

Mr. Rejean Carrier
CARBONIQ INC.

14 October 2022

Job File: 15899

**RE: RESULTS OF BIRD AND ACTIVE NEST SURVEYS
656 VICTORIA STREET IN DALHOUSIE, NEW BRUNSWICK**

Dear Mr. Carrier:

This letter report describes the birds and active nests observed during the bird survey conducted on the 15th and 16th of September 2022, at 656 Victoria Street in Dalhousie, New Brunswick. Included is a description of the scope, methods used for bird observation and nest detection and results of the in-field survey. Additionally, Appendix I provides a list of bird species observed. Appendix II contains photographs taken during field efforts, and Appendix III contains a map of the general survey site.

SCOPE

The scope of work was to complete a bird observation and active nest surveys for an 84.0 Ha parcel at 656 Victoria Street (PIDs) 50103886, 50340371, 50339423, 50158302 and 50098052. This survey was conducted to provide due diligence regarding Federal environmental regulatory requirements as described in the *Migratory Bird Convention Act* and the *Species at Risk Act*.

REGULATORY OVERVIEW

The purpose of the Federal Migratory Bird Convention Act (MBCA) is to protect and conserve migratory bird populations, individuals and their nests (MBCA Section 4). Environment Canada administers the MBCA and the *Migratory Birds Regulations, 1994*, through the Canadian Wildlife Service (CWS). In 2005, the MBCA was amended to expand the purpose of the *Act* to include conserving migratory birds; specifically, that birds are to be protected and conserved as populations and as individual birds, in addition to incorporating habitat and ecosystem concepts. The MBCA is the enabling statute for the *Migratory Birds Regulations, 1994*. Migratory birds covered under the MBCA in Canada, including songbirds, shorebirds, cranes and waterfowl. Section 6 of the *Migratory Birds Regulations, 1994*, states that without the authorization of a permit, the disturbance, destruction, taking of a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird; possessing a migratory bird, carcass, skin, nest or egg of a migratory bird are prohibited.

The Federal Species at Risk Act, 2002 (SARA) provides additional protection to species listed under its authority and includes many migratory bird species. The purpose of SARA is to prevent the extirpation or extinction of wildlife species; to provide recovery strategies for species that are extirpated, endangered and threatened due to human activity; and to manage species of special concern so they do not become threatened or endangered (SARA Section 6; 2002).

SURVEY METHODS

The specific objectives of bird observation and active bird nest surveys are to identify bird species present and active/migratory bird nests within or near potential development areas so that mitigations can be implemented to reduce the risk of incidental take. Before the survey, the site was scouted to identify its location, access points and boundaries of the area to be developed. Coordinates for these locations were recorded by GPS and included on a map of the site. Additionally, habitat types and dominant vegetation were recorded. This provided the observer(s) with information to familiarize themselves with the characteristics of the site.

The bird observation survey follows similar procedures to point counts conducted by Bird Studies Canada. Bird observation surveys were conducted during the migration period April to July and commenced at sunrise and proceeded until noon. For each survey, all birds were identified by sight and sound by an observer located at fixed positions throughout the site. At each position, the observer looked and listed for birds and bird song in a series of active and passive observation periods (10 to 15 min.). All bird species observed or heard were recorded in an unlimited radius as far as could be heard or seen.

The entire parcel of the development footprint and buffers through suitable habitat were surveyed for active bird nests using a line transect method where the observer slowly walked parallel transect lines between marked boundary lines 5 to 10 m apart; distance, between transects was dependent on vegetation cover. Additionally, calls of Species At Risk previously identified in the area by the Atlantic Canada Conservation Data Centre were played on site to assist in identifying any species at risk present.

Active nest surveys were also conducted from sunrise until noon and would be discontinued during high winds or any precipitation that reduces the likelihood of identifying nests and nesting behaviour. In forested and disturbed habitats such as the 656 Victoria Street site, nests can be extremely difficult to find, so detection of birds exhibiting breeding behaviour is the main objective. This included examining the ground, shrubs and trees directly for nests, scanning for unpredictable movement of vegetation that was not related to the wind and recording all bird sign and any sign of breeding evidence (i.e., singing males, female and male together, copulation, birds carrying nesting material or food, presence of a nest or nestlings, presence of fledglings). While searching for nests, the observer remained aware of a bird's response to their presence. The observer did not get too close to suspected nests, and only verified the presence of a nest when the female was absent, to prevent abandonment. If a female was behaving as if there was a nest in the area but did not appear to be going to it, the observer left the area so that the female can return to her nest.

For nests that were identified and located in the study area and surrounding buffer, the following information was recorded. Species, UTM coordinates, date and time of day and photos of the nest site. Additionally, a site description (i.e., tree or shrub species, the height of the nest, type of nest, direction cavity faces) was recorded. The stage of nesting (i.e., construction stage; eggs, including number; hatchlings; almost fledged) and additional information about adult bird presence/absence or behaviour was also recorded as part of the observation record.

Nests that were identified on site followed Environment Canada's (2019) recommendations for "establishing buffer zones and setback distances" buffer zone to mitigate disturbance of nesting birds through to fledging. Under these guidelines "Any nest found during the nesting period should be protected with a buffer zone until the young have permanently left the vicinity of the nest."

A buffer zone is determined by a setback distance, which varies greatly according to:

- *degree of tolerance of the species*
- *previous exposure of birds to disturbance*
- *level of disturbance*
- *landscape context*

Appropriate setback distances are determined on a case-by-case basis based on:

- *distance at which nesting birds react to human disturbance*
- *expert opinion, which is often used to supplement scientific data*

There are two benchmark measurements to determine an effective setback distance.

