

APPENDIX C:

Natural Heritage Existing  
Conditions

# SEATON MUNICIPAL TRANSFER STATION - TRANSMISSION LINE UPGRADES

## SCHEDULE B CLASS ENVIRONMENTAL ASSESSMENT NATURAL HERITAGE EXISTING CONDITIONS REPORT

**Veridian Connections Inc.**

### **DRAFT**

Project No. 151-02610-00

August 2016

Distribution:

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August 2, 2016

Veridian Connections Inc.  
c/o Mr. Craig Smith, P.Eng.  
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**Re: Seaton Municipal Transfer Station – Transmission Line Upgrades  
Schedule B Class Environmental Assessment  
Natural Heritage Existing Conditions Report  
Community of Seaton, City of Pickering, Regional Municipality of Durham**

Dear Mr. Smith:

WSP Canada Inc. was retained to conduct a Natural Heritage Features Existing Conditions Report as part of the Schedule B Class Environmental Assessment for the design, construction and operation of a new municipal transformer station (MTS) located in the Seaton community in the City of Pickering. Three candidate sites were investigated in 2015 and a draft interim Environmental Study Report was prepared in March 2016. Since the completion of the March 2016 draft report, the project definition has changed and now includes potential upgrades to transmission lines and proposed locations for tap lines between the MTS and transmission line.

This report outlines the existing conditions within the proposed transmission line upgrade areas and tap line locations for each of the candidate MTS sites. This information will be used to assist in the selection of the preferred MTS site as part of the Schedule B Class Environmental Assessment.

Thank you for the opportunity to complete this assignment. Please contact the undersigned with any questions or comments.

Yours truly,  
**WSP Canada Inc.**

A handwritten signature in black ink, appearing to read "E. Fitzpatrick".

Erin Fitzpatrick, M.Sc.  
Biologist

EAF:nah

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# 1 INTRODUCTION

WSP Canada Inc. (WSP) has been retained to complete an existing conditions report as part of a Schedule B Class Environmental Assessment for a proposed municipal transfer station (MTS) that is to be part of the electrical distribution system for the Community of Seaton, City of Pickering. Natural heritage surveys were completed in 2015 (WSP, 2016) and focused on three candidate locations for the MTS, all located within the Community of Seaton, and herein referred to as Site #1, Site #2 and Site #3 (Figure 1):

- **Site #1** is located on the east side of Brock Road approximately 300 m north of Taunton Rd W, in Part of Lot 18, Concession 4, City of Pickering.
- **Site #2** is located northeast of the intersection of Taunton Rd W and Sideline 22, approximately 1.6 km west of Brock Road, in Part of Lot 22, Concession 4, City of Pickering.
- **Site #3** is located on the east side of Dixie Road, approximately 400 m north of Gossamer Drive, in Part of Lot 24, Concession 2, City of Pickering.

The project definition now includes potential transmission line upgrades. This report describes the existing conditions within the transmission lines and line tap locations for each candidate MTS site. These three areas can be described as follows, and are herein referred to as Study Area #1, Study Area #2, and Study Area #3:

- **Study Area #1** consists of a 3,500 m stretch of hydro corridor extending westward from a point approximately 400 m east of Brock Road to Duffins Junction, a point approximately 1,230 m east of Whites Road (Figures 2 and 3). The proposed line tap extends approximately 60 m between Site #1 and the transmission lines to the south.
- **Study Area #2** shares a footprint with the western portion of Study Area #1 and consists of a 1,500 m stretch of hydro corridor commencing approximately 120 m south of Taunton Road and extending westward to Duffins Junction (Figures 2 and 4). The proposed tap line is approximately 290 m in length and connects Site #2 on the north side of Taunton Road to the transmission line south of the road.
- **Study Area #3** consists of a 1,700 m section of hydro corridor between Duffins Junction and Cherrywood Transformer Station and a 575 m section east of Dixie Road (Figures 2 and 5). The proposed tap line is approximately 490 m in length and connects Site #3 to the transmission lines at a point north of Cherrywood Transformer Station.

The presence and extent of natural heritage features and environmental constraints within these study areas and the 30 m adjacent lands have been determined through a review of secondary source information, agency consultation and direct observation during site visits. As with the initial review of the candidate sites, an understanding of the existing conditions within the transmission line corridors and line tap areas will facilitate future impact assessments and recommendations for the avoidance, minimization, and/or mitigation of these impacts.

## 2 ENVIRONMENTAL POLICY CONTEXT

### 2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) (Ontario Ministry of Municipal Affairs and Housing (OMMAH), 2014) is a planning document that provides a framework for, and governs development within, the Province of Ontario. In order to preserve various ecological resources deemed significant in the Province, development lands must be assessed for the presence of natural heritage features and sensitive hydrological features prior to construction. Natural heritage features (listed below) are both defined and afforded protections under the PPS. Linkages between natural heritage features and surface water and groundwater features are also recognized and afforded similar protections under the policy. Section 2.1.2 of the PPS also requires that the diversity and connectivity of natural heritage features and the long-term ecological function of natural heritage systems be maintained, restored or improved where possible.

Under the PPS (OMMAH, 2014), development or site alteration is prohibited within some natural heritage features and only allowable in others after satisfying certain conditions. Development or site alteration is prohibited within significant wetlands in Ecoregions 5E, 6E and 7E and in significant coastal wetlands, but may be allowed adjacent to these features provided the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts to these features or their ecological functions. Development may be permitted in or adjacent to significant wetlands north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River), significant wildlife habitat, and significant areas of natural and scientific interest (ANSI), provided there will be no negative impacts to these features or their ecological function due to the proposed undertaking. In addition, development and site alteration is not permitted in fish habitat unless in accordance with provincial and federal legislation.

Natural heritage features as defined by the PPS (OMMAH, 2014) include:

- Natural Heritage Systems;
- Fish Habitat;
- Habitats of Endangered and Threatened Species;
- Significant Areas of Natural and Scientific Interest (ANSI);
- Significant Wetlands;
- Significant Coastal Wetlands;
- Significant Wildlife Habitat;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

Planning policies as they relate to surface water features and groundwater features are outlined within Section 2.3 of the PPS (OMMAH, 2014). Specifically, development and site alteration in or near sensitive surface water features and sensitive groundwater features should be restricted to ensure the protection, improvement, and/or restoration of these features and their hydrologic functions, as well as the quality and quantity of water within the watershed and adjacent watersheds.

## 2.2 ENVIRONMENTAL ASSESSMENT ACT

The *Ontario Environmental Assessment Act*, R.S.O., 1990 (the EA Act) requires that projects corresponding to a given class of undertakings (e.g. municipal road, transit, water and wastewater projects) follow an approved Class Environmental Assessment (Class EA) process. Municipal projects are classified as Schedule A or A+, Schedule B, or Schedule C, based on their potential for environmental impacts. Schedule C Class EAs have the greatest potential for environmental impacts.

Regardless of classification, each Class EA must consist of the following:

- a description of the purpose of the undertaking;
- a description of, and a statement of, the rationale for the undertaking, the alternative methods of carrying out the undertaking, and the alternatives to the undertaking;
- a description of:
  - the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly,
  - the effects that will be caused or that might reasonably be expected to be caused to the environment, and
  - the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment, by the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;
- an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking; and
- a description of any consultation about the undertaking by the proponent and the results of the consultation. 1996, c. 27, s. 3.

This report focuses on a description of the environment. The impacts that may occur as a result of the proposed development, and the actions necessary to prevent, change, mitigate or remedy these potential impacts will be addressed in the next phase of the study. The assessment of potential locations provides data to consider the alternative methods of carrying out the undertaking in order to reduce the potential impacts.

## 2.3 CONSERVATION AUTHORITIES ACT

The *Conservation Authorities Act* gives individual conservation authorities the power to regulate development and activities in, or adjacent to, river or stream valleys, Great Lakes and large inland lakes and shorelines, watercourses, hazardous lands and wetlands. Regulations made under the Conservation Authorities Act specify the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by individual Conservation Authorities. These regulations apply to lands within river or stream valleys, flood plains, wetlands, watercourses, lakes, hazardous lands or lands within 120 metres (m) of a Provincially Significant Wetland or wetlands greater than 2 hectares (ha), or lands within 30 m of non-provincially significant wetlands. Development or site alteration within these regulated areas may be permitted provided development is conducted in accordance with existing policies.

The three study areas are within the Toronto and Region Conservation Authority (TRCA) jurisdiction and all have a degree of overlap with the TRCA Regulated Area. All work must be conducted in accordance with Ontario Regulation 166/06 made under the Conservation Authorities Act and must meet the requirements of the TRCA. Though not anticipated, should upgrades to the transmission lines or construction of the line taps require the straightening, changing, diverting or interference of a watercourse, a permit would need to be obtained under Regulation 166/06 prior to the commencement of work.

### 3 AGENCY CONSULTATION

A request for information was submitted to the Ontario Ministry of Natural Resources and Forestry (OMNRF) and the Toronto and Region Conservation Authority (TRCA) for data pertaining to natural heritage features and species at risk with the potential to be in the transmission line upgrade study area. Information obtained in 2015 from the OMNRF and TRCA for the candidate MTS sites and adjacent lands was also considered in the preparation of this report (Appendix A). At the time this report was published, responses from the OMNRF and TRCA had not yet been received. Once received, this information will be relayed to the client in the form of a report update or addendum.

### 4 INFORMATION RESOURCES

A list of information resources consulted over the course of this study and final report preparation are provided below. References for publications used in this report are provided in the References Section.

- Aerial photographs;
- Atlas of the Breeding Birds of Ontario 2001-2005 (Cadman et al., 2007);
- Atlas of the Breeding Birds of Ontario online (Bird Studies Canada et al., 2006);
- City of Pickering Official Plan (2010);
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Status Reports;
- *Conservation Authority Act*, Ontario Regulation 166/06 Toronto and Region Conservation Authority (TRCA);
- Durham Region Official Plan (2015);
- *Endangered Species Act*, 2007 (Government of Ontario, 2007);
- Make a Map: Natural Heritage Areas online mapping application including Natural Heritage Information Centre (NHIC) Data (OMNRF, 2015a);
- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR, 2010);
- Ontario Ministry of Natural Resources and Forestry (OMNRF), Aurora District Office;
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015);
- Provincial Policy Statement (OMMAH, 2014);
- Significant Wildlife Habitat Criterion Schedule for Ecoregion 6E (OMNR, 2012);
- Significant Wildlife Habitat: Mitigation Support Tool (OMNRF, 2015b);
- Significant Wildlife Habitat: Technical Guide (OMNR, 2000);

- Species at Risk in Canada (SARA) list (Government of Canada, 2015); and,
- Species at Risk in Ontario (SARO) list (OMNRF, 2016).

## 5 SITE INFORMATION

### 5.1 SITE INVESTIGATION

Site visits were conducted on June 28, June 29, July 8, and July 9, 2016 to complete breeding bird surveys and to screen for Species at Risk and their habitat with the potential to be within the study area. Site visit details are provided in Table 1.

**Table 1** Site Visit Details

DATE	TIME/DURATION	WEATHER CONDITIONS
June 28, 2016	5:49 AM to 10:33 AM	Partly cloudy skies, $\pm 21^{\circ}\text{C}$ , light air, no trace of precipitation
June 29, 2016	7:35 AM to 10:50 AM	Clear skies, $\pm 18^{\circ}\text{C}$ , light air, no trace of precipitation
July 8, 2016	6:35 AM to 11:06 AM	Cloudy skies, $\pm 17^{\circ}\text{C}$ , light air, no trace of precipitation
July 9, 2016	7:15 AM to 1:25 PM	Mostly cloudy skies, $\pm 22^{\circ}\text{C}$ , light breeze, no trace of precipitation

Breeding bird surveys were completed based on the recommendations provided in the Forest Bird Monitoring Program (FBMP; Konze and McLaren, 1997), and the Ontario Breeding Bird Atlas (OBBA; Bird Studies Canada et al., 2006). Thirty (30) point counts were completed, separated from each other by a distance of approximately 250 m as recommended by the FBMP (Figure 6). As per standard protocols, two point count surveys were completed between the dates of May 24 and July 10. Results from these surveys, coupled with aerial imagery interpretation were used to assess for the potential for species at risk and their habitat within Study Areas #1, #2 and #3. Results are discussed in Section 6.2. Lists of observed species are provided in Appendix B and representative site photographs are provided in Appendix C.

### 5.2 SITE DESCRIPTIONS

The following sections describe the existing conditions at the time of the Site visits. Descriptions are based on satellite imagery, observations during field visits, and TRCA Ecological Land Classification (ELC: Lee et al., 1998) mapping for the lands immediately adjacent to the candidate MTS Sites. Water features within the Study Areas, including watercourses, water bodies and wetland boundaries are discussed in greater detail in Sections 6.1 and 6.4.

