigate potential influence on the behaviour of migratory birds including but not limited to, the use of directional lighting projected downward, eliminate all unnecessary lighting and cover only the areas needing illumination.
- Develop a plan to prevent the spread of invasive species both on and off site in consultation with DNR. The plan should include ongoing monitoring, reporting, and adaptive management components.
- In consultation with NSDNR, incorporate the revegetation of disturbed areas with native plant species into a site reclamation plan that explains progressive reclamation of disturbed sites during operations, and final reclamation after operations cease. The goal is to restore habitat conditions that are similar to pre-existing conditions, allowing natural communities to reestablish.
- Measures to address changes in status of listed species over time (additional biodiversity and SAR surveys may be required periodically to ensure no impacts to SAR or biodiversity under revised and updated legislation).
- Describe the impacts of the project on landscape-level connectivity for wildlife and habitat (e.g., habitat fragmentation, loss of intact forested habitat, increased road density). Include an assessment of the cumulative effects of the project on landscape-level connectivity and habitat loss, and the measures proposed to mitigate those effects.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Air Quality Unit

Subject: **McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Air Quality

List of Documents Reviewed:

- *McIntyres Mountain Quarry Expansion EA Registration Document - Part 1*
- *McIntyres Mountain Quarry Expansion EA Registration Document - Part 2*

Details of Technical Review:

Municipal Enterprises Ltd (the Proponent) proposes to expand the NSECC approved McIntyres Mountain quarry from 4 ha to 20.39 ha. The Proponent intends to operate the Project for the purpose of extracting and producing quality aggregate products at a rate of 50,000 tonnes per year to support road construction industry in Inverness County. The Project is proposed to commence in 2026, with operations continuing for an estimated 40 years.

Impacts on air quality from this project are most likely to occur during clearing/ grubbing, blasting/ drilling/ excavation/ crushing activities, operation of heavy equipment, loading/unloading of materials, and onsite routine operations. These activities are most likely to contribute to increases in concentrations of total suspended particles (TSP), while vehicle emissions are likely to contribute to increases in fine particles ($PM_{2.5}$) and nitrogen oxides.

The Proponent states that dust mitigation will include the use of water spray systems, reducing vehicle speeds on gravel roads, minimizing idling, and maintaining vehicles/equipment in good working order. The Proponent states that air emissions from the proposed expansion are expected to be the same or similar to those produced by the existing quarry.

The Proponent has not included an ambient air quality monitoring plan in the EA registration document. The proponent states that monitoring will be conducted at the request of the Department in accordance with the Pit and Quarry Guidelines, however, the proponent should refer to the NSECC Air Assessment Guidance Document when developing an ambient air quality monitoring plan.

The nearest residential receptor is approximately 900m from the proposed expansion area and given that activities at the site are expected to remain identical to current operations, quarry expansion activities are not expected to decrease air quality at the nearest receptors.

Key Considerations:

The Air Quality Unit notes the following key considerations:

- The use of dust management methods outlined by the proponent, along with the best operational practices, should minimize air quality impacts. However, it is unclear how effective the dust mitigation methods will be without a clear Dust Management Plan, including clear chains of responsibility for actions, including timely complaint resolution.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Air Quality Unit

Subject: **McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Noise

List of Documents Reviewed:

- *McIntyres Mountain Quarry Expansion EA Registration Document – Part 1*
- *McIntyres Mountain Quarry Expansion EA Registration Document - Part 2*

Details of Technical Review:

Municipal Enterprises Ltd (the Proponent) proposes to expand the NSECC approved McIntyres Mountain quarry from 4 ha to 20.39 ha. The Proponent intends to operate the Project for the purpose of extracting and producing quality aggregate products at a rate of 50,000 tonnes per year to support road construction industry in Inverness County. The Project is proposed to commence in 2026, with operations continuing for an estimated 40 years.

The Proponent has not included any baseline noise monitoring/modelling or provided expected sound levels produced by equipment/operations at the site.

The Proponent states that noise mitigation will include maintaining appropriate operational buffers, maintaining vehicles and heavy equipment in operational order, controlling vehicle speeds, avoiding use of engine braking, and reducing the need for back-up beepers when possible.

The proponent states that blasting may occur 1-2 times per year following the guidance in the NSECC Pit and Quarry Guidelines and that noise from operations will adhere to the sound level limits in the NSECC Pit and Quarry Guidelines. However, if approved, the site would be required to comply with the permissible sound levels (PSLs) outlined in the NSECC Guidelines for Environmental Noise Measurement and Assessment (GENMA) for a rural environment.

Noise from the proposed expansion is expected to be similar to that already produced at the site, since there is no anticipated change in the operational scope. The Proponent states that noise monitoring will be conducted at the request of the Department.

Key Considerations:

The Air Quality Unit notes the following key considerations:

- It is unclear if the proposed expansion has the potential to exceed the appropriate GENMA permissible sound levels at the nearest receptor (rural classification).
- It is unclear how effective noise management and mitigation will be in the absence of a Noise Management Plan with a clear chain of responsibility for actions, including timely complaint resolution.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
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Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

From: Water Resources Management Branch

Subject: **McIntyres Mountain Quarry Expansion Project, Inverness County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Groundwater quality and quantity, surface water quality and quantity, and wetlands.

List of Documents Reviewed:
EA Registration Document (EARD), GIS Data

Details of Technical Review:

Groundwater

Municipal Enterprises Limited (MEL) plans to expand the working footprint of the existing McIntyres Mountain quarry from less than 4 ha to 20.39 ha. As noted in the EARD, activities associated with the proposed expansion can influence groundwater flow locally in the vicinity of the quarry but impacts to groundwater over a broader area are not expected.

According to the EARD, the nearest residence to the proposed quarry expansion area is approximately 1 km away and the next closest residence is over 2 km away, which are unlikely to be affected by periodic blasting. The EARD states that future excavation is not expected to take place below the deep bedrock water table; however, the depth to groundwater was not provided and there does not appear to be a groundwater monitoring well network associated with the existing operation. Groundwater quality may be impacted by spills and/or leaks from operating equipment.

The EARD states that if aggregate extraction below the water table is required in the future, a hydrogeological study will be completed. The EARD also notes that a groundwater monitoring well network and groundwater monitoring program will be developed for the site as part of the Industrial Approval process, including both baseline monitoring, to establish baseline water levels and water quality conditions, and operational monitoring to identify potential impacts to groundwater associated with operating the quarry. The EARD notes that a Contingency Plan has been developed and includes procedures and processes for responding to environmental emergencies, such as spills.

Surface Water

The proponent committed to develop the surface water management plan as part of the subsequent industrial approval application process. The surface water management plan will include specific surface water controls and erosion and sediment control strategies, as well as a surface water monitoring program. The Water Balance Assessment (Appendix F) also indicates these plans are intended to validate the findings of the water balance assessment. The submission however does not include details on the design and implementation of these plans. As such, their effectiveness cannot be assessed at this time.

Water quality monitoring was completed in standing or flowing water on and off the quarry property on July 22, 2024. Canadian Climate Normals for the area referenced in the Biophysical Assessment Report (Appendix D) indicates July has the least precipitation in a year. Therefore, one monitoring event at such time is unlikely to reflect all water quality conditions in the nearby watercourses (e.g., unnamed watercourse 1 and 2) during storm events and high-flow conditions when the quarry is active.

The EARD indicates management plans will consider the potential for extreme rainfall events. However, the EARD does not include details on extreme rainfall events (e.g., return period, duration, intensity, and climate change impacts on rainfall) and how these rainfall events will be considered in the management plans. As such, the effectiveness of the management plans cannot be assessed at this time.

Wetlands

The proponent has provided a general overview of the wetlands within the study area and identified six small wetlands. The EARD did not provide enough information on the wetlands to predict whether adverse environmental effects on the wetlands will occur. The following information was not provided:

- Wetland Delineation methods, and field forms including hydric soils and hydrology. Only vegetation was mentioned in the wetland descriptions.
- It is unclear what size the six wetlands are and if they are proposed for alteration. The EARD stated wetlands were ~100-200m^2 in size in Table 2; however, the exact delineation area was not identified. Wetlands larger than 100m^2 require approval prior to alteration.
- WESP-AC Functional Assessment results were not included in the documents. WESP-AC functional assessments (WESP-AC WSS Interpretation Tool) should be completed to determine if wetlands are classified as Wetlands of Special Significance (WSS) functionally. These should be completed for any wetlands that are larger than 100m^2 that are proposed for alteration.

Key Considerations:

Groundwater

It is stated the quarry will not extend below the water table; however, the actual depth of the water table is unknown. A groundwater monitoring program is necessary to identify baseline conditions, including the seasonal high water table in both bedrock and the overlying till, and to monitor the effects of the project on groundwater quality and quantity during quarry operations.

Where data indicates the excavation may extend below the seasonal high water table, the estimated groundwater zone of influence from the quarry excavation area should be determined using calculated analytical drawdown predictions or numerical modeling. The estimated groundwater zone of influence can be used to evaluate drawdown effects on adjacent receptors, including surface water, wetlands, and water supply wells.

Surface Water

The proponent should provide clear details in the surface water monitoring and management plans to guide site staff and support implementation. These details will also help with future industrial approval applications if the Environmental Assessment is approved. The monitoring plan should include details on monitoring locations (e.g., site discharge points, nearby watercourses), monitoring methods (e.g., site visits, continuous monitoring with in-situ or online devices) and monitoring frequency. A risk-based approach is recommended, such as increasing monitoring during quarry operations in and after storm events or high flow conditions.

The proponent should select appropriate extreme rainfall events (e.g., return period, duration, intensity) based on the quarry's lifespan to guide surface water management design. Climate change impacts on extreme rainfall should also be considered. This information should be used to design surface water control measures, such as sediment ponds when used.

Wetlands

The information provided in the EARD is insufficient in identifying the potential environmental impacts on wetlands. Wetland delineations and WESP-AC functional assessments are required for all wetlands that could be altered directly or indirectly. The proponent is required to complete delineations and WESP-AC functional assessments for all wetlands within the EA study area and confirm which ones are considered wetlands of special significance.