1) Alert distance is the distance at which the bird adopts an alert posture or emits alarm calls. Birds usually perceive humans as potential predators. They may leave their nests in response to being approached, or abort nesting because of stressful situations.

2) Flush distance is the distance at which a bird:

- *takes flight or moves away from a threat*
- *performs distraction displays (such as feigning a broken wing or sitting down on a non-nesting site to draw attention away from the nest)*
- *actively defends the nest*

Setback distances should be adjusted to the activities causing the greater amounts of disturbance. Significant sources of disturbance include:

- *removal of vegetation and/or soil operations*
- *drilling, loud noise, vibration (for example, seismic blasting from operations)*
- *regular approach by humans or vehicles*
- *noise exceeding 10 decibels (dB) above ambient noise levels in the natural environment*
- *noise greater than about 50 dB*

A higher minimum setback distance is required in some circumstances:

- *rural or natural habitats compared to urban backyards*
- *most waterfowl nests compared to nests of songbirds and other small birds*
- *presence of sensitive species or species at risk*

Recommendations are presented below and are based on Federal Legislation, Guidelines, Consultation with Environment Canada and expert opinion so as to avoid incidental take of migratory birds/nests and remain compliant with the Migratory Bird Convention Act (1994).

OBSERVATION AND NEST SURVEY RESULTS

Results of the bird observation survey identified 27 species of birds over the observation period. Of these species, 24 were observed within the boundaries of the site and buffer and 3 species (American crow, common raven and bald eagle) were observed flying over the site. Bald eagle (*Haliaeetus leucocephalus*) [Endangered] was the only Provincially listed bird species at risk observed during the survey. No Federally listed bird species at risk (Schedule 1) were observed during the survey and no critical habitat were recorded during the site visit. A complete list of birds observed can be found in Appendix I.

Results of the active nest survey did not identify any active nests within the boundaries of the site during the survey. One abandoned sparrow nest was observed near coordinates (48.062749°N -66.404890°W) in the quarry and appears to have been abandoned for some time (refer to Appendix II for a photograph of the nest, and Appendix III for the nest's location). The survey did not identify any direct nesting behaviour for the species observed other than occasional singing males that indicate the site has variety of suitable habitats for nesting.

CLOSING

This survey was conducted, and letter report prepared by Colin Forsythe, *B.Sc., M.Sc.* and reviewed by Tim A. Ryan, *M.Eng., P.Eng.* We trust this information is satisfactory for your present needs. Please feel free to contact me via telephone at 506.674.9403 or by email at tim.ryan@fundyeng.com if further clarification or explanation is required.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Tim A Ryan". The signature is written in a cursive style with a long, sweeping underline for the letter 'y'.

Tim A. Ryan, *M.Eng., P.Eng.*

Encl.: Appendices

Appendix I Bird Species Observed at 656 Victoria Street Site September 2022

Table 1. Bird Species Observed at 656 Victoria Street Site September 2022

	Species Name	Common Name	Conservation Status
1	<i>Bonasa umbellus</i>	Ruffed Grouse	Not At Risk
2	<i>Zenaida macroura</i>	Mourning Dove	Not At Risk
3	<i>Junco hyemalis</i>	Dark Eyed Junco	Not At Risk
4	<i>Turdus migratorius</i>	American Robin	Not At Risk
5	<i>Corthylio calendula</i>	Ruby-crowned Kinglet	Not At Risk
6	<i>Poecile atricapillus</i>	Black Capped Chickadee	Not At Risk
7	<i>Dryocopus pileatus</i>	Pileated Woodpecker	Not At Risk
8	<i>Melospiza melodia</i>	Song Sparrow	Not At Risk
9	<i>Colaptes auratus</i>	Northern Flicker	Not At Risk
10	<i>Melospiza melodia</i>	Song Sparrow	Not At Risk
11	<i>Picoides pubescens</i>	Downy Woodpecker	Not At Risk
12	<i>Setophaga tigrina</i>	Cape May Warbler	Not At Risk
13	<i>Setophaga petechia</i>	Yellow Warbler	Not At Risk
14	<i>Setophaga virens</i>	Black Throated Green Warbler	Not At Risk
15	<i>Setophaga ruticilla</i>	American Redstart	Not At Risk
16	<i>Spinus tristis</i>	American Gold Finch	Not At Risk
17	<i>Cyanocitta cristata</i>	Blue Jay	Not At Risk
18	<i>Corvus brachyrhynchos</i>	American Crow	Not At Risk
19	<i>Mniotilta varia</i>	20 Black and White Warbler	Not At Risk
20	<i>Setophaga coronata</i>	Yellow-rumped Warbler	Not At Risk
21	<i>Sitta canadensis</i>	Red Breasted Nuthatch	Not At Risk
22	<i>Sitta carolinensis</i>	White Breasted Nuthatch	Not At Risk
23	<i>Spizella passerina</i>	Chipping Sparrow	Not At Risk
24	<i>Regulus satrapa</i>	Golden-crowned Kinglet	Not At Risk
25	<i>Zonotrichia albicollis</i>	White-throated Sparrow	Not At Risk
26	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Endangered (NB)
27	<i>Corvus corax</i>	Common Raven	Not At Risk

Appendix II Photos from 656 Victoria Street Site – September 2022



Photo 1: Mature Acadian Forest habitat observed at the 656 Victoria Street site.



Photo 2: Regenerating forest habitat observed at the 656 Victoria Street site.



Photo 3: Wetland habitat and beaver lodge on Shipyard Brook observed at the 656 Victoria Street site.



Photo 4: Rock quarry observed at the 656 Victoria Street site.



Photo 5: Abandoned sparrow nest observed in sapling birch at the 656 Victoria Street site.

Appendix III Map Showing General Survey Area & Location of Abandoned Nest

