



FINAL REPORT

Scoped Environmental Impact Study (EIS)

Proposed CBC Warehouse Ottawa

Submitted to:

CBC Radio c/o Pye & Richards - Temprano & Young Architects Inc.

Attention: Gord Kreig, BES, B.Arch, Senior Associate
824 Meath St., Suite 200,
Ottawa, ON K1Z 6E8

Submitted by:

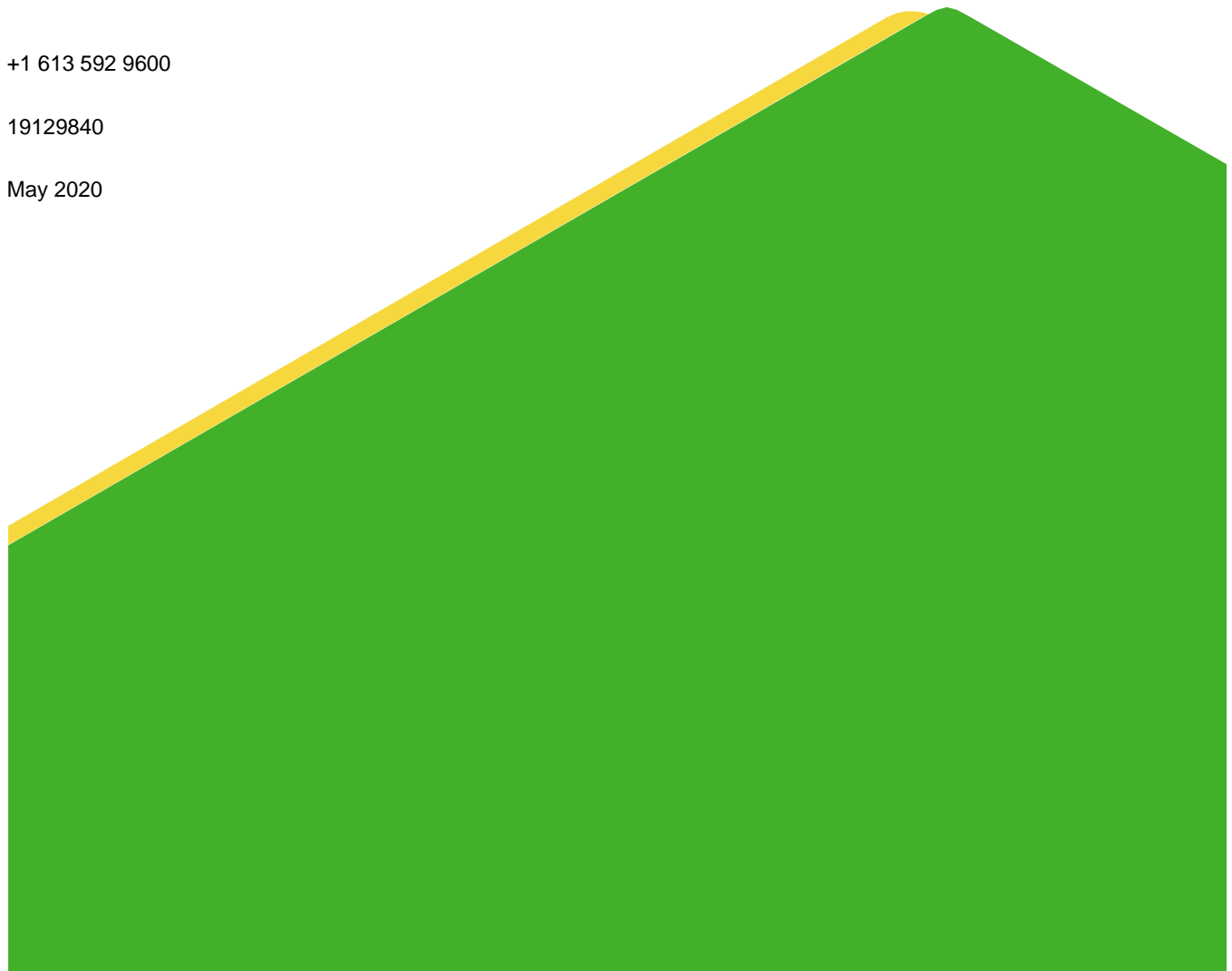
Golder Associates Ltd.

1931 Robertson Road, Ottawa, Ontario, K2H 5B7, Canada

+1 613 592 9600

19129840

May 2020



Distribution List

1 electronic copy for CBC Radio c/o Pye & Richards - Temprano & Young Architects Inc.

1 electronic copy for Golder Associates Ltd.

Table of Contents

1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION	1
3.0 ENVIRONMENTAL POLICY CONTEXT	1
3.1 Species at Risk Act (SARA)	1
3.2 Fisheries Act.....	1
3.3 Migratory Birds Convention Act, 1994	2
3.4 City of Ottawa.....	2
4.0 DESCRIPTION OF DEVELOPMENT PROPOSAL	2
5.0 METHODS.....	2
5.1 Desktop Assessment	2
5.1.1 Species at Risk Screening	3
5.1.2 Agency Consultation	3
5.2 Site Reconnaissance	3
6.0 RESULTS.....	3
6.1 Existing Conditions.....	4
6.2 Species at Risk Screening	4
7.0 IMPACT ASSESSMENT AND RECOMMENDATIONS	5
8.0 SUMMARY	6
9.0 LIMITATIONS AND USE OF REPORT	6
10.0 CLOSING	7
11.0 REFERENCES.....	8

FIGURES

Figure 1: Ecological Land Classification and Site Location

Figure 2: Potential Eastern Meadowlark and Bobolink Habitat

APPENDICES

APPENDIX A

Photographic Inventory

APPENDIX B

Species at Risk Screening

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) has been retained by Pye & Richards - Temprano & Young Architects Inc. (the "Client") to prepare a Scoped Environmental Impact Statement (EIS) for works associated with the Canadian Broadcasting Company (CBC) Radio Canada property at 2415 Richardson Sideroad, Ottawa, Ontario (the Site; Figure 1).

This report has been prepared in accordance with the City of Ottawa EIS guidelines (Ottawa 2015a). Golder understands that the Client consulted with the City of Ottawa regarding the proposed project, and the City has indicated that the focus of this Scoped EIS should be the potential presence of Species at Risk (SAR) and appropriate setbacks to a watercourse adjacent to the Site.

2.0 SITE DESCRIPTION

The Site is located on the north side of Richardson Sideroad, and consists of a small grassy area. Golder understands the Site is mowed at least twice during the growing season as part of regular maintenance and landscaping activities. Around the Site is a small, immature, discontinuous row of shrubs and trees along a small fence. The study area (within 120 m of the Site) to the east, north and west of the Site consists of agricultural fields that appear to be meadow. To the south, the Site is bounded by the existing CBC Radio Canada site including parking areas and buildings. There is a small watercourse north of the Site, within a meadow. Golder understands that the Site is federally owned. The Site and study area are located within the rural area of the City of Ottawa.

3.0 ENVIRONMENTAL POLICY CONTEXT

Documents reviewed to gain an understanding of the natural heritage features and regulations that are relevant to the Site include the following:

- *Species at Risk Act* (Canada 2002)
- *Fisheries Act* (Canada 1985)
- *Migratory Birds Convention Act, 1994* (Canada 1994)
- City of Ottawa Official Plan (Ottawa 2013)

An overview of the above-noted legislation and policy documents is discussed below.