#### 5.2.1 STUDY AREA #1

Study Area #1 consists of a 3,500 m stretch of hydro corridor from approximately 400 m east of Brock Road to Duffins Junction, a point approximately 1,230 m east of Whites Road (Figures 2 and 3). The proposed line tap extends southward from the approximate centre of Site #1 to the hydro corridor approximately 60 m south.

The hydro corridor consisted largely of mixed meadow interspersed with a variety of shrubs and young trees. Within the eastern portion of the Study Area, on either side of Brock Road, a narrow band of trees existed within the centre of the corridor. This band was largely composed of White Pine (*Pinus strobus*), though other species, including White Spruce (*Picea glauca*) and Red Pine (*Pinus resinosa*), were also present. The proposed location for the tap line traverses a naturalized Scot's Pine plantation between the

hydro corridor and proposed MTS Site. Woodlands feature prominently within the landscape on either side of the hydro corridor within the eastern portion of the study area. Natural areas west of Brock Road and north and south of Taunton Road are identified as the Seaton Core Area on Map 7: Natural Systems Plan of the City of Pickering Official Plan (2010). Portions of the hydro corridor overlap with this core area.

Several water features were present within the eastern portion of Study Area #1 in the lands north and east of Taunton Road. Unevaluated wetlands are identified on existing mapping within and adjacent to Study Area #1, including two wetland units consisting of meadow marsh and shallow marsh vegetation communities, within the lands east of Brock Road (Figure 3). Two watercourses, Urfe Creek and Ganateskiagon Creek, traverse the hydro corridor between Brock Road and Taunton Road.

Land use between Taunton Road and Duffins Junction is largely agricultural with occasional hedgerows, wooded areas and a wetland. At the time of the site visits, much of the agricultural land surrounding the hydro corridor between Taunton Road and Duffins Junction had been cleared of vegetation in preparation for residential development.

### 5.2.2 STUDY AREA #2

Study Area #2 shares its footprint with the western portion of Study Area #1 and consists of a 1,500 m stretch of hydro corridor commencing approximately 120 m south of Taunton Road and extending westward to Duffins Junction (Figures 2 and 4). The proposed tap line is approximately 290 m in length and connects Site #2 on the north side of Taunton Road to the transmission line south of the road. The proposed tap line crosses thicket, open woodland and cultural meadow vegetation types.

Land use between Taunton Road and Duffins Junction is largely agricultural with occasional hedgerows, wooded areas and a wetland. At the time of the site visits, much of the agricultural land surrounding the hydro corridor between Taunton Road and Duffins Junction had been cleared of vegetation in preparation for residential development.

An unevaluated wetland exists within the hydro corridor and adjacent lands at a point due south of candidate Site #2. Red-osier dogwood (*Cornus sericea*) and willow species (*Salix* spp.) are abundant within this thicket swamp.

### 5.2.3 STUDY AREA #3

Study Area #3 consists of a 1,700 m section of hydro corridor extending southward from Duffins Junction to approximately 335 m north of the Cherrywood Transformer Station (Figures 2 and 5). A second 575 m section of transmission line has been identified for potential upgrades east of Dixie Road. The proposed tap line is approximately 490 m in length and connects Site #3 to the transmission lines at a point north of the Cherrywood Transformer Station.

The north-south portion of the study area includes the prominent West Duffins Creek valleyland and associated Whitevale Corridor Life Science Site. The north end of the study area is characterized by deciduous, mixed and coniferous forest communities and an unmapped meadow marsh wetland; whereas the southern portion consists of agricultural fields, meadow and meadow marsh vegetation communities.

The line tap traverses a railway line and meadow marsh, as well as deciduous, mixed and coniferous forest types. To the east of Dixie Road, the hydro corridor is un-treed meadow characterized by various grass and forb species, with occasional shrubs and trees. An unnamed watercourse within the Frenchman's Bay watershed runs eastward along the northern edge of the hydro corridor and bends sharply southward at a point approximately 400 m east of Dixie Road.

## 6 SIGNIFICANT FEATURE ASSESSMENT

The following sections describe the presence and extent of natural heritage features identified within the mapping and information resources reviewed in preparation of this report. The highest concentrations of the most sensitive and/or significant natural features and functions are included within the Greenbelt Natural Heritage System (NHS) as shown on Schedule 'B' – Map 'B1' of the Durham Regional Plan (2015). The most sensitive features of the Natural Heritage System should be avoided during development, under Section 4.1 (Policy 2) of the City of Pickering Official Plan (2010). The boundaries of the NHS are depicted on Figures 2, 3, 4 and 5 of this report.

### 6.1 FISH HABITAT

Fish habitat as defined by the *Fisheries Act*, includes the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes. The Act also includes a broader definition of fish as shellfish, crustaceans, and marine mammals at all stages of their life cycles.

Transmission line upgrades for Sites #1 and #2 are located within the Duffins Creek watershed, while transmission line upgrades for Site #3 straddle the boundary between the Duffins Creek and Frenchman's Bay watersheds. Three major watercourses and several wetland units are located within the greater study area. The watercourses were not evaluated during the site investigation for their potential to provide fish habitat; however, due to their identification as 'permanent' by the OMNRF (2015a), it is assumed that all watercourses within the three Study Areas provide fish habitat.

The OMNRF recommends the establishment and/or retention of natural vegetated cover for the protection of surface water features providing fish habitat. A minimum buffer of 15 m is required for all warm-water waterbodies, while extended buffers of at least 30 m are required as setbacks from cold-water fish habitat (OMNR, 2010)

#### 6.1.1 STUDY AREA #1

Urfe Creek and West Ganaskiagon Creek traverse the eastern portion of Study Area #1. The OMNRF indicated that Urfe Creek is considered recovery habitat for Redside Dace (*Clinostomus elongatus*) (Appendix A). A pond is located within the hydro corridor approximately 13 m south of the south boundary of Site #1. While fish were not observed during the 2015 site investigation, based on the size and apparent depth of the pond it likely acts as warmwater fish habitat. The pond did not appear to be connected to streams in the area based on the results of the 2015 site investigation and consultation with online mapping and aerial photography. Ganateskiagon Creek has been identified by OMNRF as occupied habitat for Redside Dace.

#### 6.1.2 STUDY AREA #2

Watercourses were not identified within Study Area #2, based on OMNRF's Natural Heritage Areas Mapping (OMNRF, 2015a).

### 6.1.3 STUDY AREA #3

West Duffins Creek and an unnamed tributary traverse the hydro corridor approximately half way between Duffins Junction and the Cherrywood Transformer Station. An unnamed tributary within the Frenchman's Bay watershed is mapped within the transmission upgrade area east of Dixie Road. OMNRF and TRCA did not identify West Duffins Creek, its tributary, or the unnamed Frenchman's Bay tributary as Redside Dace habitat.

## 6.2 HABITATS OF ENDANGERED OR THREATENED SPECIES

The PPS (OMMAH, 2014) defines the Habitat of Endangered or Threatened Species as the habitat, as approved by the OMNRF, that is necessary for the maintenance, survival and/or the recovery of a naturally occurring or reintroduced population of Endangered or Threatened species as listed in the *Endangered Species Act, 2007*, and where those areas of occurrences are occupied or habitually occupied by the species during all or any part(s) of their life cycle. The OMNRF is mandated to ensure accurate database information for the identification, listing and conduct of ongoing assessments for significant Endangered or Threatened species and their related habitats. The City of Pickering Official Plan (2010) identifies that locations of species at risk make up a part of the Natural Heritage System. It does not however identify habitat of Endangered or Threatened species within the Official Plan mapping. Other sources were therefore used to define potential habitat in relation to the PPS, such as the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a).

The most sensitive features of the Natural Heritage System should be avoided during development, under Section 4.1 (Policy 2) of the City of Pickering Official Plan (2010). This includes the habitat of Endangered or Threatened species.

### 6.2.1 STUDY AREA #1

A search of the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a) was conducted to determine the existence and approximate locations of recorded occurrences of Endangered or Threatened species in the general area. Six (6) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ53\_61, 17PJ52\_61, 17PJ52\_60, 17PJ51\_60, 17PJ51\_59, 17PJ50\_59) surrounding Study Area #1 were checked to ensure potential species at risk were accounted for during field surveys. Redside Dace, Acadian Flycatcher (*Empidonax virescens*), and Butternut (*Juglans cinerea*) had element occurrences for the area surveyed.

In addition to a search of the NHIC database, the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada et al., 2006) and Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) were consulted to determine if there were Endangered or Threatened species known to be present within the vicinity of Study Area #1. The OBBA uses 100 km by 100 km blocks, further subdivided into 10 km by 10 km squares to compartmentalize geographical areas. Study Area #1 lies in the squares identified as 17PJ55 and 17PJ56. Acadian Flycatcher (*Empidonax virescens*), Chimney Swift (*Chaetura pelagica*), Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Bobolink (*Dolichonyx oryzivorus*), Cerulean Warbler (*Dendroica cerulea*), Eastern Meadowlark (*Sturnella magna*), Eastern Whip-poor-will (*Antrostomus vociferus*), Least Bittern (*Ixobrychus exilis*), Loggerhead Shrike (*Lanius ludovicianus*), and Yellow-breasted Chat (*Icteria virens*) had element occurrences for the squares surveyed. A copy of the search results from the OBBA is provided in Appendix D.

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #1 (Appendix A). The OMNRF identified that Urfe Creek west of Brock Road is considered recovery habitat for Redside Dace. The OMNRF also identified several species of Special Concern, such as Eastern Wood-Pewee (*Contopus virens*) and Wood Thrush (*Hylocichla mustelina*), which have records from the vicinity of Site #1. TRCA also

had records of Eastern Wood-Pewee within the general area. These species and their habitats are discussed in Section 6.6.1.3. The 2016 information request for Study Area #1 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned Endangered or Threatened species on or immediately adjacent to Study Area #1 is provided in Table 2, below. Special consideration was given to these species and their habitat during the site investigation. Species of Special Concern on the SARO List (OMNRF, 2016) are addressed in Section 6.6.1.3 of this report.

**Table 2 Endangered or Threatened Species Habitat Potential Assessment – Study Area #1**

<b>SPECIES NAME</b>	<b>SARO<sup>1</sup> COSEWIC<sup>2</sup></b>		<b>HABITAT DESCRIPTION<sup>3</sup></b>	<b>HABITAT POTENTIAL</b>	<b>FIELD ASSESSMENT AND OBSERVATIONS</b>
Acadian Flycatcher	END	END	The species is a habitat specialist and requires large tracts of forest interior in mature deciduous forests with an open understory. Territories are often close to streams, vernal pools or other water features.	Low	This species was not observed. Suitable interior habitat was not identified within Study Area #1. Interior woodland habitat is present within large woodlands bordering the hydro corridor in the vicinity of Brock Road.
Bank Swallow	THR	THR	Bank Swallows nest in burrows in natural and man-made settings, wherever there are silt or sand deposits. Nests are often along riverbanks and in aggregate pits.	Low	This species was not observed. Suitable habitat was not identified within Study Area #1.
Barn Swallow	THR	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area.	Low	Suitable nesting structures were not identified within Study Area #1; however, the species was observed throughout the Study Area. Barn Swallows likely nest in the general area and may use Study Area #1 and adjacent fields as foraging grounds.
Bobolink	THR	THR	This species builds its nests on the ground in dense grasses, such as those found in hay fields, tallgrass prairies and open meadows.	Low	This species was not observed. Meadows within the Study Area were not consistent with preferred habitat, specifically area / width requirements. Adjacent agricultural land has largely been ploughed for development.
Butternut	END	END	This species is commonly found in riparian habitats, but is also found on rich, moist, well-drained loams, and well-drained gravels, particularly those of limestone origin.	Moderate	Suitable habitat occurs within and adjacent to Study Area #1, but the species was not observed.