The proponent is required to submit a Wetland Alteration Approval Application for review and approval for any wetlands proposed to be directly or indirectly altered and complete any necessary compensation and monitoring. The size of the wetlands is unclear in the EARD. If wetlands are smaller than $100m^2$ and approval is not required. The proponent should utilize Nova Scotia's Wetland Alteration Application's Guided Template for the permit applications.

NOVA SCOTIA

Agriculture

60 Research Drive
Suite A
Bible Hill, Nova Scotia
B6L 2R2

Date: July 9, 2025

To: Jeremy Higgins, Environmental Assessment Officer

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

Subject: McIntyres Mountain Quarry Expansion Project
Kingsville, Inverness County, Nova Scotia

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

No agricultural impacts are anticipated given that:

- The project is situated on Class 7 lands (Canadian Land Inventory) “defined as having no capability for arable culture or permanent pasture”. Class 7 land occupies 78.5% of land within a 2 km buffer around the project site.
- The two closest active agricultural fields are located ~ 1.7 km from the project site and are for pasture and alfalfa.
- The project is aimed at extending the production footprint and timeline of an existing project and not increasing production activities.

Outlook

FW: EA Registration - McIntyres Mountain Quarry Expansion Project, Inverness County (EAS# 25-NS-008)

From Wade,Suzanne (ECCC) <suzanne.wade@ec.gc.ca>

Date Thu 2025-07-10 09:44

To Higgins, Jeremy W <jeremy.higgins@novascotia.ca>

Cc Aikens,Marley (elle | she, her) (ECCC) <Marley.Aikens@ec.gc.ca>; Morais,Tania (elle | she, her) (ECCC) <Tania.Morais@ec.gc.ca>; Hingston,Michael (il | he, him) (ECCC) <Michael.Hingston@ec.gc.ca>; Wade,Suzanne (ECCC) <suzanne.wade@ec.gc.ca>

2 attachments (2 MB)

BatSAR_SurveyGuidance_2_EN_Treed_Habitats_ONMNRF_2017.pdf; Nightjars_1_CNS-Protocol-2024.pdf;

Hi Suzanne,

Environment and Climate Change Canada (ECCC) has reviewed the EA Registration Document (EARD) for Municipal Enterprises Ltd's proposed McIntyre Mountain Quarry Expansion Project, located in Inverness County, NS, and we offer the following comments.

Attachments

- Birds Canada (2024). Canadian Nightjar Survey: Protocol 2024. (NOTE: Protocol is updated annually).
- Ontario Ministry of Natural Resources and Forestry (OMNRF) (2017). Survey Protocol for Species at Risk Bats within Treed Habitats, Little Brown Myotis, Northern Myotis & Tri-Colored Bat (attached); Note: there is a 2022 update, but our expert recommends the Phased approach described in the 2017 guidance.

WILDLIFE COMMENTS

General Comments

1. Given that the project is registered under Nova Scotia's (NS) *Environmental Assessment Regulations*, it remains the discretion of the province whether sufficient information has been provided to assess the potential effects of the Project under their jurisdiction and responsibility. ECCC's Canadian Wildlife Service (CWS) does not have any permits (or authorizations) or approvals in relation to the proposed project. Any advice provided by ECCC is intended to support Nova Scotia Environment and Climate Change (NS ECC) Environmental Assessment review process. The Proponent is responsible for identifying measures which ensure their compliance with the federal *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA).

2. ECCC notes that the Province of NS's Department of Natural Resources (NS NR) holds technical expertise, jurisdiction, and management authority for birds not protected by the MBCA (e.g., raptors) and terrestrial species at risk (SAR) including bats, reptiles, amphibians, land-mammals, insects, plants, and lichen. ECCC advice on these species is derived from federal recovery strategies produced as per the SARA and are focused on species recovery. SAR are a shared responsibility between the federal government and the provinces and ECCC comments reflect this.

3. Proponents are encouraged to share and store wildlife survey data with the Atlantic Canada Conservation Data Center. Information on data contributions can be found at: http://accdc.com/en/contribute.html.

4. If NS ECC is considering wildlife protection, mitigation, monitoring and adaptive management plans as part of potential approval conditions related to avifauna and/or migratory bird SAR, ECCC recommends clarifying what elements are expected to be included, and that the consultation process is clear for all parties.

5. ECCC's preference is that any documents and requests for advice from the proponent be submitted and coordinated through NS ECC as part of their EA process via the ECCC-EA window (FCR_Tracker@ec.gc.ca).

Specific Comments

VEC-selection and Mitigation Measures

6. The "Flora and Fauna Habitat" Valued Ecosystem Component (VEC) does not explicitly or adequately address potential adverse effects of the Project on individual flora and fauna. Not all potential effects are habitat-related; for example, direct injury, mortality, or nest destruction may occur independently of habitat loss or alteration. This omission is significant. ECCC recommends that the Proponent revise the EA to include an explicit evaluation of potential effects on individual flora and fauna as a separate VEC.

7. The mitigation measures presented in Section 6.3.7 (Flora and Fauna Habitat) and Section 6.3.8 (Species at Risk) are not sufficient to avoid adverse effects to migratory birds and SAR.

   The Proponent indicated that a Wildlife Management Plan (WMP) will be developed to *"establish appropriate mitigation measures to manage wildlife resources (avian species and their nests, species at risk, non-native plant species, select species of interest, etc.)."* However, mitigation measures must be included in the Project's EA, as they are essential to evaluating the Project's potential effects on wildlife, including migratory birds and SAR. Without clearly defined mitigation, it is not possible to accurately assess residual adverse effects or determine the significance of Project impacts.

   If the project is approved, the WMP should include comprehensive suite of mitigation and monitoring measures that clearly demonstrate how the Proponent intends to avoid potential effects to wildlife. ECCC is available to review the WMP upon request from NS ECC.

Species at Risk (SAR) and Critical Habitat (CH)

General

8. ECCC notes that the following avian SAR could occur within the Project Area, including but not limited to: Bank Swallow (SARA-listed Threatened), Bobolink (SARA-listed Threatened), Canada Warbler (SARA-listed

Threatened), Common Nighthawk (SARA-listed Special Concern), Eastern Wood-pewee (SARA-listed Special Concern), Evening Grosbeak (SARA-listed Special Concern), Olive-sided Flycatcher (SARA-listed Special Concern), Rusty Blackbird (SARA-listed Special Concern).

Additionally, the following non-avian SAR could occur within the Project Area, including but not limited to: Little Brown Myotis (SARA-listed Endangered), Northern Myotis (SARA-listed Endangered), and/or Tri-colored Bat (SARA-listed Endangered), Hoary Bat (COSEWIC-assessed Endangered), Eastern Red Bat (COSEWIC-assessed Endangered), Silver-haired Bat (COSEWIC-assessed Endangered), Wood Turtle (SARA-listed Threatened), Monarch (SARA-listed Endangered).

9. For projects undergoing EA, ECCC recommends that adverse effects of the project on SAR and critical habitat are identified, and, if the project is carried out, that mitigation measures are taken to avoid or lessen those effects. We recommend that mitigation measures:
    - 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 *Species at Risk Act* (SARA) regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

    We also recommend follow-up monitoring to verify impact predictions and adequacy of mitigation measures, and adaptive management in the event that SAR or their critical habitat are adversely affected by the project.

Avian SAR

10. Quote (pg. 21, Appendix D – Biophysical Assessment): *"Breeding bird surveys were conducted on June 7, 2024 and June 29, 2024 from 0500 to 0638 hrs […] A focus of the study was listening for Common Nighthawk, which would have been heard in this early morning period, as well as during daytime reconnaissance of the site, which was undertaken during both site reconnaissance and point-count surveys."*

    The proponent reported no observations of Common Nighthawk (SARA-listed Special Concern) during breeding bird surveys. However, early morning surveys are not effective for detecting this species, as male Common Nighthawk are most vocally and visually active at dusk. Although the proponent did not indicate what protocol was used for these surveys, the Canadian Nightjar Survey Protocol (Birds Canada 2025) recommends surveying from 30 minutes before to 30 minutes after sunset. Therefore, the absence of detections during morning surveys does not provide sufficient evidence to conclude that Common Nighthawk is absent from the Project Area.

ECCC recommends that the proponent conduct a nightjar survey following Birds Canada's Canadian Nightjar Survey Protocol using the appropriate survey methodology and timing, as discussed above. The 2024 version of the protocol is attached; however, we note that the protocol is updated annually to reflect recommended timing windows for nightjar species tied to the annual cycle (e.g., Eastern Whip-poor-will). We recommend acquiring the most up-to-date version of the protocol from Birds Canada (see: https://www.birdscanada.org/bird-science/north-american-nightjar-survey).

11. Some ground nesting species of migratory birds, including the Common Nighthawk, may be attracted to previously cleared areas for nesting. For sites where activities are not ongoing when spring dispersal of this species occurs, active nest surveys of the cleared areas prior to the start of project activities may be carried out successfully by skilled and experienced observers using appropriate methodology. Surveyors must ensure Common Nighthawk individuals, nests, and/or eggs are not disturbed. Should any nests or unfledged chicks be discovered, protection by an appropriate-sized buffer is expected.

    Monitoring from a distance should be conducted to verify that the size of the buffer zone is adequate. While buffers to protect nests from disturbance may be flagged, nests should never be approached and marked using flagging tape, spray paint, or other similar material, as this increases the risk of nest predation.

    The Project's WMP should include mitigation measures, including the measures discussed above, to avoid direct and indirect effects on Common Nighthawk. Additionally, the WMP should include a monitoring plan to verify EA predictions and adequacy of mitigation measures (e.g., nightjar surveys during quarry operations).

    The *Recovery Strategy for the Common Nighthawk (Chordeiles minor) in Canada (2016) [Final]* is available at: https://species-registry.canada.ca/index-en.html#/species/986-668#recovery_strategies

12. The Bank Swallow (SARA-listed Threatened) is a colonial, burrow-nesting aerial insectivore known to nest in large piles of soil left unattended/un-vegetated at work sites. If migratory birds take up occupancy of these piles, any industrial activities will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs, which is prohibited under SARA. ECCC offers the following general recommendations for avoiding and minimizing impacts of the project on Bank Swallow:

    - To discourage nesting, the Proponent should consider measures to cover or to deter birds from nesting in these large piles of unattended soil during the breeding season. The Government of Canada guidance document "*Bank Swallow (Riparia riparia) in Sandspit and Quarries*" (GoC 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.