3.1 Species at Risk Act (SARA)

At the federal level, species at risk (SAR) designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment and Climate Change, species are added to the federal List of Wildlife Species at Risk (Canada 2002). Species that are included on Schedule 1 as endangered or threatened are afforded protection of critical habitat on federal lands under the *Species at Risk Act* (SARA) (Canada 2002). On private or provincially-owned lands, only aquatic species and migratory birds listed as endangered, threatened or extirpated are protected under SARA, unless ordered by the Governor in Council, or unless the project is federally funded or federally governed.

3.2 Fisheries Act

The purpose of the *Fisheries Act* (Canada 1985) is to maintain healthy, sustainable and productive Canadian fisheries through the prevention of pollution, and the protection of fish and their habitat. All projects undertaking work in-water or near-water must comply with the provisions of the *Fisheries Act*.

All projects where work is being proposed that cannot avoid impacts to fish or fish habitat require a Fisheries and Oceans Canada (DFO) project review (DFO 2019a). If it is determined through the DFO review process that the project will result in death of fish or harmful alteration, disruption or destruction (HADD) of fish habitat, an authorization is required under the *Fisheries Act*. This includes projects that have the potential to obstruct fish passage or affect flows.

Proponents of projects requiring a *Fisheries Act* Authorization are required to submit a Habitat Offsetting Plan, which provides details of how the death of fish and/or HADD of fish habitat will be offset, as well as outlines associated costs and monitoring commitments. Proponents also have a duty to notify DFO of any unforeseen activities during the project that cause harm to fish or fish habitat, and outline the steps taken to address them.

3.3 Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act, 1994* (MBCA) (Canada 1994) prohibits the killing or capturing of migratory birds, as well as any damage, destruction, removal or disturbance of active nests. It also allows the Canadian government to pass and enforce regulations to protect various species of migratory birds, as well as their habitats. While Environment and Climate Change Canada (ECCC) can issue permits allowing the destruction of nests for scientific or agricultural purposes, or to prevent damage being caused by birds, it does not typically allow for permits in the case of industrial or construction activities.

3.4 City of Ottawa

Proponents are required, under the City Official Plan (OP) (Ottawa 2013), to prepare an EIS following the City's EIS guidelines (Ottawa 2015a). The EIS must document the occurrence of significant natural heritage features in, and adjacent to, the proposed development area. The policies in the OP address both natural features and natural functions. As noted, the focus of this Scoped EIS is SAR and the proximity of the Site to a watercourse. The Site is designated as General Urban Area in the OP.

4.0 DESCRIPTION OF DEVELOPMENT PROPOSAL

The proposed development plan includes changing the current grass cover on the Site to gravel. No structures, above or below grade, are planned on the Site.

5.0 METHODS

5.1 Desktop Assessment

Golder conducted a desktop review of published natural heritage data and information available for the Site and the study area. This information served to identify significant natural features as well as SAR known to be present or having the potential to be present. Information sources consulted include:

- The Committee on the Status of Endangered Wildlife in Canada (COSEWIC), including status reports and the online SAR public registry
- Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) Make-a-Map geographic explorer for SAR and natural areas information queries (MNRF 2020)
- City of Ottawa Official Plan (Ottawa 2013)
- Atlas of Breeding Birds of Ontario (Cadman et al. 2007)
- eBird online database (eBird 2020)
- Atlas of the Mammals of Ontario (Dobbyn 1994)

- Bat Conservation International (BCI 2020)
- Ontario Odonata Atlas (MacNaughton et. al 2020)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2020)
- DFO Aquatic Species at Risk Maps (DFO 2019b)
- Information contained in natural heritage related map layers from Ontario Base Map series, Natural Resource Values Information System (NRVIS) mapping and Land Information Ontario (LIO 2020)
- Existing aerial imagery and mapping

5.1.1 Species at Risk Screening

A SAR screening was completed for the Site, and focused on the review of records and range maps pertaining to species that are designated as threatened or endangered under Schedule 1 of the SARA.

The published SAR data assisted in determining the potential for habitats of SAR to be present. Data from the site investigations described below were used in combination with the desktop data to determine a final probability of SAR and/or SAR habitats on the Site. The potential for the species to occur was determined through a probability of occurrence. A ranking of low probability indicates no suitable habitat availability for that species and no specimens identified. Moderate probability indicates greater potential for the species to occur, as suitable habitat appeared to be present, but no occurrence of the species was recorded. High probability indicates a known species record and good quality habitat is present.

5.1.2 Agency Consultation

The MNRF and the Ministry of Environment, Conservation and Parks (MECP) were contacted via email to obtain high-level information related to natural heritage features on the Site or in the study area as available. Standard information received from the MNRF was incorporated into this report, as appropriate. No feedback was received from the MECP. A Terms of Reference (TOR) for this EIS was prepared and circulated to the City of Ottawa, with a response received on March 11, 2020.

5.2 Site Reconnaissance

In order to assess the natural features on the Site, a single site reconnaissance was conducted by a Golder ecologist on March 4, 2020. During the site reconnaissance, the Site and study area was assessed using Ecological Land Classification (ELC) standard protocols (Lee et al. 1998) to map the plant communities. Locations of any plant SAR encountered were mapped using a hand-held GPS.

In addition to the ELC, habitat structure and features specific to the habitat requirements of the SAR identified in the desktop assessment on the Site were documented. Area searches for wildlife were conducted following recommended procedures (McDiarmid 2012; Bookhout 1994; Pyle 1984). The species observed (including direct observations, calls, tracks and other signs) were recorded.

6.0 RESULTS

A photographic inventory of the Site is provided in Appendix A. Results of the desktop assessment and site reconnaissance are described below.

6.1 Existing Conditions

The Site consists of a single, small meadow consisting of forbs and grasses. The study area consists primarily of meadows (Figure 1; ELC code: CUM1-1), with the existing CBC Radio Canada facility to the south. A portion of deciduous forest and forested swamp (FOD/SWD) extends into the study area from the west. Although the Site was covered in snow at the time of the site reconnaissance, dormant/dead plants observed included grasses, wild carrot (*Daucus carota*), asters (*Symphyotrichum* spp.), common milkweed (*Asclepius syriaca*), and scattered common buckthorn (*Rhamnus cathartica*). There is a small patch of sapling balsam poplar (*Populus balsamifera*) in the north east corner of the Site.

Although it was difficult to safely approach the watercourse north of the Site, in the study area, as the banks were covered in deep snow and ice, the following observations were made. Bankful width could not be estimated, but wetted width ranged from 2-3 m. There was a low but visible flow, that flowed to the east. Depth where measured was ~0.4 m. The substrate appeared mostly detritus and organic, where accessed, and the instream was dense with cattails. There was a narrow band of riparian vegetation with willows (*Salix* spp.), white spruce (*Picea glauca*), balsam poplar, and white pine (*Pinus strobus*). This watercourse is connected downstream to fish habitat, and therefore is also considered fish habitat, but is likely intermittent.