SPECIES NAME	SARO <sup>1</sup> COSEWIC <sup>2</sup>		HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Cerulean Warbler	THR	THR	The species is found in large, relatively undisturbed patches of mature, semi-open deciduous forest. More commonly found in Carolinian forest types in Ontario.	Low	This species was not observed. Suitable habitat was not identified within Study Area #1. Mature woodland habitat may be present within large woodlands bordering the hydro corridor in the vicinity of Brock Road.
Chimney Swift	THR	THR	The species feeds in flocks around waterbodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	Low	This species was not observed. Suitable nesting structures were not identified on or adjacent to Study Area #1.
Eastern Meadowlark	THR	THR	This species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	Low	This species was not observed. Meadows within the Study Area were not consistent with preferred habitat, specifically area / width requirements. Adjacent agricultural land has largely been ploughed for development.
Eastern Whip-poor-will	THR	THR	The species breeds in patchy forests with clearings, and generally avoids exposed, open areas, or closed-canopy forests.	Low	Preferred habitat was not identified within or adjacent to Study Area #1.
Least Bittern	THR	THR	The species breeds in stable marshes with emergent vegetation, such as cattails, and areas with open water. They are typically found in large, quiet marshes.	Low	The species was not observed during the breeding bird surveys. Large cattail marshes or other preferred habitat is not present on or adjacent to Study Area #1.
Loggerhead Shrike	END	END	The species inhabits open areas where occasional trees and shrubs provide nesting and perching sites. It is often associated with pastureland where grazing keeps grass short and prevents trees and shrubs from becoming established.	Low	The species was not observed. Preferred habitat was not identified on or adjacent to Study Area #1.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Redside Dace	END	END	Redside Dace find habitat in pools and slow-moving sections of streams, with a substrate of gravel. They prefer streams with overhanging riparian vegetation.	High	Ganateskiagon Creek traverses Study Area #1 and was identified by the OMNRF as occupied habitat for Redside Dace. Redside Dace have historic records from Urfe Creek, which traverses the eastern portion of Study Area #1.
Yellow-breasted Chat	END	END	The species breeds in early successional habitats with low, dense vegetation. Such habitat can be found in abandoned agricultural fields, power-line corridors, fencerows, forest edges and openings.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to Study Area #3. Yellow-breasted Chats may be extirpated from this part of Ontario.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, “–” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

Redside Dace is known to occupy Ganateskiagon Creek, and has historic records from Urfe Creek. Both watercourses traverse the eastern portion of Study Area #1 between Taunton Road and Brock Road. Suitable habitat for Butternut is present within and adjacent to Study Area #1, but Butternut were not observed during the site investigation. Barn Swallows were observed; however, nesting habitat was not identified on or adjacent to Study Area #1. No other Endangered or Threatened species were determined to have moderate or high habitat potential within the study area.

## 6.2.2 STUDY AREA #2

A search of the OMNRF NHIC database (OMNRF, 2015a) was conducted to determine the existence and approximate locations of recorded occurrences of Endangered or Threatened species in the general area. Five (5) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ52\_61, 17PJ52\_60, 17PJ51\_60, 17PJ51\_59, and 17PJ50\_59) surrounding Study Area #2 were checked to ensure potential species at risk were accounted for during field surveys. Redside Dace, Acadian Flycatcher, and Butternut have element occurrences for the quadrats surveyed.

In addition to a search of the NHIC database, the OBBA (Bird Studies Canada et al., 2006) and Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) were consulted to determine if there were species at risk known to be present within the vicinity of Study Area #2. Study Area #2 lies in the OBBA squares identified as 17PJ55 and 17PJ56. Acadian Flycatcher, Chimney Swift, Bank Swallow, Barn Swallow, Bobolink, Cerulean Warbler, Eastern Meadowlark, Eastern Whip-poor-will, Least Bittern, Loggerhead Shrike, and Yellow-breasted Chat had element occurrences for the squares surveyed. A copy of the search results from the OBBA is provided in Appendix D.

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #2 (Appendix A). The OMNRF identified that Ganateskiagon Creek north of Site #2 is considered occupied habitat for Redside Dace; and that Eastern Meadowlark and Bobolink have records in the area. The TRCA data received does not overlap with the current study area. The 2016 information request for Study Area #2 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned Endangered or Threatened species on or immediately adjacent to Study Area #2 is provided in Table 3, below. Special consideration was given to these species and their habitat during the site investigation. Species of Special Concern on the SARO List (OMNRF, 2016) are addressed in Section 6.6.2.3 of this report.

**Table 3 Endangered or Threatened Species Habitat Potential Assessment – Study Area #2**

<b>SPECIES NAME</b>	<b>SARO<sup>1</sup></b>	<b>COSEWIC<sup>2</sup></b>	<b>HABITAT DESCRIPTION<sup>3</sup></b>	<b>HABITAT POTENTIAL</b>	<b>FIELD ASSESSMENT AND OBSERVATIONS</b>
Acadian Flycatcher	END	END	The species is a habitat specialist and requires large tracts of forest interior in mature deciduous forests with an open understory. Territories are often close to streams, vernal pools or other water features.	Low	This species was not observed. Suitable habitat was not identified within 120 m of Study Area #2.
Bank Swallow	THR	THR	Bank Swallows nest in burrows in natural and man-made settings, wherever there are silt or sand deposits. Nests are often along riverbanks and in aggregate pits.	Low	This species was not observed. Suitable habitat was not identified within Study Area #2.
Barn Swallow	THR	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area.	Low	Suitable nesting structures were not identified within Study Area #2; however, the species was observed. Barn Swallows likely nest in the general area and may use Study Area #2 and adjacent fields as foraging grounds.
Bobolink	THR	THR	Yellow-breasted Chats find habitat in thickets and scrubby areas, such as overgrown clearings in southwestern Ontario.	Low	This species was not observed. Meadows within the Study Area were not consistent with preferred habitat, specifically area / width requirements. Adjacent agricultural land has largely been ploughed for development.
Butternut	END	END	This species is commonly found in riparian habitats, but is also found on rich, moist, well-drained loams, and well-drained gravels, particularly those of limestone origin.	Low-Moderate	This species was not observed. Suitable riparian habitat was not identified within or adjacent to Study Area #2.
Cerulean Warbler	THR	THR	The species is found in large, relatively undisturbed patches of mature, semi-open deciduous forest. More commonly found in Carolinian forest types in Ontario.	Low	This species was not observed. Suitable habitat was not identified within Study Area #2.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Chimney Swift	THR	THR	The species feeds in flocks around waterbodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	Low	This species was not observed. Suitable nesting structures were not identified on or adjacent to Study Area #2.
Eastern Meadowlark	THR	THR	This species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	Low	This species was not observed. Meadows within the Study Area were not consistent with preferred habitat, specifically area / width requirements. Adjacent agricultural land has largely been ploughed for development.
Eastern Whip-poor-will	THR	THR	The species breeds in patchy forests with clearings, and generally avoids exposed, open areas, or closed-canopy forests.	Low	Preferred habitat was not identified within or adjacent to Study Area #2.
Least Bittern	THR	THR	The species breeds in stable marshes with emergent vegetation, such as cattails, and areas with open water. They are typically found in large, quiet marshes.	Low	The species was not observed during the breeding bird surveys. Preferred habitat is not present on or adjacent to Study Area #2.
Loggerhead Shrike	END	END	The species inhabits open areas where occasional trees and shrubs provide nesting and perching sites. It is often associated with pastureland where grazing keeps grass short and prevents trees and shrubs from becoming established.	Low	The species was not observed. Preferred habitat was not identified on or adjacent to Study Area #2.
Redside Dace	END	END	Redside Dace find habitat in pools and slow-moving sections of streams, with a substrate of gravel. They prefer streams with overhanging riparian vegetation.	Low	There are no watercourses within 120 m of Study Area #2 that provide current or historic habitat for this species.
Yellow-breasted Chat	END	END	Yellow-breasted Chats find habitat in thickets and scrubby areas, such as overgrown clearings in southwestern Ontario.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to Study Area #3. Yellow-breasted Chats may be extirpated from this part of Ontario.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, “-” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

There were no Endangered or Threatened species that were determined to have moderate or high habitat potential within or adjacent to the study area boundaries.

### 6.2.3 STUDY AREA #3

A search of the OMNRF NHIC database (OMNRF, 2015a) was conducted to determine the existence and approximate locations of recorded occurrences of Endangered or Threatened species in the general area. Seven (7) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ51\_60, 17PJ51\_59, 17PJ51\_58, 17PJ50\_59, 17PJ50\_58, 17PJ51\_57 and 17PJ52\_57) surrounding Study Area #3 were checked to ensure potential species at risk were accounted for during field surveys. Acadian Flycatcher, Butternut, Bobolink, and Eastern Meadowlark have element occurrences for the quadrats surveyed.

In addition to a search of the NHIC database, the OBBA (Bird Studies Canada et al., 2006) and Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) were consulted to determine if there were species at risk known to be present within the vicinity of Study Area #3. Study Area #3 lies in the OBBA square identified as 17PJ55. Least Bittern, Chimney Swift, Acadian Flycatcher, Bank Swallow, Barn Swallow, Cerulean Warbler, Yellow-breasted Chat, Bobolink and Eastern Meadowlark had element occurrences for the square surveyed. A copy of the search results from the OBBA is provided in Appendix D.

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #3 (Appendix A). The OMNRF and TRCA identified that there are records of Butternut in the area. TRCA also had records for Eastern Meadowlark within the hydro corridor east of Dixie Road and Wood Thrush near the east end of the proposed tap line. The 2016 information request for Study Area #3 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned Endangered or Threatened species on or immediately adjacent to Study Area #3 is provided in Table 4, below. Special consideration was given to these species and their habitat during the site investigation. Species of Special Concern on the SARO List are addressed in Section 6.6.3.3 of this report.

**Table 4 Endangered or Threatened Species Habitat Potential Assessment – Study Area #3**

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Acadian Flycatcher	END	END	The species is a habitat specialist and requires large tracts of forest interior in mature deciduous forests with an open understory. Territories are often close to streams, vernal pools or other water features.	Low-Moderate	This species was not observed. Preferred interior habitat is not present within Study Area #3; however, marginal habitat may be present within forested sections flanking West Duffins Creek.
Bank Swallow	THR	THR	Bank Swallows nest in burrows in natural and man-made settings, wherever there are silt or sand deposits. Nests are often along riverbanks and in aggregate pits.	High	This species was observed in the vicinity of West Duffins Creek (Figure 7). Suitable nesting habitat exists on the steep, gravelly slopes along the riverbank.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Barn Swallow	THR	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area.	Low-Moderate	The species was observed in open areas south of West Duffins Creek and north of the Cherrywood Transfer Station. Suitable nesting structures were not identified on or adjacent to Study Area #3. Barn Swallows likely nest in the general area and may use the study area as foraging grounds.
Bobolink	THR	THR	This species builds its nests on the ground in dense grasses, such as those found in hay fields, tallgrass prairies and open meadows.	High	The species was observed within the meadow on the east side of the transmission line corridor south of West Duffins Creek (Figure 7).
Butternut	END	END	This species is commonly found in riparian habitats, but is also found on rich, moist, well-drained loams, and well-drained gravels, particularly those of limestone origin.	Moderate	This species was not observed. Suitable habitat is present within and adjacent to Study Area #3.
Cerulean Warbler	THR	END	The species is found in large, relatively undisturbed patches of mature, semi-open deciduous forest. More commonly found in Carolinian forest types in Ontario.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #3.
Chimney Swift	THR	THR	The species feeds in flocks around waterbodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to Study Area #3.
Eastern Meadowlark	THR	THR	This species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	High	This species was observed within the hydro corridor south of Site #3 (Figure 7).
Least Bittern	THR	THR	The species breeds in stable marshes with emergent vegetation, such as cattails, and areas with open water. They are typically found in large, quiet marshes.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to Study Area #3.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Yellow-breasted Chat	END	END	Yellow-breasted Chats find habitat in thickets and scrubby areas, such as overgrown clearings in southwestern Ontario.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #3. Yellow-breasted Chats may be extirpated from this part of Ontario.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, “–” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

Three species at risk, including Bank Swallow, Eastern Meadowlark and Bobolink, were observed within or adjacent to Study Area #3 during the site investigation (Figures 6 and 7). Butternut were not observed within the hydro corridor or line tap areas; however, they are known to be present within the general area. If MTS Site #3 is chosen as the preferred site, more detailed surveys should be completed in the vicinity of the tap line to ensure the species is not present. As Threatened and Endangered species, all receive species and habitat protection under the *Endangered Species Act* (ESA), 2007.

Two Bank Swallows were observed flying over West Duffins Creek on July 9, 2016. While nests were not observed, the very steep sand/gravelly valley slopes along West Duffins Creek provide suitable nesting habitat for this species. It is highly likely that Bank Swallows are nesting within the valley corridor, though not necessarily within Study Area #3. As disturbance to the banks and associated nesting structures is unlikely as a result of the proposed transmission line upgrades, impacts to this species are expected to be minimal.

A single Eastern Meadowlark male was observed on June 29 and July 8, 2016 within the hydro corridor east of Dixie Road (Figures 6 and 7) and is likely nesting in the corridor. Given that the proposed works are unlikely to permanently alter the habitat within the hydro corridor, it is likely that impacts to this species can be mitigated through the use of specific timing windows for vegetation removal, if required.

A pair of Bobolinks were observed on June 29, 2016 within the meadow east of the hydro corridor and south of West Duffins Creek. A single male was observed singing within the same meadow on July 8, 2016. Habitat within this meadow consisted of 75% grasses and 25 % forbs, which is consistent with preferred nesting habitat for Bobolink. Photos of representative habitat are provided in Appendix C. Potential impacts to this species can likely be mitigated through the use of specific timing windows for vegetation removal, if required.

There were no other Endangered or Threatened species that were determined to have moderate or high habitat potential within or adjacent to the study area boundaries.

### 6.3 SIGNIFICANT AREAS OF NATURAL AND SCIENTIFIC INTEREST

Areas of Natural and Scientific Interest (ANSI) are defined as areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education (OMMAH, 2014). ANSIs can be ranked as Provincially or Regionally significant.