- Be aware of the risk of nesting Bank Swallows in project footprint, and educate site workers about this risk, and what constitutes a contravention of the SARA and MBCA.
- Manage site activities to reduce the risk of Bank Swallows initiating a colony within their project footprint.
- Protect Bank Swallow colonies that establish within the footprint of the project until such a time the colony is no longer active and fledglings have naturally left the area.
- Understand what constitutes an active bank swallow residence. The period when nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period after chicks have learned to fly, as Bank Swallows return to their colony to roost after fledging. *A Bank Swallow Residence Description* (GoC 2019) is available at: https://species-registry.canada.ca/index-en.html#/documents/3521

Bat SAR

13. Quote (pg. 26, Appendix D – Biophysical Assessment): *"Little Brown Myotis (Myotis lucifugus) activity has been documented 11 km from study site, and it is likely bats are active closer to where habitat is available, however no viable habitat (e.g. old trees with cavities, and caves) was identified on site."*

    Three bat SAR listed as Endangered under Schedule 1 of SARA, including Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and/or Tri-colored Bat (*Perimyotis subflavus*), are known to occur in Inverness County, NS. ECCC is of the opinion that any additive mortality of the SARA listed bat species in White-nose Syndrome (WNS) affected areas has the potential to be biologically important. The mortality of even a small number of remaining individuals, particularly breeding adults, or disturbance to important habitat features like maternity roosts or hibernacula, has the potential to negatively impact the survival of local populations, their recovery, and potentially, the development of resistance to the fungus that causes WNS.

    It is unclear what methodology the proponent used to determine whether viable habitat was present onsite. ECCC recommends that the proponent determine whether and where bat habitat features exist within and near the study area during baseline surveys for the Project. In areas to be cleared, ECCC recommends completing a survey to identify suitable maternity roosting habitat using the *Survey Protocol for Species at Risk Bats within Treed Habitats, Little Brown Myotis, Northern Myotis & Tri-Colored Bat* (OMNRF 2017; attached). An excerpt from the draft bat residence description for Little Brown Myotis and Northern Myotis is available for

consideration in identifying bat maternity roosting habitat (Appendix 1 below).

14. Quote (pg. 26): "*No federally or provincially-listed species at risk, or species more sensitive than S3 ranking (vulnerable), were found in the study area. […] Overall, the effects of the quarry construction and operations on species at risk are expected to be negligible.*"

    It does not appear that the Proponent completed targeted surveys for bat SAR or other non-avian SAR/SOCC in the Project Area. Therefore, the absence of detections is not unexpected, and the Proponent has not provided sufficient information to support the conclusion that project effects on SAR will be negligible.

    At minimum, ECCC recommends completing an acoustic bat survey to confirm presence and assess bat activity in the Project area. Additionally, the Proponent should identify mitigation measures to protect bat individuals and habitat features, should they be suspected or confirmed during surveys, and include these measures in the WMP. ECCC recommends establishing a 100m minimum buffer around large diameter tree (s) (>25 cm dbh) with suitable maternity roost habitat characteristics until occupancy can be confirmed.

    The Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tricolored Bat (*Perimyotis subflavus*) in Canada (2018) should be consulted: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/little-brown-myotis-2018.html.

16. Three bat species assessed as Endangered by by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) may occur in the Project area, including Hoary Bat, Eastern Red Bat, and Silver-haired Bat. From a mitigation and management perspective, ECCC recommends that proponents consider these Species of Conservation Concern as at risk, given the potential for their legal listing during the Project's lifetime.

Turtle SAR

17. September is the pre-overwintering period when Wood Turtles are in the forest; hatchlings emerge from nests early September to early October. Given the potential for Wood Turtle (SARA-listed Threatened) to occur in the Project Area, ECCC recommends that vegetation clearing activities occur no earlier than mid-October to avoid incidental destruction of Wood Turtle individuals. Additionally, given the potential for Wood Turtle to nest onsite, the WMP should discuss procedures for site staff to follow should a Wood Turtle individual, nest, and/or eggs be discovered onsite, including but not limited to establishment of buffers surrounding known or suspected nests and avoidance of individuals during operational activities.

The Wood Turtle recovery strategy should be used to inform development of mitigation measures. It is available at: https://species-registry.canada.ca/index-en.html#/species/286-449#recovery_strategies

Migratory Birds

Breeding Bird Survey

18. ECCC notes that it is unclear, based on the information presented in Appendix D – Biophysical Assessment, what protocol was used during breeding bird surveys. Without this information, is not possible to determine the adequacy of these surveys for characterizing breeding bird community, including presence or absence of SAR, in the Project Area.

Habitat-related Effects

19. Quote (pg. 25): *"The quarry footprint is relatively small in relation to larger surrounding forested areas and the effect on the overall distribution and quality of forests will be minor. Most of the area proposed for the quarry have second or third generation forest, having previously experienced stages of logging, and no terrestrial habitats which have conservation significance occur at the site."*

    It is unclear how the proponent has determined which habitats are of "conservation significance". Several important migratory bird habitats are declining in NS, including mature coniferous, deciduous, and mixed forests. This is concerning because some species, particularly interior forest birds, depend on large, unfragmented tracts of mature forest. Projects should avoid further loss and fragmentation of these important habitats and the surrounding landscape.

    Appendix D – Biophysical Assessment indicates that the Project Area contains "*mature deciduous woodland*", which is of conservation significance to migratory birds in NS. Moreover, the cumulative effects of forest removal from the proposed quarrying activities and ongoing logging activities must be considered in the assessment. The Proponent should clarify the extent, if any, of mature forest that will be impacted by Project activities. If impacts are anticipated, ECCC recommends that the Proponent provide:

    - Rationale as to why each patch of mature forest habitat cannot be avoided;
    - An analysis of project impacts on mature forest habitat for migratory birds, including consideration of cumulative losses; and
    - A plan that sets out appropriate mitigation measures for the predictable loss of mature forest habitat for migratory birds in instances where the habitat cannot be avoided.

20. Quote (pg. 26): *"During operations, modified areas of the quarry offer potential nesting sites for certain species of birds and other wildlife, including hunting spaces for species such as owls and nesting for ground nesting birds such as nighthawks."*

    While it is accurate that the Project may create nesting opportunities for ground- and burrow-nesting migratory birds and SAR, it is important to note that the creation of seemingly suitable nesting habitat may function as an ecological trap if not properly managed. Any nests, eggs, and/or individuals occurring in the Project area following creation of suitable nesting habitat are protected under the MBCA and, for applicable species, SARA. Consequently, it is the proponent's responsibility to ensure these nests are not damaged or destroyed by Project Activities.

Avoidance of Incidental Take

21. Quote (pg. 27): "Activities such as logging, and site clearing should be scheduled outside the April to mid-September nesting period for breeding birds."

    ECCC recommends that activities that may result in incidental take of migratory bird nests or eggs, such as tree or shrub clearing, occur outside the migratory bird regional nesting period. ECCC supports the proponent's commitment to avoid clearing activities during this time. For additional information on regional nesting periods, please visit: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html. Some species protected under the MBCA may nest outside these timeframes.

    ECCC notes that nest searches in vegetated habitats (e.g., forests, wetlands) during the breeding season do not effectively mitigate the risk of incidental take. Nests are often well-hidden and adult birds avoid revealing their locations, making detection difficult and potentially causing additional disturbance. As a result, nest searches rarely prevent incidental take. Except in specific cases (e.g., surveys for Pileated Woodpecker nests protected under Schedule 1 of the Migratory Birds Regulations 2022), ECCC does not recommend conducting nest searches in vegetation and instead advocates for avoidance of vegetation clearing activities during the regional nesting period. It is the proponent's responsibility to ensure their activities are conducted in compliance with the MBCA and its regulations. Additional information on MBCA compliance is provided under the "Relevant Legislation" section below.

Pileated Woodpecker

21. Maritime Breeding Bird Atlas data indicate that Pileated Woodpecker is known to occur in the area based, as discussed in Appendix D (pg. 22).

Since the Pileated Woodpecker is listed on Schedule 1 of the *Migratory Birds Regulations* (2022), the nesting cavities of this species are protected year-round, including when cavities are not occupied by a migratory bird or viable eggs. If a Proponent wishes to destroy an unoccupied nest, they must submit a notification through the Abandoned Nest Registry, and if the nest remains unoccupied by Pileated Woodpecker and other migratory bird species for a continuous 36 months, it may at that point be destroyed by cutting down the tree. It is the Proponent's responsibility to monitor the cavity (without disturbance) during the 36-month period to confirm it remains unoccupied.

ECCC recommends assessing habitat suitability for breeding Pileated Woodpecker, and where suitable habitat is present, complete a Pileated Woodpecker nesting cavity survey to identify whether any cavities are present. Any potential nesting trees should be re-visited in late June to confirm occupancy. By late June, nestlings are large and loud and may be seen and heard from afar.

A Pileated Woodpecker Cavity Identification Guide is available for reference at: Pileated Woodpecker Cavity Identification Guide.

Further information on the *Migratory Bird Regulations, 2022* is available at:

- Migratory Birds Regulations, 2022 (justice.gc.ca)
- New Migratory Birds Regulations, 2022 - Canada.ca
- Continued evolution of the Migratory Birds Regulations, 2022 - Canada.ca
- Notice: Abandoned Nest Registry - Canada.ca
- Fact sheet: Nest Protection under the Migratory Birds Regulations, 2022 - Canada.ca
- Frequently Asked Questions: Migratory Birds Regulations, 2022 - Canada.ca
- Service standards and performance: permits for Migratory Birds Regulations

22. Quote (pg. 26): *"MEL has also developed a Contingency Plan for its pit and quarry operations. The Contingency Plan includes procedures and processes for responding to environmental emergencies including spill or release occurrences that could potentially impact flora and fauna in the area."*

    The Proponent should ensure that all precautions are taken by staff to prevent fuel leaks from equipment, and contingency plans in case of oil spills should be prepared.

    Furthermore, the proponent should ensure that contractors are aware that under the *Migratory Birds Convention Act* (MBCA), *"no person shall deposit*

or permit to be deposited oil, oil wastes or any substance harmful to migratory birds in any waters or any area frequented by migratory birds."

Events involving a polluting substance should be reported to the 24-hour environmental emergencies reporting system: **1-800-565-1633**.