No wildlife was observed, however; a single set of white-tailed deer (*Odocoileus virginianus*) tracks, and a used yellow warbler (*Setophaga petechia*) nest were observed on the Site. No SAR were observed.

6.2 Species at Risk Screening

A number of species were determined to have moderate probability to be present on the Site (Appendix B), and are discussed below. Those species determined to have a low probability of occurrence are included in Appendix B, but are not discussed further in this report.

- **Monarch** (*Danaus plexippus*; special concern under the SARA) – May utilize the open fields of the Site based on the presence of nectar plants and larval host plants (*Asclepias* spp.). This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.
- **Barn Swallow** (*Hirundo rustica*; threatened under the SARA) - The open habitat of the Site may provide foraging, but not nesting habitat for this species. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.
- **Eastern meadowlark** (*Sturnella magna*; threatened under the SARA) – The open habitat of the Site may provide nesting habitat for this species. The meadow on the Site is small, bordered by trees and shrubs, and unlikely to support grassland birds on its own. It may be part of a larger habitat, when considered with the large adjacent fields in the study area. If grassland SAR occur in the vicinity, they are more likely to use the adjacent meadows. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.
- **Bobolink** (*Dolichonyx oryzivorus*; threatened under the SARA) - The open habitat of the Site may provide nesting habitat for this species. The meadow on the Site is small, bordered by trees and shrubs, and unlikely to support grassland birds on its own. It may be part of a larger habitat, when considered with the large adjacent fields in the study area. If grassland SAR occur in the vicinity, they are more likely to use the adjacent meadows. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.

- **Grasshopper Sparrow** (*Ammodramus savannarum*; special concern under the SARA) - The open habitat of the Site may provide nesting habitat for this species. The meadow on the Site is small, bordered by trees and shrubs, and unlikely to support grassland birds on its own. It may be part of a larger habitat, when considered with the large adjacent fields in the study area. If grassland SAR occur in the vicinity, they are more likely to use the adjacent meadows. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.
- **Short-eared owl** (*Asio flammeus*; special concern under the SARA) – The open habitat of the Site may provide nesting habitat for this species. The meadow on the Site is small, bordered by trees and shrubs, and unlikely to support grassland birds on its own. It may be part of a larger habitat, when considered with the large adjacent fields in the study area. If grassland SAR occur in the vicinity, they are more likely to use the adjacent meadows. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.
- **Eastern milksnake** (*Lampropeltis triangulum*; special concern under the SARA) – This species is a habitat generalist and may utilize any portion of the Site. This species was not observed during the site reconnaissance as it was performed outside of the active season for this species.

Those species listed as threatened or endangered under the SARA, and their critical habitats (if defined in the SARA) and residences, are provided protection on the Site by the Act. No special protections are provided to species listed as special concern under the SARA, or their habitats.

7.0 IMPACT ASSESSMENT AND RECOMMENDATIONS

The key natural features identified as present or potentially present at the Site and in the study area include:

- Suitable habitat for birds designated threatened under the SARA (Site and study area)
- Potential habitat for other species of special concern under the SARA (Site and study area)
- A watercourse (study area)

The suitable habitat for two SARA listed threatened or endangered species was observed on the Site, namely eastern meadowlark and bobolink (Figure 2). No critical habitats for these species are defined under the SARA. Killing, harming or harassing a species listed as threatened or endangered under Schedule 1 of the SARA, or the damage or destruction of a residence (i.e., active nest) or critical habitat of the species, will require a permit under the SARA. Therefore, provided that removal of vegetation at the Site occurs outside of the active nesting season for breeding birds (April 8 – August 28), no permit under the SARA will be required. This conclusion is to be confirmed with ECCC and a Letter of Advice is to be requested.

Other federal SAR listed as special concern have potential to be present on the Site based on observed habitats, as discussed in this report. Although these species are not protected under the SARA, best practices should be undertaken during project planning and construction to avoid harm to these species. To protect individuals of these species and their habitats, the mitigation recommended below should be implemented.

- Ensure all construction staff are trained to identify SAR potentially present on the Site.
- Ensure the construction plans reference and include the relevant recommendations provided in the Protocol for Wildlife Protection During Construction (Ottawa 2015b).
- If any wildlife, including SAR, are identified in the work area, stop work immediately and notify the project manager.

- To avoid injuring SAR and non-SAR birds or their nests or eggs, vegetation clearing (including meadow habitat) should take place outside the breeding bird nesting period. According to ECCC (2017), the nesting period for this area occurs between April 8 and August 28. If vegetation removal is to occur during the nesting period, a biologist must confirm that no active nest is present in the area of activity by surveying for nests and nesting behaviour, no more than 48 hours before the work. If an active nest is located, it must be buffered and protected until it is no longer active. In the case of SARA protected birds, no vegetation clearing can take place while the species is using the habitat on the Site.
- The work site should be kept clean, with no garbage or food scraps that could attract animals or alter their behaviour.

The watercourse is located approximately 26 m from the Site and all proposed works. The proposed setback does not meet the 30 m setback requirement described in Section 4.7.3 (Policy 2) of the Official Plan, however; Section 4.7.3 (Policy 6) notes that “exceptions to the setbacks in policy 2 will be considered by the City in consultation with the Conservation Authority in situations where development is proposed...adjacent to a minor tributary that serves primarily a surface water function and that may have only an intermittent flow.” Golder’s opinion is that the 26 m setback proposed is sufficient to ensure no negative impacts to the watercourse. This is based on the fact that the topography of the Site and the area between the Site and the watercourse is flat, and is currently actively farmed. This indicates that there is no risk of slope failure, low risk of sedimentation or accidental spills from the Site during construction or operation reaching the watercourse, and that the setback area is already subject to disturbances from farming. No new disturbances from the proposed development are expected to impact the watercourse. No in- or near-water works are proposed and therefore no HADD as defined by the *Fisheries Act* is expected to result.

8.0 SUMMARY

Provided the mitigation measures discussed in Section 7.0 of this report are implemented, no negative impacts to SAR or the watercourse north of the Site, in the study area, are anticipated to result from the proposed development.

9.0 LIMITATIONS AND USE OF REPORT

This report was prepared for CBC Radio c/o Pye & Richards - Temprano & Young Architects Inc.. This report, which specifically includes all tables, figures and appendices, is based on data and information collected by Golder, and reflects the conditions within the study area at the time of the site investigations, supplemented by data obtained by Golder from external sources as described in this report. Golder has exercised reasonable skill, care and diligence to assess the external data acquired during the preparation of this assessment, but makes no guarantees or warranties as to the accuracy, currency or completeness of this information. This report is based upon and limited by circumstances and conditions acknowledged herein, and upon information available at the time of authoring.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

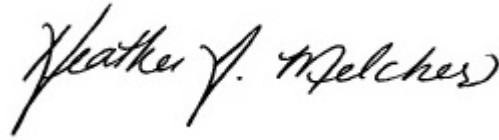
10.0 CLOSING

We trust this report meets your current needs. If you require anything further, please contact the undersigned.

Golder Associates Ltd.