The OMNRF Natural Heritage Areas Mapping (OMNRF, 2015a) was searched for the presence of ANSIs within 120 m of the three transmission line upgrade study areas. No ANSIs were recorded within 120 m of the study areas.

## 6.4 SIGNIFICANT WETLANDS

Wetlands are defined in the PPS (OMMAH, 2014) as lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. Wetlands are classified as four types - swamps, marshes, bogs, or fens. A significant wetland is defined as an area identified as provincially significant by the OMNRF using evaluation procedures established by the province, as amended from time to time (OMMAH, 2014). The City of Pickering Official Plan (2010) identifies that wetlands are among the most sensitive features that make up a part of the Natural Heritage System (Policy 4.1), and development should avoid these sensitive features. In addition to the OMNRF mapping, wetlands are mapped on Schedule 3: Natural Heritage System of the City of Pickering Official Plan (2010).

### 6.4.1 STUDY AREA #1

Satellite photographs and available mapping resources for Study Area #1 and surrounding area were reviewed for the presence of wetlands. A review of the OMNRF Natural Heritage Areas Mapping (OMNRF, 2015a) was carried out to determine the significance of wetlands on or adjacent to Study Area #1.

Three unevaluated wetland pockets were mapped within the hydro corridor, including two within the section east of Brock Road, and one directly south of Site #2. Four other wetland units abut or exist within 30 m of the corridor (Figure 3). The wetland at the southwest corner of Site #1 was mapped on Schedule 3: Natural Heritage System of the City of Pickering Official Plan (2010). The closest evaluated non-provincially significant wetland is the Urfe Creek Wetland, designated as a swamp, and located approximately 510 m northwest of Site #1.

### 6.4.2 STUDY AREA #2

Satellite photographs and available mapping resources for Study Area #2 and surrounding area were reviewed for the presence of wetlands. A review of the OMNRF Natural Heritage Areas Mapping (OMNRF, 2015a) was carried out to determine the significance of wetlands on or adjacent to Study Area #2.

An unevaluated wetland was mapped approximately 160 m south of Site #2 within the hydro corridor and bordering lands to the north and south (Figure 4). There were no other unevaluated or evaluated wetlands located within or adjacent to Study Area #2.

### 6.4.3 STUDY AREA #3

Satellite photographs and available mapping resources for Study Area #3 and surrounding area were reviewed for the presence of wetlands. A review of the OMNRF Natural Heritage Areas Mapping (OMNRF, 2015a) was carried out to determine the significance of wetlands on or adjacent to Study Area #3.

Two unevaluated wetlands were mapped within the tap line area and the southern extent of the hydro corridor north of Cherrywood Transformer Station. There were no other wetlands identified within or adjacent to Study Area #3 (Figure 5).

## 6.5 SIGNIFICANT COASTAL WETLANDS

Significant coastal wetlands were not identified within 120 m of the three hydro corridor upgrade areas.

## 6.6 SIGNIFICANT WILDLIFE HABITAT

Wildlife habitat is defined as areas where plants, animals, and other organisms live and find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual life cycle; and areas which are important to migratory or non-migratory species (OMMAH, 2014).

Wildlife habitat is referred to as significant if it is ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (OMMAH, 2014).

Guidelines and criteria for the identification of significant wildlife habitat (SWH) are detailed in the Significant Wildlife Habitat Technical Guide (OMNR, 2000), Draft Ecoregion 6E Significant Wildlife Habitat Criterion Schedule (OMNR, 2012), the Natural Heritage Reference Manual (OMNR, 2010) and the Significant Wildlife Habitat: Mitigation Support Tool (OMNRF, 2015b). SWH was not mapped in the City of Pickering (2010) or Durham Region (2015) Official Plans.

SWH is described under four main categories, including seasonal concentration areas, rare vegetation communities or specialized habitat for wildlife, habitats of species of conservation concern, and animal movement corridors. These types of habitat are described below.

### SEASONAL CONCENTRATION AREAS

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Areas of seasonal concentrations of animals are defined as “areas where animals occur in relatively high densities at specific periods in their life cycle and/or particular seasons.” At these times, species are vulnerable to ecological interferences or weather impacts. Areas of seasonal concentration are typically small in comparison to the larger habitat areas used by species at other times of the year. The identification of habitats associated with seasonal concentrations of species is typically based on known occurrences (OMNR, 2000).

The OMNRF did not identify seasonal concentration areas in their review of the lands within and adjacent the three candidate MTS sites. Information has not yet been received for the lands encompassed by the three study areas examined in this report. While criteria within the Ecoregion 6E SWH Criterion Schedule (OMNR, 2012) can be applied to determine if significant wildlife habitat is present, detailed assessments of seasonal concentration areas were beyond the scope of this study. To fully assess for the potential for various habitat types more detailed vegetation surveys, including Ecological Land Classification (ELC) mapping would be required.

### RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITATS FOR WILDLIFE

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Rare or specialized habitats include rare vegetation communities or concentrations of rare plant species. These specialized areas may also support rare animal species (OMNR, 2000). Rare vegetation communities include Cliffs and Talus Slopes, Sand Barrens, Alvares, Old Growth Forest, Savannahs and Tallgrass Prairies. Specialized habitats include Waterfowl Nesting Areas, Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat, Woodland Raptor Nesting Habitat, Turtle Nesting Areas, Seeps and Springs, and Amphibian Breeding Habitats.

Detailed assessments of rare vegetation communities and specialized habitats for wildlife were beyond the scope of this study. More detailed surveys of wildlife populations and vegetation communities, including ELC mapping, is required to fully assess the potential for significant wildlife habitat. Given the disturbed nature of the hydro corridors, which comprise the majority of the three study areas, it is unlikely that these areas provide specialized habitat for wildlife or are colonized by rare vegetation types. There is, however,

great potential for significant wildlife habitat within the natural heritage features within and adjacent to the study areas. In the absence of detailed surveys, it should be assumed that wetlands, woodlands and valleylands have the potential to act as significant habitat for a variety of wildlife species. Impacts to these natural features should be avoided where possible and mitigation should be provided to minimize or eliminate negative impacts to these features and the resident wildlife.

## HABITATS OF SPECIES OF CONSERVATION CONCERN

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Species of conservation concern generally include the groups listed below:

- Species defined as Special Concern in Ontario;
- Species that are listed as rare or historical in Ontario based on records kept by the NHIC;
- Species whose populations are known to be experiencing significant declines in Ontario; and
- Species that have a high percentage of their global population in Ontario and are rare or uncommon in the subject area.

An assessment of the potential for habitat for species of conservation concern has been completed for the three study areas using information from background sources, a review of aerial imagery, and field observations. These assessments are detailed in Section 6.6.1.

## ANIMAL MOVEMENT CORRIDORS

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The Natural Heritage Reference Manual (OMNR, 2010) describes animal movement corridors as habitats that link two or more wildlife habitats that are critical to the maintenance of a population, species, or group of species, or habitats with a key ecological function to enable wildlife to move, with minimum mortality between areas of SWH or core natural areas. The Significant Wildlife Habitat Technical Guide (OMNR, 2000) further describes animal movement corridors as elongated, naturally vegetated parts of the landscapes used by animals to move from one habitat to another. Examples may include riparian zones and shorelines, wetland buffers, stream and river valleys, woodlands, and anthropogenic features including hydro and pipeline corridors, abandoned road and rail allowances, and fencerows and windbreaks.

Detailed assessments of movement corridors as outlined within the SWH Criterion Schedules for Ecoregion 6E (OMNR, 2012) cannot be completed without more detailed investigations into other significant wildlife habitats within the area. While animal movement corridors were not identified based on the criteria in the Significant Wildlife Habitat Technical Guide (OMNR, 2000) or Criterion Schedule for Ecoregion 6E (OMNR, 2012), the tap line area and hydro corridor south of Site #3 within Study Area #3 is located within an area designated as the Rouge-Duffins Wildlife Corridor on Schedule 3: Resource Management in the City of Pickering Official Plan (2010). This corridor is between 0.5 and 2 km in width, running in a northeast/southwest direction along the north part of Pickering, from West Duffins Creek to the Rouge River.

The hydro corridors within each study area provide linkages between wetlands, woodlands and valleylands within the general area. In addition, the valleylands themselves likely act as refuges and movement corridors for a number of species. For the purpose of this report, it is assumed that the hydro corridors and vegetated stream valleys act as movement corridors within the landscape.

## 6.6.1 STUDY AREA #1

### 6.6.1.1 HABITATS OF SPECIES OF CONSERVATION CONCERN

A geographical search for rare or special concern species presence and associated habitat was conducted using the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a). Six (6) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ53\_61, 17PJ52\_61, 17PJ52\_60, 17PJ51\_60, 17PJ51\_59, 17PJ50\_59) surrounding Study Area #1 were checked to ensure potential species at risk were accounted for during field surveys. Of the seven (7) element occurrences recorded for the area searched, three were species of conservation concern that are tracked by the NHIC, but do not appear on the SARO or COSEWIC Lists and as such are not afforded habitat protection. These species are Eastern Burning Bush (*Euonymus atropurpureus*), Pronghorn Clubtail (*Gomphus graslinellus*), and Lurking Leskea (*Plagiothecium latebricola*). Limited information is available on the appearance and habit of these species making an assessment of habitat potential difficult; as such, they will not be discussed further in this report. Should a more detailed vegetation survey be required at more advance stages of this project, consideration could be given to these species. Along with the Endangered and Threatened species addressed in Section 6.2.1 (Redside Dace, Acadian Flycatcher, and Butternut), there was an element occurrence for a species of Special Concern, the Eastern Ribbonsnake (*Thamnophis sauritus*).

In addition to a search of the NHIC database, a review of available habitat types in the area, the OBBA (Bird Studies Canada et al., 2006) and the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) was completed to determine potential for additional species of conservation concern. Based on this review there is potential for several additional species of Special Concern in the vicinity of Study Area #1, including Black Tern (*Chlidonias niger*), Canada Warbler (*Cardellina canadensis*), Common Nighthawk (*Chordeiles minor*), Eastern Wood-Pewee, Golden-winged Warbler (*Vermivora chrysoptera*), Hooded Warbler (*Setophaga citrina*), Louisiana Waterthrush (*Seiurus motacilla*), Olive-sided Flycatcher (*Contopus cooperi*), Peregrine Falcon (*Falco peregrinus*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Short-eared Owl (*Asio flammeus*), Wood Thrush, Snapping Turtle (*Chelydra serpentina*), Monarch (*Danaus plexippus*) and Milksnake (*Lampropeltis triangulum*).

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #1 (Appendix A). The OMNRF identified two species of Special Concern, Eastern Wood-Pewee and Wood Thrush, which have records from the vicinity of Site #1. TRCA also had records of Eastern Wood-Pewee within the general area. The 2016 information request for Study Area #1 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned species of conservation concern in the vicinity of Study Area #1 is provided in Table 5.