Bird mortality incidents of 10 or more birds in a single event, or an individual species at risk, should be reported via ECCC-CWS Main Office **(506) 364-5044** or via email to SCFATLEvaluationImpact-CWSATLImpactAssessment@ec.gc.ca.

The Proponent should ensure that provisions for wildlife response, including the information provided above, are identified in the Contingency Plan and WMP. The following additional information should be included:

- Mitigation measures to deter migratory birds from coming into contact with polluting substance (e.g. oil);
- Mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated; and
- The type and extent of monitoring that would be conducted in relation to various spill events.

ECCC's "*Guidelines for Effective Wildlife Response Plans"* (available at https://publications.gc.ca/collections/collection_2023/eccc/cw66/CW66-771-2021-eng.pdf) are recommended as a reference in the development of emergency prevention and response.

Additional "Standard" Advice

Buildings, Bridges, and Other Infrastructure

Certain species of migratory birds may nest on the sides of buildings, bridges or other pieces of infrastructure. Additionally, some species may nest on equipment, if they are left unattended/idle for long periods of time.

ECCC recommends the following beneficial management practices:

- The proponent should ensure that project staff are aware of the potential of migratory bird nests on infrastructure, buildings, and bridges, if applicable.
- If a nest is discovered, the proponent should conduct no activities around the nest that may cause the nest to be abandoned or destroyed. Activities should be suspended until the chicks have fledged and left the area.
- If the proponent anticipates that birds may nest on infrastructure, the proponent should install anti-perching and nesting exclusion devices (e.g. snow fencing, chicken wire fencing, etc.) before any nest attempts are made.

If there is ultimately a need to decommission a building or structure used for nesting by migratory birds, ECCC-CWS should be consulted in a timely manner in advance of any proposed decommissioning activities for species-specific considerations.

Noise Disturbance

Anthropogenic noise produced by construction and human activity can have multiple impacts on birds, including causing stress responses, avoidance of certain important habitats, changes in foraging behavior and reproductive success, and interference with songs, calls, and communication. Activities that introduce loud and/or random noise into habitats with previously no to little levels of anthropogenic noise are particularly disruptive.

ECCC recommends that the proponent implement the following best management practices:

- Develop mitigations for programs that introduce very loud and random noise disturbance (e.g., blasting programs) during the migratory bird breeding season for their region.
- Prioritize construction works in areas away from natural vegetation while working during the migratory bird breeding season. Conducting loud construction works adjacent to natural vegetation should be completed outside the migratory bird breeding season.
- Keep all construction equipment and vehicles in good working order and loud machinery should be muffled.

Lighting

Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety. Street and parking lot lighting should also be shielded so that little escapes into the sky and it is directed where required. LED lighting fixtures are generally less prone to light trespass and should be considered.

Invasive Species

ECCC recommends that a variety of species of plants native to the general project area be used in revegetation / reclamation 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.

ECCC also recommends that measures to diminish the risk of introducing invasive species be developed and implemented. These measures could include:

- cleaning and inspecting construction equipment prior to transport from elsewhere (not limited to out of province equipment) to ensure that no

plant matter is attached to the machinery (e.g. use of pressure water hose to clean vehicles prior to transport); and
- regularly inspecting equipment prior to, during and immediately following construction in wetland areas and in areas found to support Purple Loosestrife to ensure that plant matter is not transported from one construction area to another.

Wetlands

ECCC advocates for the conservation of wetlands, especially in areas where wetland losses have already reached critical levels (e.g., NB, NS, PE, southern Ontario, Prairies), regionally important wetlands, and wetlands used by avian SAR and SOCC as part of their lifecycle (e.g., Canada Warbler, Chimney Swift, Olive-sided Flycatcher Common Nighthawk, Lesser Yellowlegs, Greater Yellowlegs, Spotted Sandpiper, Upland Sandpiper, etc.).

ECCC advocates for planning, siting, and designing a project in a manner that considers wetland mitigation options in a hierarchical sequence – avoidance, minimization, and as a last resort, compensation.

To promote wetland conservation, ECCC 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 metres should be maintained around existing wetland areas.
- Hydrological function of the wetland should be maintained.
- Runoff from development should be directed away from wetlands.
- Maintain a 30-metre buffer from the high water mark of any water body (1:100 Flood Zone) in order to maintain movement corridors for migratory birds. Please see https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html for further information concerning buffer zones.

Applicable Legislation

Migratory Birds Convention Act

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

https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html.

For migratory birds that are listed as Endangered, Threatened or Extirpated on Schedule 1 of the *Species at Risk Act* S.32 (protection of individuals) and S.33 (protection of residences) apply to all land tenure types in Canada. For some migratory bird species listed under the *Species at Risk Act* (SARA), the residence prohibition will protect nests that are not active but are re-used in subsequent years (please note that the residence of a migratory bird may not necessarily be limited to their nest).

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 to be deposited in any place if the substance, in combination with one or more substances, result in a substance – in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area – that is harmful to migratory birds."

The proponent is responsible for ensuring that activities are managed to ensure compliance with the MBCA and associated regulations.

In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:

- 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.
- 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, Killdeer, sandpipers), in 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.
- One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the regional nesting period for migratory birds.
- The risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside 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. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.

Further information can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

Species at Risk Act

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 Migratory Birds Convention Act (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 bird species at risk (SAR), this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

For project assessments, SARA requires:

79 (1) Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 82(a) or (b) of the *Impact Assessment Act* in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat.

(2) The person must identify the adverse effects of the project on the listed wildlife species and its critical habitat and, if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. The measures must be taken in a way that is consistent with any applicable recovery strategy and action plans.

ECCC notes that all comments it provides concerning species at risk that are not migratory birds derive from federal recovery/management plans as posted on the Species at Risk Registry (https://www.canada.ca/en/environment-

climate-change/services/species-risk-public-registry.html), and thus comments may not be comprehensive to the body of knowledge for the species.

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.

Appendix 1
Excerpt from the Draft ECCC-CWS Residence Description for Little Brown Myotis, Northern Myotis, and Tri-colored Bat (January 2022)

Little Brown Myotis and Northern Myotis

Any place used as a maternity roost by Little Brown Myotis is considered a residence. A maternity roost site may be a natural site, such as a cavity in a tree, a rock crevice, a cave or the underside of loose bark, or an anthropogenic site such as the underside of a bridge, an attic in a building or other structures (Fenton and Barclay 1980; Coleman and Barclay 2011). Little Brown Myotis is one of the few bat species that uses buildings and other anthropogenic structures to roost. Females are thought to select a quality maternity roost at the expense of travelling longer distances to forage possibly indicative of a limited number of suitable maternity roosting sites in foraging areas (Broders et al. 2006, Randall et al. 2014).

Maternity roosts in trees are often associated with natural holes, holes made by cavity excavators (*e.g.,* woodpeckers) or holes resulting from broken limbs or under loose bark. Typically, maternity roost sites are located in tall, large-diameter trees (DBH >30 cm), within forests (Kalcounis-Ruepell et al. 2005; Olson 2011; Olson and Barclay 2013) and older forest stands are preferred over younger forest stands (Barclay and Brigham 1996; Crampton and Barclay 1996; Jung et al. 1999). A larger tree size will usually house a larger number of bats (Olson 2011). Broders and Forbes (2004) found a preference for deciduous trees (Sugar Maple, Yellow Birch, and American Beech) and attributed this preference to deciduous trees' susceptibility to limb breakage and decay (creating available habitat for roosting), long-lived characteristics (permitting repeated use by bats), and their upland habitats with increased solar radiation (reducing energy costs to maintain the bat's body temperature).

Maternity roosts located in buildings tend to be located in warm but uninhabited areas of the building or in abandoned ones. Attics in older buildings are commonly used.

Tri-colored Bat

Little is known about maternity roosts of Tri-colored Bat. However, the species is known to roost in clumps of dead tree foliage and lichens and broken branches in coniferous and deciduous tree species (Veilleux et al. 2003, Perry

and Thill 2007, Poissant et al. 2010). Tri-colored Bats also use barns and other anthropogenic structures for maternity roosts, and they may also use tree cavities, broken branches on trees, caves and rock crevices (Fujita and Kunz 1984). In Nova Scotia, a local population of Tri-colored Bat roosted solely in clumps of *Usnea* lichen and mostly within spruce trees (Poissant et al. 2010).

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- Veilleux, J., J. Whitaker, and S. Veilleux. 2003. Tree-roosting ecology of reproductive female eastern pipistrelles, *Pipistrellus subflavus*, in Indiana. Journal of Mammalogy 84:1068-1075.

WATER QUALITY

Pollution prevention and control provisions of the *Fisheries Act* are administered and enforced by ECCC. Subsection 36(3) of the *Fisheries Act* prohibits “anyone from depositing or permitting the deposit of a deleterious substance of any type in water

frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter such water".

It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish. In general, compliance is determined at the last point of control of the substance before it enters waters frequented by fish, or, in any place under any conditions where a substance may enter such waters. Additional information on what constitutes a deposit under the *Fisheries Act* can be found here: https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/frequently-asked-questions.html

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).

ECCC's preference is that any documents and requests for advice from the proponent be submitted and coordinated through NS ECC as part of their EA process via the ECCC-EA window (FCR_Tracker@ec.gc.ca).

If you have any questions, please let me know.

Suzanne Wade

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Survey Protocol for Species at Risk Bats within Treed Habitats

Little Brown Myotis, Northern Myotis & Tri-Colored Bat

April 2017

Ontario Ministry of Natural Resources and Forestry

Guelph District

Ontario

Introduction

This document describes Guelph District's recommended protocol for confirming presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat, where it is determined that suitable habitat for the establishment of maternity roosts is present.

This document replaces any previous versions of the survey protocol, and may be updated periodically as new information becomes available.

Note that those undertaking projects that may impact anthropogenic structures and isolated trees considered suitable habitat for bats should refer to Guelph District's *Survey Methodology for the Use of Buildings and Isolated Trees by Species at Risk (SAR) Bats*.

Little Brown Myotis (*Myotis lucifugus)*, Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) are listed as provincially endangered and receive species and general habitat protection under the *Endangered Species Act, 2007* (ESA).

Where the habitat of an endangered or threatened species is not prescribed by regulation, the ESA defines habitat as an area on which a species depends on, directly or indirectly, to carry out its life processes. Such processes include reproduction, rearing, hibernation, migration or feeding, as well as places being used by members of the species.