Gwendolyn Weeks, H.B.Sc.Env.
Ecologist



Heather Melcher, M.Sc.
Senior Ecologist / Principal

GAW/HM/ha

[https://golderassociates.sharepoint.com/sites/114900/project files/6 deliverables/19129840_cbc warehouse_ottawa_environmental impact study_final draft.docx](https://golderassociates.sharepoint.com/sites/114900/project%20files/6%20deliverables/19129840_cbc%20warehouse_ottawa_environmental%20impact%20study_final%20draft.docx)

Golder and the G logo are trademarks of Golder Associates Corporation

11.0 REFERENCES

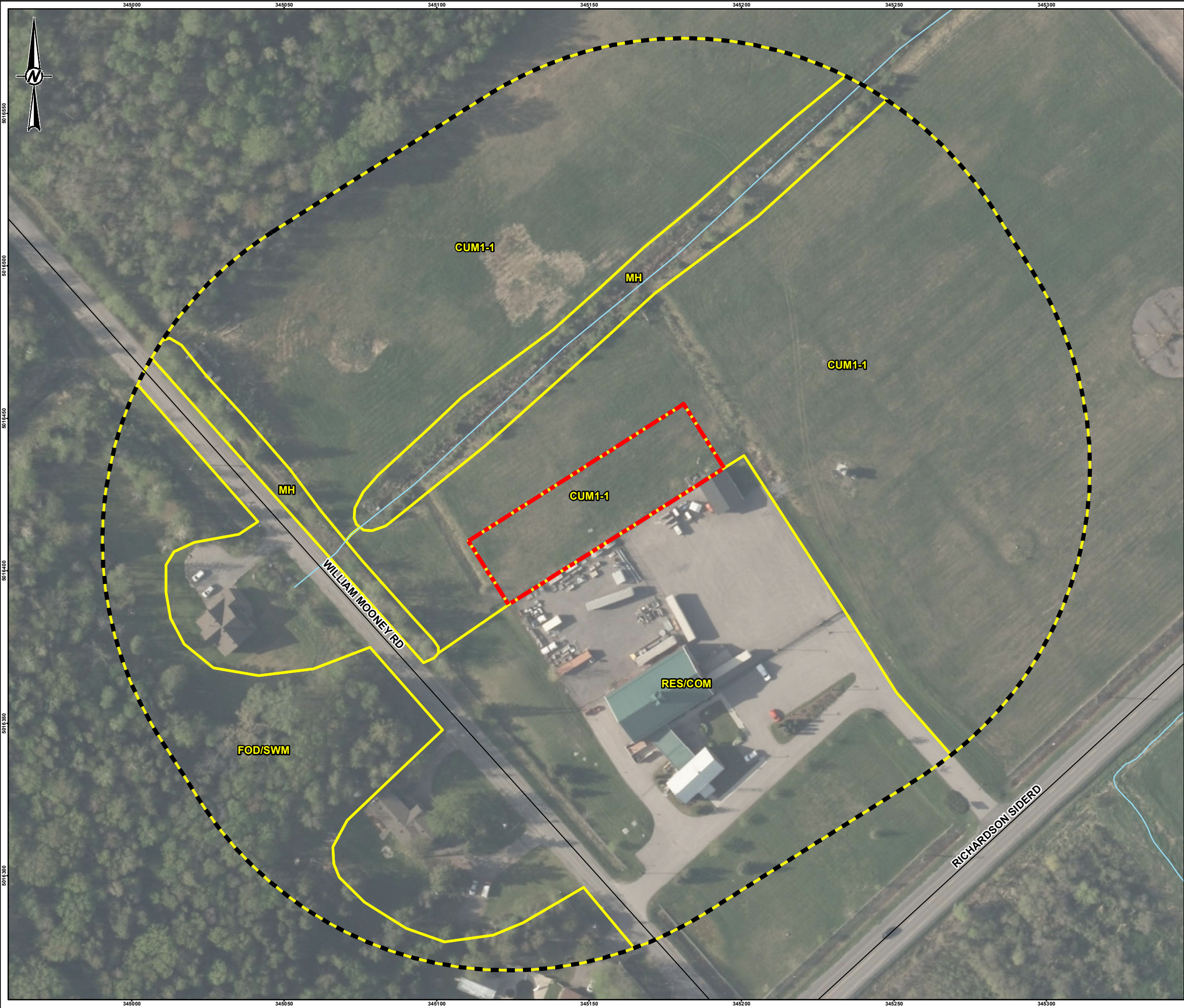
- Bat Conservation International (BCI). 2020. Species Profiles (online). Available: <http://www.batcon.org/resources/media-education/species-profiles>.
- Bookhout T.A., Editor. 1994. Research and management techniques for wildlife and habitats. Fifth ed. The Wildlife Society, Bethesda M.D. 740 pp.
- Cadman, M.D., D. A. Sutherland , G. G. Beck , D. Lepage , and A. R. Couturier , editors. 2007. Co-published by Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp. ISBN 978-1-896059-15-0.
- Canada, Government of (Canada). 1985. *Fisheries Act*. R.S.C. 1985, c. F-14.
- Canada, Government of (Canada). 1994. *Migratory Birds Convention Act*.
- Canada, Government of (Canada). 2002. *Species at Risk Act*. S.C. 2002, c. 29.
- Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Toronto. 120 pp.
- eBird. 2020. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: <http://www.ebird.org>
- Environment and Climate Change Canada (ECCC). 2017. General Nesting Periods of Migratory Birds (online). Available: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>
- Fisheries and Oceans Canada (DFO). 2019a. Bill C-68 Statutes of Canada 2019 Chapter 14: An Act to Amend the Fisheries Act and other Acts in consequence. Assented: June 21, 2019. First Session, Forty-second Parliament, 64-65-66-67-68 Elizabeth II, 2015-2016-2017-2018-2019. Available at: <https://www.parl.ca/DocumentViewer/en/42-1/bill/C-68/royal-assent>.
- Fisheries and Oceans Canada (DFO). 2019b. Aquatic Species at Risk Mapping (Online). Available: <http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm>
- Macnaughton, A., Jones, C., Layberry, R. 2020. Ontario Butterfly Atlas Online. Toronto Entomologists' Association. URL: http://www.ontarioinsects.org/atlas_online.htm.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, South Central Region, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Land Information Ontario (LIO). 2020. LIO Metadata Management Tool – Ministry of Natural Resources (online). Available: http://www.mnr.gov.on.ca/en/Business/LIO/2ColumnSubPage/STEL02_167955.html.
- McDiarmid, R. W. 2012. Reptile Biodiversity. Standard Methods for Inventory and Monitoring. Mercedes S. Foster, Craig Guyer, J. Whitfield Gibbons, Neil Chernoff (Eds.). University of California Press. 412 pages.
- Ontario Nature. 2020. Ontario Reptile and Amphibian Atlas (online). Available: http://www.ontarionature.org/protect/species/herpetofaunal_atlas.php
- Ottawa, City of. 2013. Annotated Version of the OP Showing Proposed Changes as per Amendment No. 150. Available: <http://documents.ottawa.ca/en/node/5720>
- Ottawa, City of. 2015a. Environmental Impact Statement Guidelines (Online). Available: <http://ottawa.ca/en/city-hall/planning-and-development/how-develop-property/environmental-impact-statement-guidelines>.

Ottawa, City of. 2015b. Protocol for Wildlife Protection during Construction. 17pp.