**Table 5 Species of Conservation Concern Habitat Potential Assessment – Study Area #1**

<b>SPECIES NAME</b>	<b>SARO<sup>1</sup></b>	<b>COSEWIC<sup>2</sup></b>	<b>HABITAT DESCRIPTION<sup>3</sup></b>	<b>HABITAT POTENTIAL</b>	<b>FIELD ASSESSMENT AND OBSERVATIONS</b>
Black Tern	SC	NAR	The species requires large, shallow, quiet marshes where their floating nests are not subject to disturbance from humans or boat traffic.	Low	The species was not observed and suitable habitat was not identified within or adjacent to Study Area #1.
Canada Warbler	SC	THR	This species is found in a variety of forest types, but is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Also found in riparian shrub forests.	Low-Moderate	This species was not observed. Suitable habitat, such as wet forests or riparian areas with a well-developed shrub layer, may exist in valleylands within and adjacent to the study area.
Common Nighthawk	SC	THR	The species nests in areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings and open rock barrens.	Low	The species was not observed and preferred habitat was not identified within or adjacent to the study area.
Eastern Ribbonsnake	SC	SC	Eastern Ribbonsnakes are predominately found along the edges of large wetlands containing an abundance of shrubby vegetation. They can also be found in open woodlands that are adjacent to these wetlands.	Low-Moderate	This species was not observed. Marginal habitat may exist at wetland edges within and adjacent to Study Area #1.
Eastern Wood-Pewee	SC	SC	Eastern Wood-Pewees prefer deciduous and mixedwood forests. They are often observed sallying to capture flying insects from an exposed perch high in the canopy.	Moderate-High	The species was not observed. Woodlands adjacent to the hydro corridor within the eastern portion of the study area may provide habitat for this species.
Golden-winged Warbler	SC	THR	Golden-winged Warblers are found in shrubby areas surrounded by woodland, such as utility right-of-ways, field edges, and logged areas.	Low-Moderate	This species was not observed. Portions of the hydro corridor may provide suitable habitat for this species.
Hooded Warbler	SC	NAR	Hooded Warblers are found in deciduous forests containing tall trees and a well-closed canopy. They require large tracts of woodland, preferring to breed near small clearings with shrubby vegetation.	Low	This species was not observed. Preferred habitat may exist within large woodlands adjacent to the hydro corridor within the vicinity of Brock Road.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Louisiana Waterthrush	SC	THR	The species typically nests along pristine, headwater streams associated with large tracts of mature forest. It may also be found in heavily wooded deciduous swamps with large areas of open water.	Low	The species was not observed and preferred habitat was not identified within the study area.
Milksnake	SC	SC	Milksnakes can be found in a range of habitats including deciduous woodland edges, abandoned fields, rocky outcrops and alvars; often near water.	Moderate	The species was not observed. Moderate habitat potential exists throughout Study Area #1.
Monarch	SC	SC	The species is commonly found in abandoned fields, along roadsides and in other habitats where Milkweed, Goldenrod, Asters and Purple Loosestrife exist.	Moderate-High	A single individual was observed. There is moderate potential for this species to breed in the mixed meadow throughout the transmission corridor.
Olive-sided Flycatcher	SC	THR	The species lives in forest openings and edges, particularly where tall snags and dead trees can be used for foraging perches. Breeding habitat is frequently located along wooded riparian corridors or wetlands.	Low	The species was not observed. Preferred habitat was not identified within or adjacent to the study area.
Peregrine Falcon	SC	SC	The species usually nests on steep cliff ledges adjacent to large waterbodies, but it has been known to nest on ledge of tall buildings.	Low	The species was not observed and suitable nesting structures were not identified within or adjacent to the study area.
Red-headed Woodpecker	SC	THR	Red-headed Woodpeckers are found in open deciduous or mixed woodlands, preferring areas with many dead trees including golf courses, cemeteries and parks.	Low	This species was not observed. Suitable habitat was not identified on or adjacent to Study Area #1.
Short-eared Owl	SC	SC	The species is found in a variety of open areas including grassland, savannah, marsh and tundra where small mammal populations are abundant.	Low-Moderate	The species was not observed. Meadows, meadow marshes and grasslands within the hydro corridor may provide suitable habitat for this species.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Snapping Turtle	SC	SC	The species is generally associated with shallow ponds, shallow lakes and streams with abundant vegetation. Suitable nesting habitat includes gravelly or sandy areas along streams, gravel shoulders along roadsides, dams and aggregate pits.	Moderate	The pond located 13 m south of the Site #1 has moderate habitat potential. Snapping Turtles were not observed during the site investigation.
Wood Thrush	SC	THR	This species is strongly associated with woodlands containing tall trees, usually deciduous forests but occasionally mixed wood forests as well. The presence of a thick understorey is usually a prerequisite for site occupancy.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #1.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, NAR – Not at Risk, “-” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

Based on this assessment there is moderate potential for Eastern Wood-Pewee, Milksnake, Monarch and Snapping Turtle within or adjacent to Study Area #1. As species of Special Concern (formerly Vulnerable) on the SARO list, these species do not receive habitat protection under the *Endangered Species Act* (Government of Ontario, 2007).

## 6.6.2 STUDY AREA #2

### 6.6.2.1 HABITATS OF SPECIES OF CONSERVATION CONCERN

A geographical search for rare or special concern species presence and associated habitat was conducted using the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a). Five (5) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ52\_61, 17PJ52\_60, 17PJ51\_60, 17PJ51\_59, and 17PJ50\_59) surrounding Study Area #2 were checked to ensure potential species at risk were accounted for during field surveys. Of the six element occurrences recorded for the area searched, two are species of conservation concern that are tracked by the NHIC, but do not appear on the SARO or COSEWIC Lists and as such are not afforded habitat protection. These species are Eastern Burning Bush and Lurking Leskea. Limited information is available on the appearance and habit of these species making an assessment of habitat potential difficult; as such, they will not be discussed further in this report. Should a more detailed vegetation survey be required at a more advanced stage of this project, consideration could be given to these species. Along with the Endangered and Threatened species addressed in Section 6.2.2 (Redside Dace, Acadian Flycatcher, and Butternut), there was an element occurrence for a species of Special Concern, the Eastern Ribbonsnake.

In addition to a search of the NHIC database, a review of available habitat types in the area, the OBBA (Bird Studies Canada et al., 2006) and the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) was completed to determine potential for additional species of conservation concern. Based on this review there is potential for several species of Special Concern in the vicinity of Study #2, including Black Tern, Canada

Warbler, Common Nighthawk, Eastern Wood-Pewee, Golden-winged Warbler, Hooded Warbler, Louisiana Waterthrush, Peregrine Falcon, Olive-sided Flycatcher, Red-headed Woodpecker, Short-eared Owl, Wood Thrush, Snapping Turtle, Monarch and Milksnake.

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #2 (Appendix A). The OMNRF identified nearby records for several Endangered and Threatened species (Section 6.2.2); however, species of conservation concern with the potential to find habitat in the general area of Site #2 were not identified by the OMNRF. The TRCA data received does not overlap with the current study area and the 2016 information request for Study Area #2 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned species of conservation concern in the vicinity of Site #2 is provided in Table 6.

**Table 6 Species of Conservation Concern Habitat Potential Assessment – Study Area #2**

<b>SPECIES NAME</b>	<b>SARO<sup>1</sup></b>	<b>COSEWIC<sup>2</sup></b>	<b>HABITAT DESCRIPTION<sup>3</sup></b>	<b>HABITAT POTENTIAL</b>	<b>FIELD ASSESSMENT AND OBSERVATIONS</b>
Black Tern	SC	NAR	The species requires large, shallow, quiet marshes where their floating nests are not subject to disturbance from humans or boat traffic.	Low	The species was not observed and suitable habitat was not identified within or adjacent to Study Area #2.
Canada Warbler	SC	THR	This species is found in a variety of forest types, but is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Also found in riparian shrub forests.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to the study area.
Common Nighthawk	SC	THR	The species nests in areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings and open rock barrens.	Low	The species was not observed and preferred habitat was not identified within or adjacent to the study area.
Eastern Ribbonsnake	SC	SC	Eastern Ribbonsnakes are predominately found along the edges of large wetlands containing an abundance of shrubby vegetation. They can also be found in open woodlands that are adjacent to these wetlands.	Low-Moderate	This species was not observed. A single small wetland south of Site #2 may provide marginal habitat. Preferred habitat was not identified on or adjacent to the study area.
Eastern Wood-Pewee	SC	SC	Eastern Wood-Pewees prefer deciduous and mixed forests. They are often observed sallying to capture flying insects from an exposed perch high in the canopy.	Low	The species was not observed. Preferred habitat was not identified within or adjacent to the study area.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Golden-winged Warbler	SC	THR	Golden-winged Warblers are found in shrubby areas surrounded by woodland, such as utility right-of-ways, field edges, and logged areas.	Low-Moderate	This species was not observed. Portions of the hydro corridor may provide suitable habitat for this species.
Hooded Warbler	SC	NAR	Hooded Warblers are found in deciduous forests containing tall trees and a well-closed canopy. They require large tracts of woodland, preferring to breed near small clearings with shrubby vegetation.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #2.
Louisiana Waterthrush	SC	THR	The species typically nests along pristine, headwater streams associated with large tracts of mature forest. It may also be found in heavily wooded deciduous swamps with large areas of open water.	Low	The species was not observed and preferred habitat was not identified within the study area.
Milksnake	SC	SC	Milksnakes can be found in a range of habitats including deciduous woodland edges, abandoned fields, rocky outcrops and alvars; often near water.	Low-Moderate	The species was not observed. Recent construction activities have reduced the availability of habitat adjacent to Study Area #2.
Monarch	SC	SC	The species is commonly found in abandoned fields, along roadsides and in other habitats where Milkweed, Goldenrod, Asters and Purple Loosestrife exist.	Moderate	The species was not observed. There is moderate potential for this species to breed in the mixed meadows throughout the transmission corridor.
Red-headed Woodpecker	SC	THR	Red-headed Woodpeckers are found in open deciduous or mixed woodlands, preferring areas with many dead trees including golf courses, cemeteries and parks.	Low	This species was not observed. Suitable habitat was not identified on or adjacent to Study Area #2.
Olive-sided Flycatcher	SC	THR	The species lives in forest openings and edges, particularly where tall snags and dead trees can be used for foraging perches. Breeding habitat is frequently located along wooded riparian corridors or wetlands.	Low	The species was not observed. Preferred habitat was not identified within or adjacent to the study area.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Peregrine Falcon	SC	SC	The species usually nests on steep cliff ledges adjacent to large waterbodies, but it has been known to nest on ledge of tall buildings.	Low	The species was not observed and suitable nesting structures were not identified within or adjacent to the study area.
Short-eared Owl	SC	SC	The species is found in a variety of open areas including grassland, savannah, marsh and tundra where small mammal populations are abundant.	Low-Moderate	The species was not observed. Meadows, meadow marshes and grasslands within the hydro corridor may provide suitable habitat for this species.
Snapping Turtle	SC	SC	The species is generally associated with shallow ponds, shallow lakes and streams with abundant vegetation. Suitable nesting habitat includes gravelly or sandy areas along streams, gravel shoulders along roadsides, dams and aggregate pits.	Low	The species was not observed. Suitable habitat was not identified within or adjacent to Study Area #2.
Wood Thrush	SC	THR	This species is strongly associated with woodlands containing tall trees, usually deciduous forests but occasionally mixed wood forests as well. The presence of a thick understorey is usually a prerequisite for site occupancy.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #2.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, NAR – Not at Risk, “-” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

Based on this assessment there is moderate potential for Monarch within Study Area #2. As a species of Special Concern (formerly Vulnerable) on the SARO list, this species does not receive habitat protection under the *Endangered Species Act* (Government of Ontario, 2007).

### 6.6.3 STUDY AREA #3

#### 6.6.3.1 HABITATS OF SPECIES OF CONSERVATION CONCERN

A geographical search for rare or special concern species presence and associated habitat was conducted using the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a). Seven (7) one square kilometre (1 km<sup>2</sup>) quadrats (17PJ51\_60, 17PJ51\_59, 17PJ51\_58, 17PJ50\_59, 17PJ50\_58, 17PJ51\_57 and 17PJ52\_57) surrounding Study Area #3 were checked to ensure potential species at risk were accounted for during field surveys. Of the nine element occurrences recorded for the area searched, three are species of conservation concern that are tracked by the NHIC, but do not appear on the SARO or COSEWIC Lists and as such are not afforded habitat protection. These species are Eastern Burning Bush,

Green-striped Darner (*Aeshna verticalis*) and Lurking Leskea. Limited information is available on the appearance and habit of these species making an assessment of habitat potential difficult; as such, they will not be discussed further in this report. Should more detailed wildlife and vegetation surveys be required at a more advanced stage of this project, consideration could be given to these species. Along with the Endangered and Threatened species addressed in Section 6.2.3 (Acadian Flycatcher, Bobolink, Butternut, and Eastern Meadowlark), there was an element occurrence for a species of Special Concern, the Eastern Ribbonsnake.

In addition to a search of the NHIC database, a review of available habitat types in the area, the OBBA (Bird Studies Canada et al., 2006) and the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) was completed to determine potential for additional species of conservation concern. Based on this review, there is potential for several additional species of Special Concern in the vicinity of Study Area #3, including Black Tern, Canada Warbler, Common Nighthawk, Eastern Wood-Pewee, Golden-winged Warbler, Hooded Warbler, Red-headed Woodpecker, Wood Thrush, Peregrine Falcon, Snapping Turtle, Monarch and Milksnake.

During the 2015 phase of the project, the Aurora District OMNRF and TRCA were contacted for information pertaining to species at risk in the general area of candidate MTS Site #3 (Appendix A). Species of conservation concern with the potential to find habitat in the general area of Site #3 were identified by the OMNRF and include several species of Special Concern, including Eastern Wood-Pewee and Wood Thrush. TRCA had records for Wood Thrush near the east end of the proposed tap line. The 2016 information request for Study Area #3 had not been filled at the time this report was published.

An assessment of the habitat potential for the above-mentioned species of conservation concern in the vicinity of Study Area #3 is provided in Table 7.