Throughout eastern North America, a disease known as white-nose syndrome (WNS), which is caused by the fungus *Pseudogmnoascus destructans*, is the primary cause of the decline of Little Brown Myotis, Northern Myotis and Tri-colored Bat populations. Where population numbers have significantly decreased due to WNS, the relative magnitude of other threats (e.g., habitat destruction) may increase. This is because the mortality or displacement of a small number of the remaining individuals can have a major impact on the survival of local populations and their recovery.

Many bat species are known to have high fidelity to their hibernacula and maternity roost sites. It is not uncommon for bats to return to the same roost tree or group of trees in successive years. Some bats switch roost trees periodically within the same treed area over the summer, likely to avoid predators or parasites or in search of a warmer or cooler roost.

Of the SAR bats species noted in this protocol, Little Brown Myotis is the most frequently encountered species in treed communities due to higher population numbers relative to other SAR bat species. Little Brown Myotis establishes maternity roosts within tree cavities and under loose or exfoliating bark, especially in wooded areas located near water. Foraging habitat includes over water and in open areas between water and forest. Favoured prey consists of aquatic insects (e.g., mayflies, midges, mosquitos and caddisflies). In agricultural environments, Little Brown Myotis tend to follow linear wooded features, such as hedgerows, for commuting and foraging.

Northern Myotis is less frequently encountered relative to Little Brown Myotis but selects similar maternity roost space. Northern Myotis roosts within tree crevices, hollows and under the bark of live and dead trees, particularly when trees are located within a forest gap. Northern Myotis switch roost trees more frequently compared to other SAR bat species (i.e., every 1-5 days) and are relatively

slow flyers. Northern Myotis is adapted to hunting in cluttered environments, such as within the forest along edges, where it gleans and hawks its prey (primarily moths).

Tri-coloured Bat establishes maternity roosts within live and dead foliage within or below the canopy. Oak is the preferred roost tree species, likely because oaks retain their leaves longer than other trees. Maples are also thought to be important for roosting, although maples are selected far less often compared to oaks. Some studies have shown that Tri-colored Bat prefers dead leaves over live leaves, especially if the dead leaves are situated on a live tree i.e., along a broken branch. Other documented roost sites include dogwood leaves, within accumulations of pine needles, in squirrel nests and in tree cavities. Within a forest, the location of maternity roost trees varies from dense woods to more open areas, although roosts are rarely found in deep woods. Although Tri-colored Bat switches roosts over the summer, this species has very high site fidelity to particular leaf clusters within a season. Foraging occurs along forested riparian corridors, over water (e.g., ponds and rivers) and within gaps in forest canopies. This species is an insect generalist, feeding on species such as leafhoppers, ground beetles, flies, moths and flying ants. The Tri-colored Bat is less frequently encountered compared to Little Brown Myotis and Northern Myotis. Unlike other SAR bats, Tri-colored Bat rarely roosts in buildings, and therefore relies heavily on treed areas for rearing its young.

Note: Confirmation of individual maternity roost trees is extremely challenging. Exit surveys are not always reliable, since SAR bats are known to periodically switch roost trees within a treed area over the summer. In addition, techniques used to confirm maternity roost trees, such as mist netting, are quite invasive and therefore not recommended.

The survey protocol that follows focuses on confirming presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat within treed habitats considered suitable for the establishment of maternity roosts, which is sufficient information to apply species and habitat protection under the ESA.

If an Ecological Land Classification (ELC) ecosite is determined to be suitable for the establishment of maternity roosts, trees with suitable attributes are present, and SAR bats are detected during the maternity roost season (June), it can be concluded with a high degree of certainty that the ELC ecosite represents the habitat most in use during the breeding season for roosting, feeding, rearing of young and resting.

Phase I: Bat Habitat Suitability Assessment

Little Brown Myotis, Northern Myotis and Tri-colored Bat establish maternity roosts in treed areas consisting of deciduous, coniferous or mixed tree species. For bats that roost under bark or within cracks, hollows or crevices, tree species is important only as it relates to its structural attributes. For example, trees that retain bark for longer periods or are more susceptible to fungal infections/attract cavity excavators are more likely to provide appropriate roosting space.

Following the completion of ELC mapping of a study area, any coniferous, deciduous or mixed wooded ecosite, including treed swamps, that includes trees at least 10cm diameter-at-breast height

(dbh) should be considered suitable maternity roost habitat. For cultural treed areas, such as plantations, consultation with the Ministry of Natural Resource and Forestry (MNRF) is recommended to determine if these habitats may be suitable for the species.

If suitable habitat is to be impacted by a proposed activity, project proponents should proceed to Phase II. It is recommended that the proponent contact the MNRF to discuss the need for additional work with respect to SAR bats.

Phase II: Identification of Suitable Maternity Roost Trees

As previously described, Tri-colored Bat primarily roosts in tree foliage (mainly oak), while Little Brown Myotis and Northern Myotis select loose bark, cracks and cavities. Because of these differences, two separate field data sheets should be completed by the proponent to identify and map suitable roost trees for Tri-colored Bat (Appendix A) and Little Brown Myotis/Northern Myotis (Appendix B). The data collected in Phase II will help inform the positioning of acoustic monitoring stations in Phase III.

The timing of field visits is important in order for an observer to be able to clearly identify tree attributes that are suitable for the establishment of maternity roosts:

- **Tri-colored Bat**: field visits should take place during the leaf-on season the same year that acoustic monitoring is to be conducted so that foliage characteristic (i.e., dead/dying leaves along a dead branch) can be observed.

- **Little Brown Myotis/Northern Myotis**: field visits should occur during the leaf-off period so that the view of tree attributes (hollows, cracks etc.) is not obscured by foliage.

Note that for large ecosites (e.g., >10 ha) where a thorough walk-through may not be possible or practical, the proponent should discuss the study design for Phase II with the MNRF prior to undertaking field work.

i) Tri-colored Bat

Leaf roosts are shaped like umbrellas with a “roof” and a hollow core where bats rest. Studies have shown that oak leaves are the preferred roost site. Maple leaves are also selected, although less commonly. It is thought that Tri-colored Bat may prefer roost trees in open woodlands, as opposed to deep woods.

Within each ecosite identified as suitable maternity roost habitat in Phase I, the following trees should be documented on the field data sheet (Appendix A)

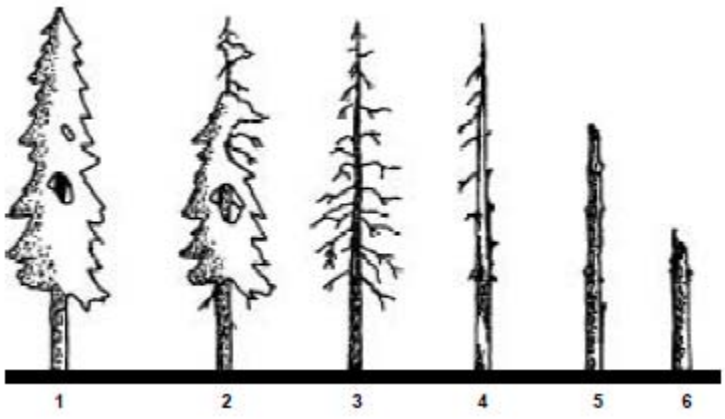
- any oak tree ≥10cm dbh
- any maple tree ≥10cm dbh IF the tree includes dead/dying leaf clusters
- any maple tree ≥25cm dbh

ii) Little Brown Myotis and Northern Myotis

Within each ecosite identified as suitable maternity roost habitat in Phase I, all “snags” should be identified and relevant information recorded on the field data sheet provided in Appendix B.

For purposes of this exercise, a "snag" is any standing live or dead tree ≥10cm dbh with cracks, crevices, hollows, cavities, and/or loose or naturally exfoliating bark.

During the field visit, the Decay Class should be noted for each snag (see Figure 1). Snags in an early stage of decay (which also includes healthy, live trees) may be preferred by Little Brown Myotis and Northern Myotis if suitable attributes for roost space are present. However, since SAR bats will also roost in snags outside of Class 1-3, any snag >10cm dbh with suitable roost features should be documented. For trees with cavities, the entrance can be high or low ("chimney-like") on the tree.



1. Healthy, live tree
2. Declining live tree, part of canopy lost
3. Very recently dead, no canopy, bark intact, branches intact
4. Recently dead, bark peeling, only large branches intact
5. Older dead tree, 90 percent of bark lost, few branch stubs, broken top
6. Very old dead tree, advanced decay, no branches, parts of the stem have rotted away

Figure 1: Snag classification (Decay Class 1-3 is considered an early decay stage)[1]

In addition, proponents should be aware that some tree species, such as shagbark hickory, silver maple and yellow birch, have naturally exfoliating bark that may be suitable for establishing maternity roosts. Trees ≥10cm dbh exhibiting these characteristics should be considered "snags" as per the definition above and included on the field data sheet provided in Appendix B.

Note: For efficiency (especially for larger ecosites e.g., >10 ha), a proponent may choose to undertake snag density surveys while conducting the work required in Phase II. For a detailed methodology, refer to Phase IV of this protocol.

[1] Watt, Robert and Caceres, M. 1999. Managing snags in the Boreal Forests of Northeastern Ontario. OMNR, Northeast Science & Technology. TN-016. 20p.

Phase III: Acoustic Surveys

Within each ELC ecosite determined to be suitable maternity roost habitat in Phase I, acoustic surveys are recommended to confirm presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat. As described below, acoustic detectors should be placed in the best possible locations in order to maximize the probability of detecting all three SAR bats species. The data collected in Phase II should be used to select optimal locations for monitoring. The trees to be targeted for acoustic monitoring will typically be a subset of the trees documented in Phase II.

Density and Optimal Location of Acoustic Monitoring Stations:

Multiple stations may be required to cover an ecosite adequately (see example in Figure 2). Based on the microphone range of most broadband acoustic detectors (20-30m), **4 stations/hectare** is needed for full coverage of an ELC ecosite.

Strategic placement of acoustic detectors is critical for the successful isolation of high-quality bat calls. Recommended positioning is to locate acoustic detectors **within 10m of the best potential maternity roost trees**. To increase the probability of detecting all three SAR bat species, detectors should be divided proportionally to target suitable roost trees (if present) for Tri-colored Bat and Little Brown Myotis/Northern Myotis.