Ministry of Natural Resources and Forestry (MNRF). 2020. Make-a-Map Natural Heritage Explorer (online). Available:

http://www.giscoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US.

Pyle R.M. 1984. The Audubon Society Handbook For Butterfly Watchers. New York. Charles Schribner's Sons.
Jobin, B., R. Bazin, L. Maynard, A. McConnell and J. Stewart. 2011.



LEGEND

ROADWAY

WATERCOURSE

SITE

STUDY AREA (120 m)

ECOLOGICAL LAND CLASSIFICATION

CUM1-1: MIXED MEADOW

MH: MIXED HEDGEROW

RES/COM: RESIDENTIAL/COMMERCIAL

FOM/SWM: MIXED FOREST/MIXED SWAMP

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014

2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28



CLIENT
CBC RADIO CANADAC/O PYE & RICHARDS ARCHITECTS INC.

PROJECT
SCOPED ENVIRONMENTAL IMPACT STATEMENT
CBC WAREHOUSE EXPANSION, OTTAWA

TITLE
ECOLOGICAL LAND CLASSIFICATION AND SITE LOCATION

CONSULTANT	YYYY-MM-DD	2020-02-24
DESIGNED	---	
PREPARED	JEM	
REVIEWED	GAW	
APPROVED	HM	

PROJECT NO. 19129840 CONTROL 0001 REV. 0

FIGURE 1



LEGEND

- ROADWAY
- WATERCOURSE
- SITE
- STUDY AREA (120 m)
- POTENTIAL EASTERN MEADOWLARK AND BOBOLINK HABITAT

ECOLOGICAL LAND CLASSIFICATION

- CUM1-1: MIXED MEADOW
- MH: MIXED HEDGEROW
- RES/COM: RESIDENTIAL/COMMERCIAL
- FOM/SWM: MIXED FOREST/MIXED SWAMP

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83,
COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

CLIENT

CBC RADIO CANADAC/O PYE & RICHARDS ARCHITECTS INC.

PROJECT

SCOPED ENVIRONMENTAL IMPACT STATEMENT
CBC WAREHOUSE EXPANSION, OTTAWA

TITLE

POTENTIAL EASTERN MEADOWLARK AND BOBOLINK HABITAT

CONSULTANT	YYYY-MM-DD	2020-02-24
DESIGNED	---	
PREPARED	JEM	
REVIEWED	GAW	
APPROVED	HM	

PROJECT NO.	CONTROL	REV.	FIGURE
19129840	0001	0	2

APPENDIX A

Photographic Inventory



Photo 1: Site



Photo 2: Site



Photo 3: Site



Photo 4: Watercourse north of the Site



Photo 5: Existing CBC Radio Facilities

APPENDIX B

Species at Risk Screening

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Amphibian	Western chorus frog - Great Lakes St. Lawrence / Canadian Shield population	<i>Pseudacris triseriata</i>		—	THR	THR	G5TNR	S3	In Ontario, habitat of this amphibian species typically consists of marshes or wooded wetlands, particularly those with dense shrub layers and grasses, as this species is a poor climber. They will breed in almost any fishless pond including roadside ditches, gravel pits and flooded swales in meadows. This species hibernates in terrestrial habitats under rocks, dead trees or leaves, in loose soil or in animal burrows. During hibernation, this species is tolerant of flooding (Environment Canada 2015).	Low - No wetlands occur on the Site
Arthropod	Monarch	<i>Danaus plexippus</i>	Ontario butterfly atlas	SC	SC	END	G4	S2N, S4B	In Ontario, monarch is found throughout the northern and southern regions of the province. This butterfly is found wherever there are milkweed (<i>Asclepias</i> spp.) plants for its caterpillars and wildflowers that supply a nectar source for adults. It is often found on abandoned farmland, meadows, open wetlands, prairies and roadsides, but also in city gardens and parks. Important staging areas during migration occur along the north shores of the Great Lakes (COSEWIC 2010).	Moderate - the field may provide suitable habitat
Arthropod	Mottled duskywing	<i>Erynnis martialis</i>		END	—	END	G3	S2	In Ontario, the mottled duskywing is found in the same habitat as its food plant <i>Ceanothus</i> spp.: open or partially open, dry, sandy areas, or limestone alvars. These habitats are relatively uncommon and include dry open pine and pine oak woodland, other open dry woodlands, alvars, savannah and other dry open sandy habitats. Usually seen nectaring on wildflowers, or on wet sandy roads in the company of other duskywing species (Linton 2015).	Low - no suitable open natural habitat occurs on the Site.
Arthropod	West Virginia white	<i>Pieris virginiensis</i>		SC	—	—	G3?	S3	In Ontario, west Virginia white is found primarily in the central and southern regions of the province. This butterfly lives in moist, mature, deciduous and mixed woodlands, and the caterpillars feed only on the leaves of toothwort (<i>Cardamine</i> spp.), which are small, spring-blooming plants of the forest floor. These woodland habitats are typically maple-beech-birch dominated. This species is associated with woodlands growing on calcaerous bedrock or thin soils over bedrock (Burke 2013).	Low - no forests occur on the Site.
Bird	Bald eagle	<i>Haliaeetus leucocephalus</i>		SC	—	NAR	G5	S2N,S4B	In Ontario, bald eagle nests are typically found near the shorelines of lakes or large rivers, often on forested islands. The large, conspicuous nests are typically found in large super-canopy trees along water bodies (Buehler 2000).	Low - no water features, or large nesting trees occur on the Site.
Bird	Bank swallow	<i>Riparia riparia</i>	ABBO	THR	THR	THR	G5	S4B	In Ontario, bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and river banks, sand and gravel pits, and roadcuts. Nests are generally built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	Low - no suitable nesting landforms occur on or near the Site.

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Bird	Barn swallow	<i>Hirundo rustica</i>	ABBO	THR	THR	THR	G5	S4B	In Ontario, barn swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared right-of-ways, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 1999).	Moderate - may feed over the field on the Site, suitable nesting structures occur nearby.
Bird	Black tern	<i>Chlidonias niger</i>		SC	—	NAR	G4	S3B	In Ontario, black tern breeds in freshwater marshlands where it forms small colonies. It prefers marshes or marsh complexes greater than 20 ha in area and which are not surrounded by wooded area. Black terns are sensitive to the presence of agricultural activities. The black tern nests in wetlands with an even combination of open water and emergent vegetation, and still waters of 0.5-1.2 m deep. Preferred nest sites have short dense vegetation or tall sparse vegetation often consisting of cattails, bulrushes and occasionally burreed or other marshland plants. Black terns also require posts or snags for perching (Weseloh 2007).	Low - No wetlands occur on the Site
Bird	Bobolink	<i>Dolichonyx oryzivorus</i>	ABBO	THR	THR	THR	G5	S4B	In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Renfrew et al. 2015).	Moderate - the field may provide suitable habitat
Bird	Canada warbler	<i>Cardellina canadensis</i>		SC	THR	THR	G5	S4B	In Ontario, breeding habitat for Canada warbler consists of moist mixed forests with a well-developed shrubby understory. This includes low-lying areas such as cedar and alder swamps, and riparian thickets (McLaren 2007). It is also found in densely vegetated regenerating forest openings. Suitable habitat often contains a developed moss layer and an uneven forest floor. Nests are well concealed on or near the ground in dense shrub or fern cover, often in stumps, fallen logs, overhanging stream banks or mossy hummocks (Reitsma et al. 2010).	Low - no forests occur on the Site.
Bird	Chimney swift	<i>Chaetura pelagica</i>		THR	THR	THR	G5	S4B, S4N	In Ontario, chimney swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	Low - no suitable structures occur on the Site.