**Table 7 Species of Conservation Concern Habitat Potential Assessment – Study Area #3**

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Black Tern	SC	NAR	The species requires large, shallow, quiet marshes where their floating nests are not subject to disturbance from humans or boat traffic.	Low	The species was not observed. Preferred habitat was not identified within or adjacent to the study area.
Canada Warbler	SC	THR	This species is found in a variety of forest types, but is most abundant in wet, mixed deciduous-coniferous forests with a well-developed shrub layer. Also found in riparian shrub forests.	Low	This species was not observed. Suitable habitat, such as wet forests or riparian areas with a well-developed shrub layer, may exist in valleylands within and adjacent to the study area.
Common Nighthawk	SC	THR	The species nests in areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings and open rock barrens.	Low	This species was not observed. Suitable habitat was not identified within or adjacent to Study Area #3.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Eastern Ribbonsnake	SC	SC	Eastern Ribbonsnakes are predominately found along the edges of large wetlands containing an abundance of shrubby vegetation. They can also be found in open woodlands that are adjacent to these wetlands.	Low	This species was not observed. Wetlands west of Site #3 may provide marginal habitat. Preferred habitat was not identified on or adjacent to the study area.
Eastern Wood-Pewee	SC	SC	Eastern Wood-Pewees prefer deciduous and mixedwood forests. They are often observed sallying to capture flying insects from an exposed perch high in the canopy.	Low-Moderate	The species was not observed, but the vegetated valleyland surrounding West Duffins Creek may provide habitat for this species.
Golden-winged Warbler	SC	THR	Golden-winged Warblers are found in shrubby areas surrounded by woodland, such as utility right-of-ways, field edges, and logged areas.	Low	This species was not observed. Portions of the hydro corridor may provide suitable habitat for this species.
Hooded Warbler	SC	NAR	Hooded Warblers are found in deciduous forests containing tall trees and a well-closed canopy. They require large tracts of woodland, preferring to breed near small clearings with shrubby vegetation.	Low-Moderate	The species was not observed, but the vegetated valleyland surrounding West Duffins Creek may provide habitat for this species.
Milksnake	SC	SC	Milksnakes can be found in a range of habitats including deciduous woodland edges, abandoned fields, rocky outcrops and alvars; often near water.	Moderate	The species was not observed. Moderate habitat potential exists throughout Study Area #3.
Monarch	SC	SC	The species is commonly found in abandoned fields, along roadsides and in other habitats where Milkweed, Goldenrod, Asters and Purple Loosestrife exist.	Moderate	The species was not observed. Moderate habitat potential exists within the mixed meadow areas and along the roadsides within Study Area #3.
Peregrine Falcon	SC	SC	The species usually nests on steep cliff ledges adjacent to large waterbodies, but it has been known to nest on ledge of tall buildings.	Low	The species was not observed and suitable nesting structures were not identified within or adjacent to the study area.

SPECIES NAME	SARO <sup>1</sup>	COSEWIC <sup>2</sup>	HABITAT DESCRIPTION <sup>3</sup>	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Red-headed Woodpecker	SC	THR	Red-headed Woodpeckers are found in open deciduous or mixed woodlands, preferring areas with many dead trees including golf courses, cemeteries and parks.	Low	This species was not observed. Preferred habitat was not identified within or adjacent to Study Area #3.
Snapping Turtle	SC	SC	The species is generally associated with shallow ponds, shallow lakes and streams with abundant vegetation. Suitable nesting habitat includes gravelly or sandy areas along streams, gravel shoulders along roadsides, dams and aggregate pits.	Low	Water features containing suitable habitat were not identified within or adjacent to Study Area #3.
Wood Thrush	SC	THR	This species is strongly associated with woodlands containing tall trees, usually deciduous forests but occasionally mixed wood forests as well. The presence of a thick understorey is usually a prerequisite for site occupancy.	Moderate – High	This species was observed within the woodland on the south side of West Duffins Creek (Figure 7). Suitable habitat is thought to exist within the West Duffins Creek valleyland and wooded areas north of the Cherrywood Transformer Station.

Protection status: <sup>1</sup> SARO - Species at Risk in Ontario and <sup>2</sup> COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, “-” – Not listed. <sup>3</sup> Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

One species of Special Concern, Wood Thrush, was observed during the breeding bird surveys. A single male Wood Thrush was observed singing within the wooded area south of West Duffins Creek and east of the hydro corridor on June 29, 2016. While not observed during the site investigation, there is moderate habitat potential for Milksnake and Monarch within and adjacent to Study Area #3. As species of Special Concern (formerly Vulnerable) on the SARO list, these species do not receive habitat protection under the *Endangered Species Act* (Government of Ontario, 2007).

## 6.7 SIGNIFICANT WOODLANDS

Significant woodlands are defined as treed areas that provide environmental and economic benefits such as erosion prevention, water retention, and provision of habitat, recreation and the sustainable harvest of woodland products (OMMAH, 2014). Woodlands include treed areas, woodlots or forested areas and vary in their level of significance. The identification and assessment of significant woodlands is the responsibility of the local planning bodies; in this case the City of Pickering and Regional Municipality of Durham, and should be identified using criteria established by the OMNRF. Woodland significance is typically determined by evaluating key criteria which relate to woodland size, ecological function, uncommon woodland species, and economic and social value.

Wooded areas within the three study areas have been identified on Map B1d (Greenbelt Natural Heritage System and Key Natural Heritage and Hydrologic Features) of the Durham Region Official Plan (2015) as Key Natural Heritage and Hydrologic Features. The extent of the mapped woodlands appears to be consistent with OMNRF's Natural Heritage Areas Mapping (OMNRF, 2015a). The mapped woodlands are shown on Figures 2, 3, 4, and 5. Vegetation removal within woodlands should be avoided where possible.

Detailed assessments of the vegetation within and adjacent to the hydro corridors and tap line areas were beyond the scope of this study. As a result, specific descriptions of the vegetation communities present within the three Study Areas are not provided in this report. While significant impacts to wooded areas are not anticipated as a result of the proposed line upgrades, there is potential for vegetation removal to be required to facilitate construction of the tap lines. The need for tree protection measures and compensation for vegetation removal should be considered at the detailed design stage for the preferred MTS site. Detailed vegetation surveys could be completed at that time, if required.

## 6.8 SIGNIFICANT VALLEYLANDS

The PPS (OMMAH, 2014) refers to significant valleylands as “a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year”. The local planning authority is responsible for identifying and evaluating significant valleylands.

A review of the City of Pickering Official Plan (2010) and Durham Regional Plan (2015) was completed to determine if significant valleylands have been identified within the vicinity of the three candidate sites.

### 6.8.1 STUDY AREA #1

Urfe and Ganateskiagon Creeks traverse Study Area #1 between Taunton Road and Brock Road. Both watercourses are regulated by the TRCA and are designated as Shoreline and Stream Corridor (Schedule III Resource Management) in the City of Pickering Official Plan (2010). Stream corridors are recognized as features of natural significance that have been included in the City's Resource Protection and Enhancement Policy. While a formal assessment of significance has not been completed as part of this report, both valleylands are considered significant given their physical prominence in the landscape and their ecological attributes, including a high degree of natural cover, habitat for species at risk (Redside Dace), and their capacity to function as a movement corridor and linkage between a variety of natural heritage features. As outlined within the Official Plan, the retention of watercourses and valley and stream corridors in an open and natural state should be promoted and achieved where possible.

### 6.8.2 STUDY AREA #2

There were no watercourses or valleylands identified within Study Area #2 in available mapping. The westernmost section of the hydro corridor within Study Area #2 is located within a woodland that is contiguous with the West Duffins Creek valleyland. The West Duffins Creek and contiguous areas of natural cover are identified as an Environmentally Sensitive Area and a Shoreline and Stream Corridor in Schedule III of the City of Pickering Official Plan (2010).

### 6.8.3 STUDY AREA #3

The West Duffins Creek is part of a significant valleyland that traverses the north-south hydro corridor within Study Area #3. West Duffins Creek is regulated by the TRCA and has been designated as an Environmentally Sensitive Area and Shoreline and Stream Corridor in the City of Pickering Official Plan (2010). It is also part of the Whitevale Corridor Life Science Site. It acts as a significant linkage feature within the landscape and provides a range of hydrological and ecological functions.

An unnamed tributary of the Fisherman's Bay watershed occurs within the hydro corridor south of Site #3. The channel appears to be poorly defined within the hydro corridor and the downstream reach terminates within a subdivision approximately 840 m south of Study Area #3. Nevertheless, the corridor is regulated by the TRCA, and appears as a Shoreline and Stream Corridor in the Pickering Official Plan (2010). In the absence of a formal assessment of significance, this valleyland has been considered significant for the purpose of this report.

## 7 SIGNIFICANT FEATURE SUMMARY

Summaries of the significant natural heritage features identified on or adjacent to the three transmission line upgrade areas are provided in Tables 8, 9 and 10, below. These summaries are based on the results of the site investigation and a review of available documentation pertaining to the three study areas.

**Table 8 Significant Feature Assessment Summary - Study Area #1**

FEATURE	PRESENT COMMENT	
Fish Habitat	Yes	Urfe Creek and Ganateskiagon Creek traverse the eastern portion of the study area and likely provide cool or cold-water fish habitat. A pond south Site #1 within they hydro corridor may act as warm-water fish habitat, though fish were not observed during the site investigation.
Habitats of Endangered or Threatened Species	Yes	Urfe Creek and Ganateskiagon Creek have been identified by the OMNRF as recovery and occupied habitat for Redside Dace, respectively. The study area also provides suitable habitat for Butternut, though none were observed within the hydro corridor.
Areas of Natural and Scientific Interest (ANSI)	No	ANSIs were not identified within 120 m of Site #1.
Significant Wetlands	No	There were no significant wetlands identified within or adjacent to Study Area #1. Three small unevaluated wetland pockets were located within the hydro corridor and four more about the corridor within the eastern portion of the study area. These wetlands are consistent with TRCA's regulated areas mapping.
Significant Coastal Wetlands	No	N/A
Significant Wildlife Habitat	Yes	Animal movement corridors are thought to exist within the river valleys and hydro corridor within Study Area #1. In addition, there is moderate habitat potential for species of conservation concern including Eastern Wood-Pewee, Milksnake, Monarch and Snapping Turtle within or adjacent to Study Area #1. Formal assessments for seasonal concentration areas, rare vegetation communities and specialized habitat for wildlife were beyond the scope of this study.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	The wooded areas adjacent to Study Area #1 have been identified as key natural heritage features in the Durham Region Official Plan (2015).
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	The vegetated corridor surrounding Urfe Creek and Ganateskiagon Creek have been identified as a significant valleylands. In addition, the West Duffins Creek valleyland adjacent to the western end of Study Area #1 is considered significant.

**Table 9 Significant Feature Assessment Summary – Study Area #2**

FEATURE	PRESENT COMMENT	
Fish Habitat	No	There are no watercourses or waterbodies located within or adjacent to Study Area #2.
Habitats of Endangered or Threatened Species	No	Habitat for Endangered and Threatened species was not identified within or adjacent to Study Area #2.
Areas of Natural and Scientific Interest (ANSI)	No	ANSIs were not identified within or adjacent to Study Area #2.
Significant Wetlands	No	There were no significant wetlands identified within or adjacent to Study Area #2. An unevaluated wetland is located within the hydro corridor and adjacent lands approximately 160 m south of Site #2. This wetland is unlikely to be considered significant given its relatively small size and distance from neighbouring wetlands units.
Significant Coastal Wetlands	No	N/A
Significant Wildlife Habitat	Yes	Animal movement corridors are thought to exist within the river valleys and hydro corridor within the study area. In addition, there is moderate habitat potential for Monarch, a species of conservation concern, in meadows and along roadsides within or adjacent to Study Area #2. Formal assessments for seasonal concentration areas, rare vegetation communities and specialized habitat for wildlife were beyond the scope of this study.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	The wooded areas adjacent to Study Area #2 have been identified as key natural heritage features in the Durham Region Official Plan (2015).
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	There are no significant valleylands identified within Study Area #2; however, the West Duffins Creek valleyland adjacent to the western end of Study Area #2 is considered significant.

**Table 10 Significant Feature Assessment Summary – Study Area #3**

FEATURE	PRESENT COMMENT	
Fish Habitat	Yes	West Duffins Creek traverses the hydro corridor north of the Cherrywood Transformer Station, and an unnamed tributary of the Frenchman's Bay watershed is present within the hydro corridor south of Site #3. These watercourses are thought to provide fish habitat.
Habitats of Endangered or Threatened Species	Yes	Bank Swallow, Eastern Meadowlark, and Bobolink were observed within or adjacent to Study Area #3. Butternut were not observed but are known to be present within the general area. There is moderate potential for this species within Study Area #3.
Areas of Natural and Scientific Interest (ANSI)	No	ANSIs were not identified within 120 m of Study Area #3.
Significant Wetlands	No	There were no significant wetlands identified within or adjacent to Study Area #3. Several unevaluated wetlands are present within the study area, including meadow marsh habitat within the proposed tap line location and hydro corridor north of the Cherrywood Transformer Station. These areas are consistent with TRCA regulated areas mapping.
Significant Coastal Wetlands	No	N/A

FEATURE	PRESENT COMMENT	
Significant Wildlife Habitat	Yes	The tap line location and hydro corridor south of Site #3 are within the Rouge-Duffins Wildlife Corridor. Other animal movement corridors are thought to exist within the river valleys and hydro corridors within Study Area #3. In addition, there is moderate habitat potential for species of conservation concern including Milksnake, Monarch and Wood Thrush within or adjacent to Study Area #3. Formal assessments for seasonal concentration areas, rare vegetation communities and specialized habitat for wildlife were beyond the scope of this study.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	The wooded areas adjacent to Study Area #3 have been identified as key natural heritage features in the Durham Region Official Plan (2015).
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	The vegetated corridors surrounding West Duffins Creek and the unnamed tributary south of Site #3 have been identified as significant valleylands.