Prior to undertaking acoustic surveys, it is recommended that the proponent discuss the proposed location of acoustic monitoring stations with the MNRF.

(i) Tri-colored Bat

Although Tri-colored Bat will roost within both live and dead foliage, it appears that reproductive females may prefer clusters of dead leaves, especially if they are situated on a live tree. Using the information collected on the field data sheet (Appendix A), the best suitable maternity roost trees for Tri-colored Bat should be selected according to the following criteria (in order of importance):

If oaks are present:

- Live oak with dead/dying leaf clusters
- Dead oak with retained dead leaf clusters
- Live oak (no dead leaf clusters) with the largest dbh (>25cm)
- Oak within a forest gap

If oaks are absent:

- Live maple with dead/dying leaf clusters
- Dead maple with retained dead leaf clusters
- Live maple (no dead leaf clusters) with the largest dbh (>25cm)
- Maple within a forest gap

Note that if a cluster of tree species with attributes preferred by Tri-colored Bat is present, this may be a good area to target acoustic monitoring.

(ii) Little Brown Myotis and Northern Myotis

Bats that roost under tree bark or within crevices or cavities frequently select the tallest and largest diameter snags, which often extend above the forest canopy. This is because larger snags better retain solar heat, which benefits the pups. Tall trees within a forest gap or along an edge may also have a less obstructed flight approach for bats.

Using the information collected on the field data sheet completed in Phase II, the best suitable maternity roost trees for Little Brown Myotis/Northern Myotis should be selected using the following criteria (in order of importance):

- Tallest snag
- Snag exhibits cavities/crevices often originating as cracks, scars, knot holes or woodpecker cavities
- Snag has the largest dbh (>25 cm)
- Snag is within the highest density of snags (e.g., cluster of snags)
- Snag has a large amount of loose, peeling bark (naturally occurring or due to decay)
- Cavity or crevice is high on the tree (>10 m) or is “chimney like” with a low entrance
- Tree is a species known to be rot resistant (e.g., black cherry, black locust)
- Tree species provides good cavity habitat (e.g., white pine, maple, aspen, ash, oak)
- Snag is located within an area where the canopy is more open
- Snag exhibits early stages of decay (Decay Class 1-3)

Note: The sole purpose of the above-listed criteria is to determine the best placement of acoustic monitors in order to maximize the probability of detecting Little Brown Myotis and Northern Myotis. The listed criteria are NOT intended for any type of snag “ranking”. Snags that do not include any of the above characteristics may still be used as a maternity roost site. For example, the absence of snags >25 cm dbh by no means indicates that there is no potential maternity roost habitat present on a site.

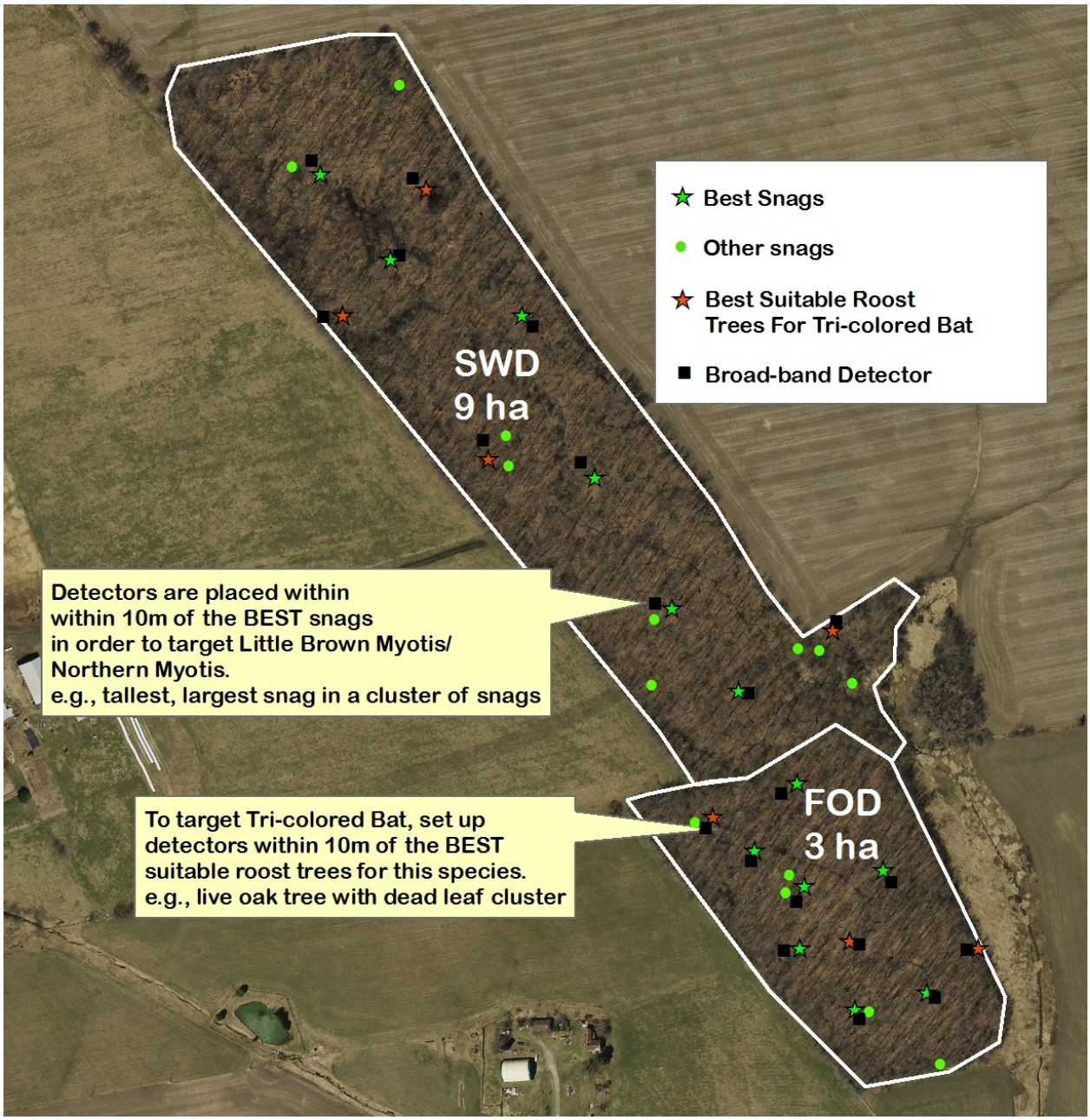


Figure 2: Hypothetical example illustrating the location and density of acoustic detectors i.e., 4/ha to a maximum of 10 per ELC ecosite.

Timing and Weather Conditions:

Acoustic surveys should take place on **evenings between June 1st and June 30th, commencing after dusk and continuing for 5 hours**.

Surveys should occur on warm/mild nights (i.e., ambient temperature >10°C) with low wind and no precipitation. At least 10 visits on nights that align with the above conditions where no SAR bat activity is detected are required to confirm absence.

Note that project proponents may cease survey work at any point once documentation of all three SAR bats species presence occurs.

Recommended Equipment Guidelines for Best Results:

- Broadband detectors (full spectrum) should be used. These may be automated systems in conjunction with computer software analysis packages or manual devices with condenser microphones.
- Acoustic monitoring systems should allow the observer to determine the signal to noise ratio of the recorded signal (e.g., from oscillograms or time-amplitude displays). These provide information about signal strength and increase quality and accuracy of the data being analysed.
- Microphones should be positioned to maximize bat detection i.e., situated away from nearby obstacles to allow for maximum range of detection and angled slightly away from prevailing wind to minimize wind noise.
- The same brand and/or model acoustic recording system should be used throughout the survey (if multiple devices are required), as the type of system may influence detection range/efficiency. If different systems are used, this variation should be quantified.
- Information on the equipment used should be recorded, including information on all adjustable settings (e.g., gain level), the position of the microphones, and dates and times for each station where recording was conducted.

Analysis:

Analytical software should be used to interpret bat calls and process results. Data should be analysed to the species level (as opposed to the genus level) in order to confirm presence/absence of SAR bats. Note that MNRF may request a copy of the raw acoustic data file when reviewing the results of the work completed in Phase III.

Additional Notes:

Project proponents should be aware that information about the number of bat passes detected in an area does not allow for an estimate of the number of bats present because there is not a 1:1 relationship between the number of passes and the number of bats responsible for those passes. It is not possible to distinguish between several bat passes made by a single bat flying repeatedly through the study area vs. several bats each making a single pass. Therefore, bat passes cannot provide a direct estimate of population densities.

Next Steps:

If Little Brown Myotis and/or Northern Myotis are detected, project proponents should proceed to Phase IV (Snag Density Survey). If only Tri-colored Bat is detected, snag density is not relevant and the proponent can proceed directly to Phase V (Complete an Information Gathering Form).

Phase IV: Snag Density Survey

Snag density information may be useful when the MNRF is considering the potential impact of a proposed activity on Little Brown Myotis and/or Northern Myotis. Snag density for each suitable ELC ecosite should be noted on the field data sheet provided in Appendix B. Surveys should take place during the leaf-off period so that the view of tree cavities, cracks and loose bark etc., is not obscured by foliage.

Snag density is a qualitative assessment of a treed ecosite, not a method of determining presence/absence of maternity roost habitat. There is no minimum threshold in terms of the number of snags/ha for an ELC ecosite to be considered suitable maternity roost habitat. However, an ELC with 10 or more snags/ha may be considered to be high quality potential maternity roost habitat. This information may be relevant when considering overall benefit in cases where a s.17(2)c permit under the ESA is required.

For smaller ecosites (e.g., <10 ha), snag density (# of snags/ha) can be calculated by dividing the number of snags mapped in Phase II by the total area of the ecosite.