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Bird	Common nighthawk	<i>Chordeiles minor</i>		SC	THR	SC	G5	S4B	In Ontario, these aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bogs, fens, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007)	Low - no suitable habitat occurs on the Site.
Bird	Eastern meadowlark	<i>Sturnella magna</i>	ABBO	THR	THR	THR	G5	S4B	In Ontario, eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2003). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970)	Moderate - the field may provide suitable habitat
Bird	Eastern whip-poor-will	<i>Antrostomus vociferus</i>	ABBO	THR	THR	THR	G5	S4B	In Ontario, whip-poor-will breeds in semi-open forests with little ground cover. Breeding habitat is dependent on forest structure rather than species composition, and is found on rock and sand barrens, open conifer plantations and post-disturbance regenerating forest. Territory size ranges from 3 to 11 ha (COSEWIC 2009). No nest is constructed and eggs are laid directly on the leaf litter (Mills 2007).	Low - no forests occur on the Site.
Bird	Eastern wood-pewee	<i>Contopus virens</i>	ABBO	SC	SC	SC	G5	S4B	In Ontario, eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats, including deciduous, coniferous, or mixed forests. It occurs most frequently in forests with some degree of openness. Intermediate-aged forests with a relatively sparse midstory are preferred. In younger forests with a relatively dense midstory, it tends to inhabit the edges. Also occurs in anthropogenic habitats providing an open forested aspect such as parks and suburban neighborhoods. Nest is constructed atop a horizontal branch, 1-2 m above the ground, in a wide variety of deciduous and coniferous trees (COSEWIC 2012).	Low - no forests occur on the Site.
Bird	Golden-winged warbler	<i>Vermivora chrysoptera</i>		SC	THR	THR	G4	S4B	In Ontario, golden-winged warbler breeds in regenerating scrub habitat with dense ground cover and a patchwork of shrubs, usually surrounded by forest. Their preferred habitat is characteristic of a successional landscape associated with natural or anthropogenic disturbance such as rights-of-way, and field edges or openings resulting from logging or burning. The nest of the golden-winged warbler is built on the ground at the base of a shrub or leafy plant, often at the shaded edge of the forest or at the edge of a forest opening (Confer et al. 2011).	Low - no thickets occur on the Site.
Bird	Grasshopper sparrow <i>pratensis</i> subspecies	<i>Ammodramus savannarum</i> (pratensis subspecies)		SC	SC	SC	G5	S4B	In Ontario, grasshopper sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC 2013).	Moderate - the field may provide suitable habitat
Bird	Least bittern	<i>Ixobrychus exilis</i>		THR	THR	THR	G5	S4B	In Ontario, least bittern breeds in marshes, usually greater than 5 ha, with emergent vegetation, relatively stable water levels and areas of open water. Preferred habitat has water less than 1 m deep (usually 10 – 50 cm). Nests are built in tall stands of dense emergent or woody vegetation (Woodliffe 2007). Clarity of water is important as siltation, turbidity, or excessive eutrophication hinders foraging efficiency (COSEWIC 2009).	Low - No wetlands occur on the Site

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Bird	Olive-sided flycatcher	<i>Contopus cooperi</i>		SC	THR	SC	G4	S4B	In Ontario, olive-sided flycatcher breeding habitat consists of natural openings in coniferous or mixed forests, including bogs, burns, riparian zones, and cutover areas. They are also found in semi-open forest stands and early successional forest when tall snags and residual live trees are present. In the boreal forest it is often associated with muskeg, bogs, fens and swamps dominated by spruce and tamarack. Open areas with tall trees or snags for perching are used for foraging (COSEWIC 2007). Nests are usually built on horizontal branches of conifers (Peck and James 1987).	Low - no forests occur on the Site.
Bird	Peregrine falcon (anatum/tundrius subspecies)	<i>Falco peregrinus anatum/tundrius</i>		SC	SC	Not at Risk	G4	S3B	In Ontario, peregrine falcon breeds in areas containing suitable nesting locations and sufficient prey resources. Such habitat includes both natural locations containing cliff faces (heights of 50 - 200 m preferred) and also anthropogenic landscapes including urban centres containing tall buildings, open pit mines and quarries, and road cuts. Peregrine falcons nest on cliff ledges and crevices and building ledges. Nests consist of a simple scrape in the substrate (COSEWIC 2007).	Low - no suitable habitat occurs on the Site.
Bird	Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>		SC	THR	END	G5	S4B	In Ontario, red-headed woodpecker breeds in open, deciduous woodlands or woodland edges and are often found in parks, cemeteries, golf courses, orchards and savannahs (Woodliffe 2007). They may also breed in forest clearings or open agricultural areas provided that large trees are available for nesting. They prefer forests with little or no understory vegetation. They are often associated with beech or oak forests, beaver ponds and swamp forests where snags are numerous. Nests are excavated in the trunks of large dead trees (Smith et al. 2000).	Low - no trees occur on the Site.
Bird	Short-eared owl	<i>Asio flammeus</i>	eBird	SC	SC	SC	G5	S2N,S4B	In Ontario, short-eared owl breeds in a variety of open habitats including grasslands, tundra, bogs, marshes, clearcuts, burns, pastures and occasionally agricultural fields. The primary factor in determining breeding habitat is proximity to small mammal prey resources (COSEWIC 2008). Nests are built on the ground at a dry site and usually adjacent to a clump of tall vegetation used for cover and concealment (Gahbauer 2007).	Moderate - the field may provide suitable habitat
Bird	Wood thrush	<i>Hylocichla mustelina</i>	ABBO	SC	THR	THR	G4	S4B	In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	Low - no forests occur on the Site.
Bird	Yellow rail	<i>Coturnicops noveboracensis</i>		SC	SC	SC	G4	S4B	In Ontario, yellow rail breeds mainly in sedge-dominated marshes with wet substrates or standing water up to 15 cm in depth. This species will also breed in wet hayfields. This species may be absent from historically used breeding territories on years when water levels are unsuitable, as habitat must remain wet throughout the nesting season to be used. This species breeds mainly in wetlands larger than 10 ha in area, but may breed in much smaller wetlands and will nest colonially (COSEWIC 2009).	Low - No wetlands occur on the Site