## 8 CONCLUSIONS

The following conclusions and recommendations are provided based on the study findings presented in this report:

- Several watercourses are present within the general area. Urfe Creek and Ganateskiagon Creek traverse the eastern portion of Study Area #1, while West Duffins Creek and an unnamed tributary of the Frenchman's Bay watershed traverse Study Area #3. These watercourses are assumed to provide cold-water fish habitat and require a minimum 30 m buffer. In addition, the OMNRF has identified that Urfe Creek acts as recovery habitat for the Endangered Redside Dace, and Ganateskiagon Creek is occupied habitat of Redside Dace.
- A pond is located within the hydro corridor south of Site #1 within Study Area #1. While fish were not observed during the site investigation, this pond likely acts as warm-water fish habitat and should be provided a minimum 15 m buffer.
- Habitat for three Threatened species and one Special Concern species is present within the vicinity of Study Area #3 (Figures 6 and 7). Two Bank Swallows were observed flying over West Duffins Creek and are likely nesting in the steep sand/gravel banks within the valley. Bobolink were observed within the meadow south of West Duffins Creek and east of the hydro corridor, while Eastern Meadowlark were observed within the eastern portion of the hydro corridor south of Site #3. Wood Thrush was observed within the woodland flanking West Duffins Creek north of the Cherrywood Transformer Station. While not observed, there is moderate potential for Butternut within Study Area #3 and eastern portions of Study Area #1. Barn Swallows were observed throughout the general area, but nesting structures were not observed within or adjacent to the three study areas.
- Significant wildlife habitat in the form of animal movement corridors and habitat for species of conservation concern, including Special Concern species, is present within the three study areas. Valleylands and hydro corridors within the study areas likely act as animal movement corridors between core features and habitats within the landscape. The tap line location for Site #3 and the hydro corridor east of Cherrywood Transformer Station have been formally designated as part of the Rouge-Duffins Wildlife Corridor in the City of Pickering Official Plan (2010). Moderate habitat potential exists for several Special Concern species, including: Eastern Wood-pewee, Monarch, Milksnake and Snapping Turtle within or adjacent to Study Area #1; Monarch within or adjacent to Study Area #2; and, Milksnake, Monarch, and Wood Thrush within or adjacent to Study Area #3.

- There were no significant wetlands identified within or adjacent to the three study areas; however, there were unevaluated wetlands present within and adjacent to each study area. Mapped wetlands are identified on Figures 2, 3, 4 and 5.
- Wooded areas within the three study areas have been identified as significant woodlands on the Durham Region Official Plan (2015). The mapped woodlands are shown on Figures 2, 3, 4 and 5.
- The valleylands associated with Urfe Creek, Ganateskiagon Creek, and West Duffins Creek are considered significant along with the unnamed tributary of Frenchman's Bay watershed within Study Area #3.

## 9 CLOSURE

This report has been prepared by WSP Canada Inc. The assessment represents the conditions at the subject property only at the time of the assessment, and is based on the information referenced and contained in the report. The conclusions presented herein respecting current conditions represent the best judgment of the assessors based on current environmental standards. WSP Canada Inc. attests that to the best of our knowledge, the information presented in this report is accurate. The use of this report for other projects without written permission of the Client and WSP Canada Inc. is solely at the user's own risk. This report must be reviewed and approved by the relevant regulating agencies prior to being relied on for planning and/or construction purposes.

Thank you for the opportunity to complete this report. We trust that this information is satisfactory for your current requirements. Please contact us if we can be of further assistance.

Respectfully submitted:  
**WSP Canada Inc.**



Erin Fitzpatrick, M.Sc.  
Biologist

Reviewed by:

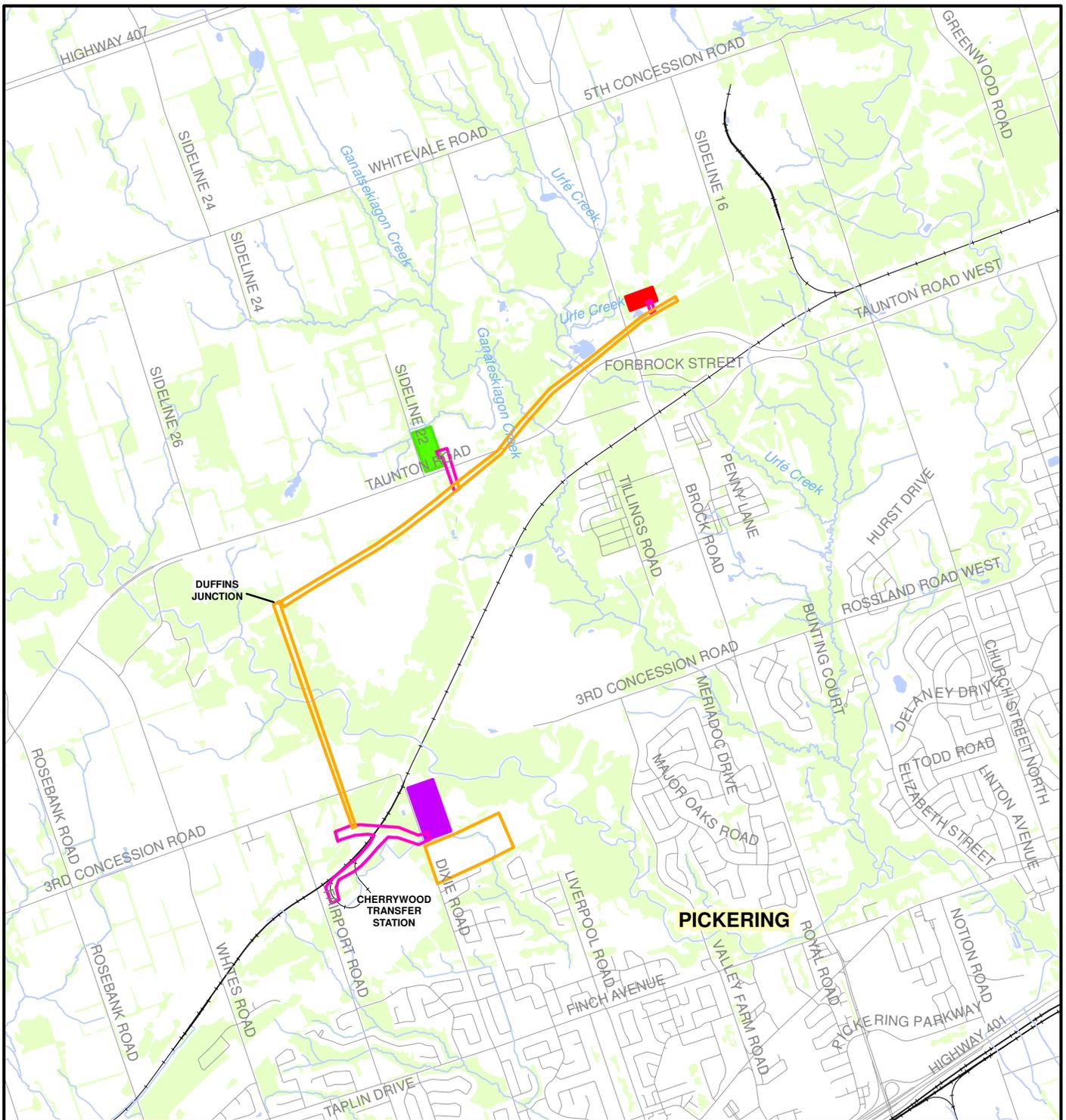


Dan Reeves, M.Sc.  
Project Biologist

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# Figures



**LEGEND**

- SITE 1 LOCATION
- SITE 2 LOCATION
- SITE 3 LOCATION
- LINE TAP STUDY AREAS
- TRANSMISSION LINE UPGRADE STUDY AREAS
- WOODED AREA
- WATERBODIES
- WATERCOURSE



Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014.

**LOCATION MAP**

SEATON MUNICIPAL TRANSFER STATION -  
 TRANSMISSION LINE UPGRADES  
 CLASS B ENVIRONMENTAL ASSESSMENT  
 NATURAL HERITAGE EXISTING CONDITIONS REPORT  
 Community of Seaton, City of Pickering, Region of Durham  
 For Veridian Connections Inc.

DATE: AUGUST 2016

SCALE: 1:40000

PROJECT: 151-02610-00 123

FILE. NO.:151-02610-00 123 F1



FIGURE  
**1**





**LEGEND**

- SITE 1 LOCATION
- LINE TAP STUDY AREA
- TRANSMISSION LINE UPGRADE STUDY AREA
- LINE TAP
- ~ WATERCOURSE
- ~ UNEVALUATED WETLAND
- ~ EVALUATED WETLAND
- ~ WATERBODIES
- ~ WOODED AREA
- ~ NATURAL HERITAGE SYSTEM

Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014. Imagery, DigitalGlobe, 2010.

0 200 m

**NATURAL HERITAGE FEATURES -  
SITE #1 TRANSMISSION LINE  
UPGRADES (STUDY AREA #1)**

SEATON MUNICIPAL TRANSFER STATION -  
TRANSMISSION LINE UPGRADES  
CLASS B ENVIRONMENTAL ASSESSMENT  
NATURAL HERITAGE EXISTING CONDITIONS REPORT  
Community of Seaton, City of Pickering, Region of Durham  
For Veridian Connections Inc.

DATE: AUGUST 2016	SCALE: 1:10000
PROJECT: 151-02610-00	FILE NO.: 151-02610-00 F3

FIGURE

3

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**LEGEND**

- SITE 2 LOCATION
- LINE TAP STUDY AREA
- TRANSMISSION LINE UPGRADE STUDY AREA
- LINE TAP
- ~ WATERCOURSE
- ~ UNEVALUATED WETLAND
- ~ EVALUATED WETLAND
- ~ WATERBODIES
- ~ WOODED AREA
- ~ NATURAL HERITAGE SYSTEM

Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014. Imagery, DigitalGlobe, 2010.

0 100 m

N

**NATURAL HERITAGE FEATURES -  
SITE #2 TRANSMISSION LINE  
UPGRADES (STUDY AREA #2)**

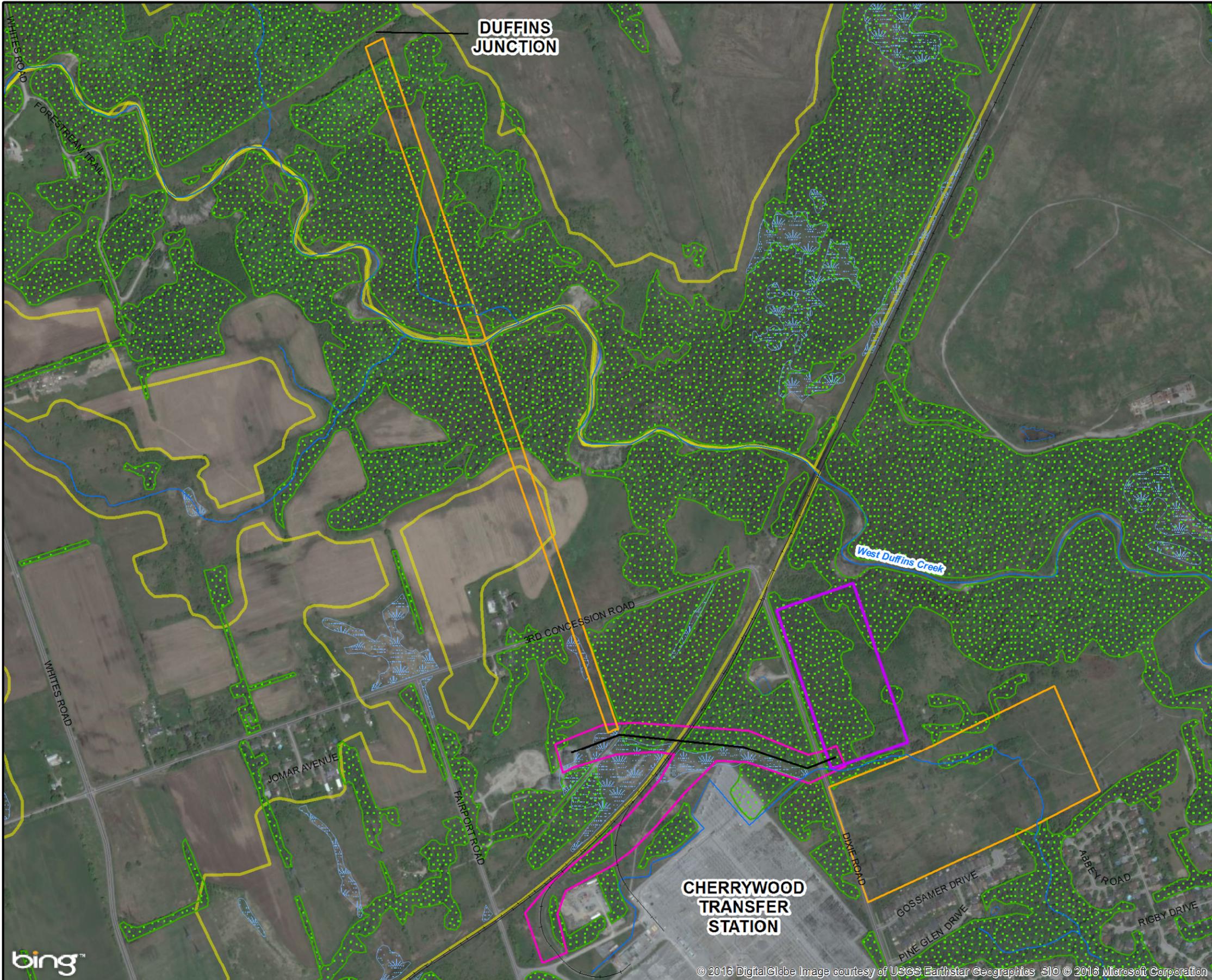
SEATON MUNICIPAL TRANSFER STATION -  
TRANSMISSION LINE UPGRADES  
CLASS B ENVIRONMENTAL ASSESSMENT  
NATURAL HERITAGE EXISTING CONDITIONS REPORT  
Community of Seaton, City of Pickering, Region of Durham  
For Veridian Connections Inc.