Example:

ELC ecosite	Size (ha)	# of snags	Snag Density
WOD-M4	3.1	14	4.5 snags/ha
FOD-M2	0.8	9	11.25 snags/ha

For larger ecosites (e.g., >10 ha), sample plots can be used to estimate snag density within the suitable ELC ecosite, as follows:

- Select random plots across the represented ELC ecosite
- Survey fixed area 12.6m radius plots (equates to 0.05 ha)
- Survey a minimum of 10 plots for sites up to 10 ha, and add another plot for each additional ha up to a maximum of 35 plots
- Measure the number of suitable snags in each plot
- Use the formula πr^2 to calculate the number of snags/ha (where r=12.6m)
- Map the location of each snag density plot and record the UTM location using a GPS
- Calculate snag density for the ELC ecosite (snags/ha)

Example: **ELC Ecosite FOD-M2 (12 ha)**

# of sample plots	Total # of snags in sample plots	# of sample plots x r	Area of plots (πr^2)	Snag Density
12	48	12 x 12.6m = 151.2m	$3.14(151.2m)^{2} =$ $71784.9m^2$ = 7.18 ha	48 snags in 7.18 ha = 6.7 snags/ha

Phase V: Complete an Information Gathering Form

If SAR bats are detected during Phase III, the proponent should complete an Information Gathering Form (IGF) and submit it to the MNRF, Guelph District Office (esa.guelph@ontario.ca) for review. The IGF is available by searching the form repository on the government of Ontario website: http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf.

The MNRF will determine whether an activity is likely to kill, harm or harass a listed species and/or damage or destroy its habitat. The MNRF requires all of the necessary details and results from this survey protocol to be included on the IGF in order to make this determination.

For more information on overall benefit permits, including submission guidelines, process and timelines, please visit: https://www.ontario.ca/page/species-risk-overall-benefit-permits.

Appendix A – Suitable Maternity Roost Trees for Tri-colored Bat

Include all oak trees ≥10cm dbh (if present). If oaks are absent, include maples ≥10cm dbh IF dead/dying leaf clusters are present; and maples >25cm dbh if no dead/dying leaf clusters are present.

Project Name: Survey Date(s):

Site Name: Observer(s):

ELC Ecosite:

Tree#	Tree Species ID	Tree Status (live/dead)	Dbh (cm)	Tree Structural & Locational Attributes (check all that apply)	Easting	Northing	Notes
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all <u>live and dead</u> standing trees ≥10cm dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: Survey Date(s):

Site Name: Observers(s):

ELC Ecosite: Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class[2]	Snag attributes (check all that apply)	Easting	Northing	Notes
				☐ cavity[3] ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?[4]			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			

[2] **<u>Height Class</u>**: 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

[3] The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

[4] **<u>Decay Class</u>**: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Canadian Nightjar Survey: Protocol 2024

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).

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TABLE OF CONTENTS

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. Under the federal *Species at Risk Act*, Common Nighthawks are listed as Special Concern and Eastern Whip-poor-wills as Threatened. 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 Special Concern due to population declines.

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


Alan Burger

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, ideally survey in the two-week period centered on the full moon (June 15 to June 28, 2024).

Excessive wind and rain will diminish the quality of surveys. **Do not complete surveys when wind speeds are greater than Beaufort level 3, or rain is stronger than a light drizzle.** 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 (with this tool, add one hour to listed times when Daylight Saving Time is in effect (when applicable)):

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 direction (e.g. with a compass) and its 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 3rd and 4th 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:

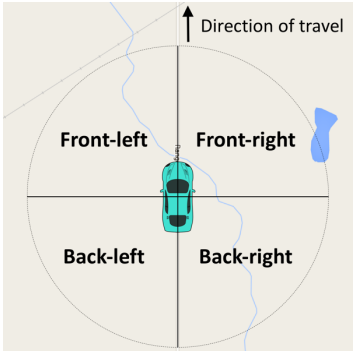
- Common Poorwills
- Eastern Whip-poor-wills
- Common Nighthawks performing repeated wing-booming in the same location (3 or more wing-booms).

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 wind direction and 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://naturecounts.ca/nc/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 you 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 you 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 green "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 accidently 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 nightjars, 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 "My data" 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
- 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

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 2024, ideally survey between June 15 and June 28, 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 (which is the start of 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 stop, record the time your survey began, wind strength and direction, 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., ≥ 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:

- Survey protocol & Data sheets
- Route map
- Compass
- 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!

Observer Name:	**Co-Observer Name:**	
Address:	**Email:**	**Phone:**
Route Name:	**Date:**	

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	0=None or slight (e.g. distant traffic)
1	Light air: smoke drifts, leaves and wind vanes are stopped	1=10% cover	1=Moderate (e.g. plane, moderate traffic)
2	Light breeze: wind felt on exposed skin, leaves rustle, wind vanes begin to move	2=20% cover	2=High (e.g. fairly constant traffic)
3	Gentle breeze: leaves and small twigs constantly moving, light flags extended	3=30% cover, etc.	3=Excessive (e.g. construction, frog chorus)
4	Do not survey	N.B. 11=Fog	

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		
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								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		
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								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		
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								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			

Kwilmu'kw Maw-klusuaqn Negotiation Office
Mi'kmaq Rights Initiative
Our Rights. Our Future.

75 Treaty Trail
Truro, NS B6L 1W3

Tel (902) 843 3880 **Fax** (902) 843 3882
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www.mikmaqrights.com

July 16, 2025

Jeremy Higgins
Environmental Assessment Officer
Nova Scotia Environment and Climate Change
Barrington Place
1903 Barrington Street, Suite 2085
PO Box 442, Halifax, NS B3J 2P8

RE: McIntyres Mountain Quarry Expansion Project, Inverness County

Mx. Higgins

I write in response to letters received at our office from Dexter Construction Company dated September 6th, 2024 and June 5th, 2025. While it is encouraging the proponent has contacted our office and provided required information, please indicate when we should expect consultation to be initiated under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (ToR) as ratified on August 31, 2010, on the above noted project.

EA Review

Our team at Kwilmu'kw Maw-klusuaqn (KMK) has reviewed the Environmental Assessment Registration document and has found that concerns have not fully been addressed.

6.2.1 Mi'kmaq & 6.2.5 Archaeological/Cultural/Historical

Archaeological Resources

The KMK Archaeological Research Department (ARD) has reviewed an Archaeological Resource Impact Assessment (ARIA), A2024NS078, for the McIntyre Mountain Quarry Expansion Project in Kingsville, Inverness County, Nova Scotia. The ARIA, conducted by CRM Group Ltd. involved Screening and Reconnaissance and included background research, survey, and an exploratory shovel test, "to search for, document, interpret, and make management recommendations for cultural heritage resources and areas of archaeological resource potential for the Project" (CRM Group, A2024NS078, 1). The results of the ARIA stated, "the Study Area is ascribed low archaeological resource potential" (CRM Group, A2024NS078, 35).

No recommendations for further archaeological assessment were offered in the ARIA, but did advise, "[i]f any further changes are made to the layout of the Study Area beyond the areas assessed in this report, those proposed areas should be subjected to an Archaeological Resource Impact Assessment" (CRM Group, A2024NS078, 35). The results of the field reconnaissance describe, "much of the study area had been impacted by the existing quarry and access road" (CRM Group, A2024NS078, 25).

We consistently recommend in areas that will undergo impact, that subsurface testing be undertaken to confirm the presence, or lack of presence, of archaeological heritage. This is

especially important in landscapes which will undergo significant permanent mechanical alteration associated with quarry activities. Although one exploratory shovel test was conducted, excavated to a depth of 29cms below surface, the goal of the shovel test was, "to investigate sediment thickness, composition, and stratigraphy" (CRM Group, A2024NS078, 29).

The Assembly of Nova Scotia Mi'kmaw Chiefs expects a high level of archaeological diligence with evidence-based decisions grounded in an understanding of the subsurface environmental data. The Maw-lukutijik Saqmaq (Assembly of Nova Scotia Mi'kmaw Chiefs) expects subsurface data, adequate to eliminate concern for presence, protection, and management of Mi'kmaw archaeological and cultural heritage as part of assessment of potential in advance of any development. Without subsurface testing, the evidence of a lack of concern in impact areas does not exist. The Maw-lukutijik Saqmaq (Assembly of Nova Scotia Mi'kmaw Chiefs) expects subsurface data, adequate to eliminate concern for presence, protection, and management of Mi'kmaw archaeological and cultural heritage as part of assessment of potential in advance of any development.

We do not support clearances without subsurface testing. Mi'kmaq archaeological sites have developed since time immemorial and may not be identified from the surface character of the current landscape, one cannot conclusively eliminate potential for Mi'kmaw archaeological heritage, without subsurface testing. We consistently recommend in areas that will undergo impact, that subsurface testing be undertaken to confirm the presence, or lack of presence, of archaeological heritage. This is especially important in landscapes which will undergo significant permanent mechanical alteration associated with quarry activities. Disturbance is defined, for archaeological purposes, as the dislocation of soils and/or sediments, such as that by heavily treaded or tracked vehicles, as well as purposeful excavation (including grubbing) by heavy equipment.

6.2.4 Recreational, Commercial, and Mi'kmaq Fishing

River Inhabitants is the nearest major watercourse at a 2 km distance from the site; it is important to understand how the proponent plans to monitor the health of the watercourse to ensure particulate does not adversely affect fish and fish habitat. The Mi'kmaq expect to be involved in the development of the surface water, groundwater and blasting plans through review and comment. Is this river system monitored under the current Industrial Approval? If so, have there been any exceedances reported that may be attributed to particulate from the quarry?

6.3.1 Air Quality, Noise and Light

Air Quality

Contamination of food sources for fauna and Mi'kmaq harvesters is a major concern with particulate. How can the proponent and the province guarantee these food sources will not become contaminated? What are the proposed monitoring locations for particulate? Have there been exceedances of the current limits outlined in the Industrial Approval? There are concerns with cumulative effects of particulate over the lifespan of the project.

Will monitoring for NO2 and SO2 be conducted onsite? It is recommended that monitoring locations be established.

Noise

Have any studies been conducted to assess how the noise affects the wildlife using the area, including aquatic species? If so, please provide for our review. If not, it is recommended that a study be conducted.

Light

Lighting in remote areas significantly and negatively alters the performance of the night ecology in that area. It is recommended that amber or red LED lighting is utilized where possible, as it minimizes disruption to nocturnal animals and reduces the attraction of insects.

6.3.2 Groundwater

The Mi'kmaq expect to be involved in the development of the groundwater management plan through review and comment.

6.3.3 Hydrology/Water Quality

The Mi'kmaq expect to be involved in the development of the surface water management plan through review and comment.