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Fish	American Eel	<i>Anguilla rostrata</i>		END	—	THR	G4	S1?	In Ontario, American eel is native to the Lake Ontario, St. Lawrence River and Ottawa River watersheds. Their current distribution includes lakes Huron, Erie, and Superior and their tributaries. The Ottawa River population is considered extirpated. The preferred habitat of the American eel is cool water of lakes and streams with muddy or silty substrates in water temperatures between 16 and 19°C. The American eel is a catadromous fish that lives in fresh water until sexual maturity then migrates to the Sargasso Sea to spawn (Burridge et al. 2010; Eakins 2016).	Low - no water features occur on the Ste.
Fish	Bridle shiner	<i>Notropis bifrenatus</i>		SC	SC	SC	G3	S2	In Ontario, bridle shiner is a species found only in the St. Lawrence River and its tributaries. Preferred habitat conditions include substrates of sand, silt or organic debris and relatively warm, clear water. Bridle shiner are freshwater fish species that inhabit slow-moving areas of unpolluted streams with abundant aquatic vegetation. The bridle shiner is not acid tolerant and so distribution in Precambrian shield may be limited. Typical spawning habitat is in water depths of 45-120 cm over medium to high density of submerged aquatic vegetation, and fine substrates of clay, silt or sand (Boucher et al. 2011).	Low - no water features occur on the Ste.
Fish	Channel darter - St. Lawrence populations	<i>Percina copelandi</i>		SC	SC	SC	G4TNR	S2	In Ontario, channel darter is found in the lower Great Lakes basin along the shores of Lake Erie, Detroit River, St. Clair River, Lake St. Clair, Ottawa River and some of its tributaries, and in drainages of the Bay of Quinte. Channel darter is a freshwater member of the perch family of fishes. Channel darter can be found in three general types of habitats, depending on which aquatic system they occupy: 1) in lakes, they are found in gravel and coarse sand beach areas; 2) in large river systems, they are typically found in gravel and cobble shoals and riffles; and, 3) in small- to medium-sized rivers, they are typically found in the riffles and pools. Communal spawning occurs in the spring and early summer in upstream areas with moderate to fast current and over fine gravel or small rocks (COSEWIC 2016).	Low - no water features occur on the Ste.
Fish	Lake sturgeon - Great Lakes / Upper St.Lawrence population	<i>Acipenser fulvescens</i>		END	—	THR	G3G4TNR	S2	In Ontario, lake sturgeon, a large prehistoric freshwater fish, is found in all the Great Lakes and in all drainages of the Great Lakes and of Hudson Bay. This species typically inhabits highly productive shoal areas of large lakes and rivers. They are bottom dwellers, and prefer depths between 5-10 m and mud or gravel substrates. Small sturgeons are often found on gravelly shoals near the mouths of rivers. They spawn in depths of 0.5 to 4.5 m in areas of swift water or rapids. Where suitable spawning rivers are not available, such as in the lower Great Lakes, they are known to spawn in wave action over rocky ledges or around rocky islands (Golder 2011).	Low - no water features occur on the Ste.
Fish	Northern brook lamprey - Great Lakes / Upper St.Lawrence population	<i>Ichthyomyzon fossor</i>		SC	SC	SC	G4	S3	In Ontario, northern brook lamprey occurs in rivers draining into Lakes Superior, Huron and Erie, as well as in the Ottawa and St. Lawrence Rivers. It is found in clear streams of varying sizes. Adults prefer riffle and run areas of coldwater streams and rivers with gravel and sand substrates. Spawning habitat usually includes a swift current and coarse gravel or rocky substrate, with which males construct inconspicuous nests (COSEWIC 2007).	Low - no water features occur on the Ste.

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Fish	River redhorse	<i>Moxostoma carinatum</i>		SC	SC	SC	G4	S2	In Ontario, river redhorse is known to occur in the Mississippi River, Ottawa River, Madawaska River, Grand River, Trent River, and Thames River systems. They inhabit moderate to large rivers. The majority of their time is spent in pool habitats with slow-moving water and abundant vegetation. Spawning occurs in areas of shallow, moderate to fast-flowing waters in riffle-run habitats with coarse substrates of gravel and cobble (DFO 2011).	Low - no water features occur on the Ste.
Fish	Silver lamprey - Great Lakes / Upper St.Lawrence population	<i>Ichthyomyzon unicuspis</i>		SC	SC	END	G5TNR	S3	In Ontario, silver lamprey is known to occur in the Great Lakes and its tributaries, St. Lawrence River, Lake Nipissing, Lake-of-the-Woods and its tributaries, and the Ottawa River. Silver lamprey is a parasitic freshwater species that undertake spawning migrations in rivers and streams. They are often confused with sea lamprey. Adults prefer the clear waters of large streams, rivers, and lakes. Adults migrate in flowing water with stoney or gravelly bottom material for nesting. Larvae seek out slow flowing areas initially with thick organic layers where they will grow until moving out into predominantly sandy environments where they reside until they reach adulthood (COSEWIC 2012).	Low - no water features occur on the Ste.
Mammal	Eastern small-footed myotis	<i>Myotis leibii</i>		END	—	—	G4	S2S3	Eastern small-footed myotis is not known to roost in trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles, but it occasionally inhabits buildings. Entrances of caves or abandoned mines where humidity is low and temperatures are cool and sometimes subfreezing may be used as hibernacula (Humphrey 2017).	Low - no trees or buildings occur on the Site.
Mammal	Little brown myotis	<i>Myotis lucifugus</i>		END	END	END	G3	S3	In Ontario, this specie's range is extensive and covers much of the province. It will roost in both natural and man-made structures. Roosting colonies require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas. May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Low - no trees or buildings occur on the Site.
Mammal	Northern myotis	<i>Myotis septentrionalis</i>		END	END	END	G1G2	S3	In Ontario, this species' range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Low - no trees or buildings occur on the Site.

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Mammal	Tri-colored bat	<i>Perimyotis subflavus</i>		END	END	END	G2G3	S3?	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year (ECCC 2018).	Low - no trees or buildings occur on the Site.
Mollusc	Hickorynut	<i>Obovaria olivaria</i>		END	END	END	G4	S1?	In Ontario, hickorynut is primarily found in murky, low-gradient rivers with clay-sand or clay-gravel substrate. This mussel is generally found on sandy substrates in deep water, usually exceeding 2-3 m, with a moderate to strong current (COSEWIC 2011).	Low - no water features occur on the Ste.
Reptile	Blanding's turtle - Great Lakes / St.Lawrence population	<i>Emydoidea blandingii</i>	<i>herp atlas</i>	THR	THR	END	G4	S3	In Ontario, Blanding's turtle will use a range of aquatic habitats, but favor those with shallow, standing or slow-moving water, rich nutrient levels, organic substrates and abundant aquatic vegetation. They will use rivers, but prefer slow-moving currents and are likely only transients in this type of habitat. This species is known to travel great distances over land in the spring in order to reach nesting sites, which can include dry conifer or mixed forests, partially vegetated fields, and roadsides. Suitable nesting substrates include organic soils, sands, gravel and cobble. They hibernate underwater and infrequently under debris close to water bodies (COSEWIC 2016).	Low - No wetlands occur on the Site
Reptile	Eastern ribbonsnake - Great Lakes population	<i>Thamnophis sauritus</i>		SC	SC	SC	G5	S4	In Ontario, eastern ribbonsnake is semi-aquatic, and is rarely found far from shallow ponds, marshes, bogs, streams or swamps bordered by dense vegetation. They prefer sunny locations and bask in low shrub branches. Hibernation occurs in mammal burrows, rock fissures or even ant mounds (COSEWIC 2012).	Low - No wetlands occur on the Site
Reptile	Northern map turtle	<i>Graptemys geographica</i>		SC	SC	SC	G5	S3	In Ontario, the northern map turtle prefers large waterbodies with slow-moving currents, soft substrates, and abundant aquatic vegetation. Ideal stretches of shoreline contain suitable basking sites, such as rocks and logs. Along Lakes Erie and Ontario, this species occurs in marsh habitat and undeveloped shorelines. It is also found in small to large rivers with slow to moderate flow. Hibernation takes place in soft substrates under deep water (COSEWIC 2012).	Low - no wetlands or waterbodies occur on the Site.
Reptile	Snapping turtle	<i>Chelydra serpentina</i>	<i>herp atlas</i>	SC	SC	SC	G5	S3	In Ontario, snapping turtle uses a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low - no wetlands or waterbodies occur on the Site.

APPENDIX B
Species at Risk Screening

Taxon	Common Name	Scientific Name	Desktop Source	Endangered Species Act, Reg. 230/08 SARO List Status ¹	Species at Risk Act, Schedule 1 List of Wildlife SAR Status ²	COSEWIC Status ³	Global Rarity Rank ⁴	Provincial Rarity Rank ⁵	Ontario Habitat Descriptions	Probability of Occurrence at the Site
Reptile	Spotted turtle	<i>Clemmys guttata</i>		END	END	END	G5	S2	In Ontario, spotted turtle habitat consists of shallow, slow-moving and unpolluted water such as ponds, bogs, marshes, ditches, vernal pools and sedge meadows. It is also occasionally found in woodland streams or sheltered shallow bays. These habitats are characterized by soft substrates and abundant aquatic vegetation. Females lay eggs in soil and leaf litter in wooded areas close to wetlands. Hibernation takes place in substrates under water, often under moss hummocks or muskrat dens (COSEWIC 2014).	Low - no wetlands or waterbodies occur on the Site.
Reptile	Milksnake		<i>herp atlas</i>	Not at Risk	SC	SC			This species is a habitat generalist, and may utilize open, semi-open and treed habitats, including manmade structures and semi-urban landscapes.	Moderate - the field may provide suitable habitat
Reptile	Stinkpot or Eastern musk turtle	<i>Sternotherus odoratus</i>		SC	THR	SC	G5	S3	In Ontario, eastern musk turtle is very rarely out of water and prefers permanent bodies of water that are shallow and clear, with little or no current and soft substrates with abundant organic materials. Abundant floating and submerged vegetation is preferred. Hibernation occurs in soft substrates under water. Eggs are sometimes laid on open ground, or in shallow nests in decaying vegetation, shallow gravel or rock crevices (COSEWIC 2012).	Low - no wetlands or waterbodies occur on the Site.
Vascular Plant	American ginseng	<i>Panax quinquefolius</i>		END	END	END	G3G4	S2	In Ontario, American ginseng is found in moist, undisturbed and relatively mature deciduous woods often dominated by sugar maple. It is commonly found on well-drained, south-facing slopes. American ginseng grows under closed canopies in well-drained soils of glaciary origin that have a neutral pH (ECCC 2018).	Low - no forests occur on the Site.
Vascular Plant	Butternut	<i>Juglans cinerea</i>		END	END	END	G4	S2?	In Ontario, butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with beech, maple, oak and hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Low - no trees of this species occur on the Site.

¹ Endangered Species Act (ESA), 2007 (O.Reg 242/08 last amended 27 March 2018 as O.Reg 219/18). Species at Risk in Ontario List, 2007 (O.Reg 230/08 last amended 1 Aug 2018 as O. Reg 404/18, s. 1.); Schedule 1 (Extirpated - EXP), Schedule 2 (Endangered - END), Schedule 3 (Threatened - THR), Schedule 4 (Special Concern - SC)

² Species at Risk Act (SARA), 2002. Schedule 1 (Last amended 21 May 2019); Part 1 (Extirpated), Part 2 (Endangered), Part 3 (Threatened), Part 4 (Special Concern)

³ Committee on the Status of Endangered Wildlife in Canada (COSEWIC) <http://www.cosewic.gc.ca/>

4 Global Ranks (GRANK) are Rarity Ranks assigned to a species based on their range-wide status. GRANKS are assigned by a group of consensus of Conservation Data Centres (CDCs), scientific experts and the Nature Conservancy. These ranks are not legal designations. G1 (Extremely Rare), G2 (Very Rare), G3 (Rare to uncommon), G4 (Common), G5 (Very Common), GH (Historic, no record in last 20yrs), GU (Status uncertain), GX (Globally extinct), ? (Inexact number rank), G? (Unranked), Q (Questionable), T (rank applies to subspecies or variety). Last assessed August 2011

5 Provincial Ranks (SRANK) are Rarity Ranks assigned to a species or ecological communities, by the Natural Heritage Information Centre (NHIC). These ranks are not legal designations. SRANKS are evaluated by NHIC on a continual basis and updated lists produced annually. SX (Presumed Extirpated), SH (Possibly Extirpated - Historical), S1 (Critically Imperiled), S2 (Imperiled), S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure), SNA (Not Applicable), S#S# (Range Rank), S? (Not ranked yet), SAB (Breeding Accident), SAN (Non-breeding Accident), SX (Apparently Extirpated). Last assessed November 2017.

6 General Habitat Protection is applied when a species is newly listed as endangered or threatened on the SARO list under the ESA, 2007. The definition of general habitat applies to areas that a species currently depends on. These areas may include dens and nests, wetlands, forests and other areas essential for breeding, rearing, feeding, hibernation and migration. General habitat protection will also apply to all listed endangered or threatened species without a species-specific habitat regulation as of June 30, 2013 (ESA 2007, c.6, s.10 (2)). Regulated Habitat is species-specific habitat used as the legal description of that species habitat. Once a species-specific habitat regulation is created, it replaces general habitat protection. Refer to O.Reg 242/08 for full details regarding regulated habitat.

General References:

⁷ Refer to the individual species' federal recovery strategy for a full description of the critical habitat (http://www.sararegistry.gc.ca/sar/recovery/recovery_e.cfm)

*Species Codes derived from the following sources: Birds – 53rd AOU Supplement (2012); Amphibians – Marsh Monitoring Program (Bird Studies Canada 2003); Fish – Golder; Reptiles – Golder.

*NHIC (Natural Heritage Information Centre); ROM (Royal Ontario Museum); OBBA (Ontario Breeding Bird Atlas); Herp Atlas (Reptiles and Amphibians of Ontario); Odonata Atlas (of Ontario); Mammal Atlas (of Ontario); BCI (Bat Conservation International); Butterfly Atlas (Ontario Butterfly Atlas)

'—' No status

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2017. Status Reports. COSEWIC. Available from: http://www.cosewic.gc.ca/eng/sct2/index_e.cfm

Environment and Climate Change Canada (ECCC). 2017. Species at Risk Public Registry. Available: http://www.registrelep-sararegistry.gc.ca/sar/index/default_e.cfm

Fisheries and Oceans Canada (DFO). 2017. Aquatic Species at Risk. Available at: <http://www.dfo-mpo.gc.ca/species-especes/index-eng.htm>

Oldham, M.J., and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario. 188 pp.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2017. Species at Risk in Ontario List. Queen's Printer for Ontario. Available at: <https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>

Ontario Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide (SWHTG). 151 pp.



golder.com