6.3.5 Wetlands

Wetlands support thousands of aquatic, terrestrial, and flora species. In addition to playing an important role for Mi'kmaw who inhabited and steward the forest since time immemorial, they are essential for maintaining a healthy biodiversity within and over arching ecosystem. It is expected that a Wetland Monitoring and Compensation Plan will be developed with input from the Mi'kmaq through review and comment.

Has there been any investigation of the hydrological connection between the proposed pit and surrounding wetlands?

6.3.7 Flora and Fauna

According to the Nature Conservancy of Canada and the Nova Scotia Nature Trust, less than 1% of Wabanaki (Acadian) old-growth forest remains in Nova Scotia. With generational logging occurring throughout the Province, there is little opportunity for terrestrial habitats which have conservation significance to develop. It is recommended that the Reclamation Plan be developed with input from the Mi'kmaq to aid in the return of old-growth forest.

It is expected that the Wildlife and Vegetation Management Plan will be developed with input from the Mi'kmaq through review and comment.

There is concern with nesting of bank swallows in potential stockpiles. How does the proponent intend to mitigate nesting in stockpiles?

11.0 Project Closure/Reclamation

It is expected that the Reclamation Plan will be developed with input from the Mi'kmaq to incorporate Traditional Knowledge for future use of the site.

Finally, the Mi'kmaw Nation in Nova Scotia has a general interest in all lands, waters and resources in Nova Scotia as the Mi'kmaq have never surrendered, ceded, or sold the Aboriginal Title to any of its lands in Nova Scotia. The Mi'kmaq have a Title claim to all of Nova Scotia and as co-owners of the land and its resources it is expected that any potential impacts to Rights and Title shall be addressed.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation
Kwilmu'kw Maw-Klusuaqn

CC:
Gillian Fielding, Nova Scotia Office of L'nu Affairs
Dexter Construction Company

Maritime Aboriginal Peoples Council

The Maritime Regional Aboriginal Leaders
Intergovernmental Council of Aboriginal Peoples
Continuing to Reside on Traditional Ancestral Homelands

Forums

- ❑ Leaders Congress
- ❑ MAPC Commissions/Projects
- ❑ MAARS Secretariate
- ❑ MAPC Administration

MAPC Regional
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New Brunswick Aboriginal
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Fax: 506-451-6130
Email: chiefdiotte@nbapc.org

Newfoundland Indigenous
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July 25th, 2025

Dexter Construction
Attn: Rhett Thompson
Box 48100
Bedford, NS, B4A 3Z2

RE: McIntyres Mountain Quarry Expansion Project

To Whom It May Concern,

On behalf of the Native Council of Nova Scotia (NCNS), the Maritime Aboriginal Aquatic Resources Secretariate (MAARS) we would like to thank you for taking the time to discuss the McIntyres Mountain Quarry Expansion project with us on October 2nd, 2024. We would like to summarize and expand upon the discussion to ensure our comments are captured for the Environmental Assessment Review.

MAARS has significant concerns around the lack of targeted surveys relating to several areas outlined in the Biophysical Assessment Report prepared by Envirosphere Consulting Limited. Having a qualified biologist attend the site for a walk through on a single day is not sufficient to consider the presence of the many species that could be using this area for a variety of life stages. Targeted surveys for all potentially impacted biophysical features must be completed to gather a complete understanding of site use, including but not limited to, winter pellet surveys, herpetofauna surveys, winter bird surveys, and terrestrial and migratory bat surveys. We note that while migratory bats are not currently listed under the Species at Risk Act (SARA), they have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered and are likely to be listed within the lifetime of the project.

In accordance with Nova Scotia Department of Environment's *Guide to Addressing Wildlife Species and Habitat in an EA Registration Document*[1] surveys must be conducted during peak

[1] Nova Scotia Department of Environment, "Guide to Addressing Wildlife Species and Habitat in an EA Registration Document."

periods, for optimal detection of priority species. Surveys to target wildlife on the site were completed on a single day in June 2024 during the biophysical assessment, during which no targeted surveys were completed for migratory and terrestrial bats, and herpetofauna. Section 4.2.7 of the Biophysical Assessment indicates that "The time of year during the wildlife assessment made preferred food in the area scarce, however, compatible foraging was confirmed during the reconnaissance survey in July.". This effectively acknowledges that the conditions during the assessment were not ideal, which may have influenced the findings and compromised the reliability of the observations.

The bird surveys completed did not include any winter surveys or a review of the Christmas Bird Count and were only completed for over three days within one field season. The use of the ACCDC database is not a sufficient one-to-one substitute for a ground survey. As presented, the Biophysical Assessment does not meet the requirements, nor the best practices. As such, the Biophysical Assessment is deficient and does not provide an accurate and fulsome assessment of the project development area, or account for seasonal changes in the environment.

Section 4.3.9 of the Biophysical Assessment 'Recreational, Commercial, and Mi'kmaq Fishing', lacks any consideration for Indigenous food, social, and ceremonial fishing. Additionally, the phrasing that "Mi'kmaq…likely use the recreational fishing resource" is problematic and fails to reflect the significance of Mi'kmaq rights and practices. The Aboriginal and treaty right to fish for food takes priority over interests of recreational and commercial fisheries, as affirmed by the Nova Scotia Supreme Cout, Appeal Division, in *R v. Denny, Paul, and Sylliboy* (1990). Mi'kmaq people do not participate in the carelessness of catch and release recreational fisheries; they fish for sustenance. Comparing the value and importance of a food, social, and ceremonial fishery to a recreational fishery is disrespectful and inappropriate.

References in Section 4.3.2.3 of the Biophysical Assessment of the establishment a Presbyterian Church is entirely unnecessary and has no relevance to the purpose of this assessment. Including it demonstrates a serious lack of cultural awareness and sensitivity, especially given the well-documented harms that religious institutions have inflicted on Indigenous communities. Its presence not only adds no value but also perpetuates harmful colonial narratives. Frankly, its inclusion is offensive and raises serious concerns about the biases underlying this assessment.

The discussion in Section 5.3.1, which states that "the Mi'kmaq…**claim** to have never surrendered, ceded, or sold the Aboriginal title" of lands in Nova Scotia, is factually incorrect and perpetuates a colonial narrative. This is not a claim—it is a matter of historical and legal record. The "Treaties of Peace and Friendship" of 1725 and 1726 signed by the Wabanaki and the British Crown, did not deal with the surrender of lands or resources, but recognized Wolastoqiyik, Mi'kmaq, and Passamaquoddy title and established the rules for what was to be an ongoing relationship between nations. Framing this truth as a "claim" is misleading, dismissive, and reflects a continued failure to respect Indigenous sovereignty and treaty rights.

In order to gather a fuller understanding of the potential impacts of this project, especially as it relates to the biophysical assessment, MAARS requests that a copy of the current Wildlife Management Plan be forwarded for review when available.

For contextual purposes

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[2]. Since 2004, in multiple decisions passed by the Supreme Court of Canada: *Haida Nation*[3]*, Taku River Tlingit First Nation*[4]*, and Mikisew Cree First Nation*[5], has established that,

> "Where accommodation is required in decision making 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 have elected to be represented by the NCNS since 1974.

We assert that 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 is to consult with all Indians, not only the Indian Act Bands.

For over forty years, the three Native Council partners of the Maritime Aboriginal People's Council (MAPC) have continued to be the Aboriginal Peoples Representative Organizations representing and advocating for the Rights and issues of the Mi'kmaq/Wolastoqiyik/Peskotomuhkati/Section 91 (24) Indians, both Status and non-Status, continuing to reside on their unceded Traditional Ancestral Homelands. In the early 1970s, the communities recognized the need for representation and advocacy for the Rights and Interests of the off-Reserve community of Aboriginal Peoples, "the forgotten Indian". Women and men self-organized themselves to be the "voice to the councils of government" for tens of thousands of community members left unrepresented by Indian Act-created Band Councils and Chiefs. Based on the Aboriginal Identity question, Statistics Canada (2021 Census - 25% sample) enumerate 25,415 off-Reserve Aboriginal Persons in New

[2] Daniels v. Canada (Indian Affairs and Northern Development), 2016 SCC 12, [2016] 1 S.C.R. 99
[3] Haida Nation v. British Columbia (Minister of Forests), (2004), 2 S.C.R. 511
[4] Taku River Tlingit First Nation v. British Columbia (Project Assessment Director), (2004), 3 S.C.R. 550
[5] Mikisew Cree First Nations v. Canada (Minister of Canadian Heritage), (2005), 3 S.C.R. 388

Brunswick, 42,580 in Nova Scotia, and 2,865 in Prince Edward Island.

Each Native Council in their respective province asserts Treaty Rights, Aboriginal Rights, with Interest in Other Rights confirmed in court decisions, recognized as existing Aboriginal and Treaty Rights of the Aboriginal Peoples of Canada in Part II of the Constitution Act of Canada, 1982. Each Native Council has established and maintains Natural Harvesting Regimes, and each have a co-management arrangement with DFO for Food, Social, and Ceremonial use of aquatic species, through the: Najiwsgetaq Nomehs (NBAPC), the Netukulimkewe'l Commission (NCNS), and the Kelewatl Commission (NCPEI).

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 to live 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, impact, or affect the sustainable natural life ecosystems or natural eco-scapes formed as hills, mountains, wetlands, meadows, woodlands, shores, beaches, coasts, brooks, streams, rivers, lakes, bays, inland waters, and the near-shore, mid-shore and off-shore waters, to list a few, with their multitude of in-situ biodiversity. Our NCNS Community has continued to access and use the natural life within those ecosystems and eco-scapes where 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, 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 Mi'kma'ki now known as Nova Scotia.

We appreciate the opportunity to engage on the McIntyres Mountain Quarry Expansion directly with the proponent and look forward to upcoming discussions around this and other projects being undertaken by MEL and Dexter Construction. We look forward to further dialogue as we continue to advocate for the rights of Off-Reserve Status and Section 91(24) Indians/Mi’kmaq/Aboriginal Peoples of Nova Scotia.

Advancing Aboriginal Fisheries and Oceans Entities
Best Practices, Management, and Decision-making

Habitat Impact Advisor, MAARS Executive Director, MAARS & MAPC Projects

CC: , Chief & President, NCNS
, Commissioner, Netukulimkewe’l Commission, NCNS