DATE: AUGUST 2016	SCALE: 1:6000
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PROJECT: 151-02610-00	FILE. NO.: 151-02610-00 F4
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**DUFFINS  
JUNCTION**



**LEGEND**

- SITE 3 LOCATION
- LINE TAP STUDY AREA
- TRANSMISSION LINE UPGRADE STUDY AREA
- LINE TAP
- WATERCOURSE
- UNEVALUATED WETLAND
- EVALUATED WETLAND
- WATERBODIES
- WOODED AREA
- NATURAL HERITAGE SYSTEM

Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014. Imagery, BING.

N

0 100 m

**NATURAL HERITAGE FEATURES -  
SITE #3 TRANSMISSION LINE  
UPGRADES (STUDY AREA #3)**

SEATON MUNICIPAL TRANSFER STATION -  
TRANSMISSION LINE UPGRADES  
CLASS B ENVIRONMENTAL ASSESSMENT  
NATURAL HERITAGE EXISTING CONDITIONS REPORT  
Community of Seaton, City of Pickering, Region of Durham  
For Veridian Connections Inc.

DATE: AUGUST 2016	SCALE: 1:9000
PROJECT: 151-02610-00	FILE NO.: 161-02610-00 F5





**LEGEND**

- SITE 1 LOCATION
- SITE 2 LOCATION
- SITE 3 LOCATION
- LINE TAP STUDY AREAS
- TRANSMISSION LINE UPGRADE STUDY AREAS
- LINE TAP
- ~ WATERCOURSE
- ⊕ WATERBODIES
- ⊕ WOODED AREA
- BREEDING BIRD SURVEY LOCATIONS

**SPECIES AT RISK OBSERVATIONS**

- ★ BANK SWALLOW (JULY 9, 2016)
- ★ BOBOLINK SIGHTING (JUNE 29, 2016)
- ★ BOBOLINK SIGHTING (JULY 8, 2016)
- ★ EASTERN MEADOWLARK SIGHTING (JUNE 29, 2016)
- ★ EASTERN MEADOWLARK SIGHTING (JULY 8, 2016)
- ★ WOOD THRUSH (JUNE 29, 2016)

Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014. Imagery, BING.

0 300 m

**BREEDING BIRD SURVEY LOCATIONS AND SPECIES AT RISK OBSERVATIONS**

SEATON MUNICIPAL TRANSFER STATION - TRANSMISSION LINE UPGRADES  
 CLASS B ENVIRONMENTAL ASSESSMENT  
 NATURAL HERITAGE EXISTING CONDITIONS REPORT  
 Community of Seaton, City of Pickering, Region of Durham  
 For Veridian Connections Inc.

DATE: AUGUST 2016	SCALE: 1:20000
PROJECT: 151-02610-00	FILE. NO.:161-02610-00 F6

**WSP** FIGURE  
**6**

© 2016 DigitalGlobe Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation



**LEGEND**

- SITE 3 LOCATION
- LINE TAP STUDY AREA
- TRANSMISSION LINE UPGRADE STUDY AREA
- LINE TAP
- ~ WATERCOURSE
- WATERBODIES
- WOODED AREA
- BREEDING BIRD SURVEY LOCATIONS

**SPECIES AT RISK OBSERVATIONS**

- ★ BANK SWALLOW (JULY 9, 2016)
- ★ BOBOLINK SIGHTING (JUNE 29, 2016)
- ★ BOBOLINK SIGHTING (JULY 8, 2016)
- ★ EASTERN MEADOWLARK SIGHTING (JUNE 29, 2016)
- ★ EASTERN MEADOWLARK SIGHTING (JULY 8, 2016)
- ★ WOOD THRUSH (JUNE 29, 2016)

Data Source: Ministry of Natural Resources, Ontario Base Mapping, March 2014. Imagery, BING.

0 200 m

N

**BREEDING BIRD SPECIES AT RISK OBSERVATIONS - SITE #3 TRANSMISSION LINE UPGRADES (STUDY AREA #3)**

SEATON MUNICIPAL TRANSFER STATION - TRANSMISSION LINE UPGRADES CLASS B ENVIRONMENTAL ASSESSMENT REPORT NATURAL HERITAGE EXISTING CONDITIONS REPORT Community of Seaton, City of Pickering, Region of Durham For Veridian Connections Inc.

DATE: AUGUST 2016	SCALE: 1:9000
PROJECT: 151-02610-00	FILE. NO.: 161-02610-00 F7

FIGURE 7

# Appendices

# Appendix A

2015 AGENCY CORRESPONDENCE

Ministry of  
Natural Resources  
and Forestry

Ministère des  
Richesses Naturelles  
et des Forêts

May 12, 2015

Austin Adams  
WSP Canada Inc.  
126 Don Hillock Drive, Unit 2  
Aurora, ON L4G 0G9  
Phone: (905) 750-3080 Ext. 16312  
Austin.Adams@wspgroup.com

**Re: Seaton Municipal Transformer Station (MTS) Class Environmental Assessment**

Dear Mr. Adams,

In your email dated April 29, 2015 you requested information on natural heritage features and element occurrences occurring on or adjacent to the above mentioned location. There are a number of Species at Risk recorded from your study area and the immediate vicinity.

**Site 1 Location**

We have records of Eastern Wood-pewee (SC) and Wood Thrush (SC). Urfe Creek (west of Brock Road) is considered recovery habitat for Redside Dace (END). Natural heritage features include identified wetlands.

**Site 2 Location**

We have records of Eastern Meadowlark (THR) and Bobolink (THR). Ganateskiagon Creek (north of the subject site) is considered occupied habitat for Redside Dace (END). Natural heritage features include identified wetlands.

**Site 3 Location**

We have records of Butternut (END), Wood Thrush (SC) and Eastern Wood-pewee (SC). No natural heritage features have been recorded for this area.

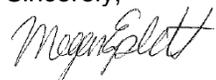
These species may receive protection under the *Endangered Species Act 2007* and thus, an approval from MNRF may be required if the work you are proposing could cause harm to these species or their habitat. If the Species at Risk in Ontario List is amended, additional species may be listed and protected under the *ESA 2007* or the status and protection levels of currently listed species may change.

Absence of information provided by MNRF for a given geographic area, or lack of current information for a given area or element, does not categorically mean the absence of sensitive species or features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. For these reasons, the MNRF cannot provide a definitive statement on the presence, absence or condition of biological elements in any part of Ontario.

This species at risk information is highly sensitive and is not intended for any person or project unrelated to this undertaking. Please do not include any specific information in reports that will be available for public record. As you complete your fieldwork in these areas, please report all information related to any species at risk to our office. This will assist with updating our database and facilitate early consultation regarding your project.

If you have any questions or comments, please do not hesitate to contact me at 905-713-7369 or [ESA.Aurora@ontario.ca](mailto:ESA.Aurora@ontario.ca) (Attention: Megan Eplett).

Sincerely,



Megan Eplett  
A\ Management Biologist  
Ontario Ministry of Natural Resources and Forestry, Aurora District

# Appendix B

**SPECIES LISTS**

## Appendix B - Species Lists

### Study Area #1

**Table 1: Bird Observations**

Family Name	Scientific Name	Common Name	GRank <sup>1</sup>	SRank <sup>2</sup>	SARO <sup>3</sup>
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	G5	S5B	-
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	G5	S5B	-
Parulidae	<i>Setophaga ruticilla</i>	American Redstart	G5	S5B	-
Turdidae	<i>Turdus migratorius</i>	American Robin	G5	S5B	-
Icteridae	<i>Icterus galbula</i>	Baltimore Oriole	G5	S4B	-
Hirundinidae	<i>Riparia riparia</i>	Bank Swallow	G5	S4B	THR
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	G5	S4B	THR
Alcedinidae	<i>Megaceryle alcyon</i>	Belted Kingfisher	G5	S4B	-
Cuculidae	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	G5	S5B	-
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	G5	S5	-
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	G5	S5	-
Icteridae	<i>Dolichonyx oryzivorus</i>	Bobolink	G	S4B	THR
Mimidae	<i>Toxostoma rufum</i>	Brown Thrasher	5G	S4B	-
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	G5	S4B	-
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	G5	S5B	-
Emberizidae	<i>Spizella passerina</i>	Chipping Sparrow	G5	S5B	-
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle	G5	S5B	-
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	G5	S5B	-
Accipitridae	<i>Accipiter cooperii</i>	Cooper's Hawk	G5	S4	-
Phalacrocoracidae	<i>Phalacrocorax auritus</i>	Double-crested Cormorant	G5	S5B	-
Picidae	<i>Picoides pubescens</i>	Downy Woodpecker	G5	S5	-
Tyrannidae	<i>Tyrannus tyrannus</i>	Eastern Kingbird	G5	S4B	-
Icteridae	<i>Sturnella magna</i>	Eastern Meadowlark	G5	S4B	THR
Tyrannidae	<i>Sayornis phoebe</i>	Eastern Phoebe	G5	S5B	-
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	G5	SNA	-
Emberizidae	<i>Spizella pusilla</i>	Field Sparrow	G5	S4B	-
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	G5	S4B	-
Ardeidae	<i>Ardea herodias</i>	Great Blue Heron	G5	S5	-
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	G5	S4B	-
Picidae	<i>Picoides villosus</i>	Hairy Woodpecker	G5	S5	-
Passeridae	<i>Passer domesticus</i>	House Sparrow	G5	SNA	-
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	G5	S5B	-
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting	G5	S4B	-
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	G5	S5B, S5N	-
Tyrannidae	<i>Empidonax minimus</i>	Least Flycatcher	G5	S4B	-
Columbidae	<i>Zenaida macroura</i>	Mourning Dove	G5	S5	-
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S5	-
Picidae	<i>Colaptes auratus</i>	Northern Flicker	G5	S4B	-
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird	G5	S4B	-
Picidae	<i>Dryocopus pileatus</i>	Pileated Woodpecker	G5	S5	-
Sittidae	<i>Sitta canadensis</i>	Red-breasted Nuthatch	G5	S5	-
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	G5	S5B	-
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	G5	S4	-
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	G5	S5B, S4N	-
Cardinalidae	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	G5	S4B	-
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	G5	S5B	-
Emberizidae	<i>Melospiza georgiana</i>	Swamp Sparrow	G5	S5B	-

Family Name	Scientific Name	Common Name	GRank <sup>1</sup>	SRank <sup>2</sup>	SARO <sup>3</sup>
Hirundinidae	<i>Tachycineta bicolor</i>	Tree Swallow	G5	S4B	-
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	G5	S5B	-
Turdidae	<i>Catharus fuscescens</i>	Veery	G5	S5B	-
Vireonidae	<i>Vireo gilvus</i>	Warbling Vireo	G5	S5B	-
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch	G5	S5	-
Tyrannidae	<i>Empidonax traillii</i>	Willow Flycatcher	G5	S5B	-
Turdidae	<i>Hylocichla mustelina</i>	Wood Thrush	G5	S4B	-
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	G5	S5B	-
Picidae	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	G5	S5B	-

<sup>1,2</sup> Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N – Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

Protection status: <sup>3</sup>SARO - Species at Risk in Ontario; END – Endangered, THR – Threatened, SC – Special concern, “-” – Not listed.

## Study Area #2

**Table 1: Bird Observations**

Scientific Name	Common Name	GRank <sup>1</sup>	GRank <sup>1</sup>	SRank <sup>2</sup>	SARO <sup>3</sup>
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	G5	S5B	-
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	G5	S5B	-
Turdidae	<i>Turdus migratorius</i>	American Robin	G5	S5B	-
Icteridae	<i>Icterus galbula</i>	Baltimore Oriole	G5	S4B	-
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	G5	S4B	THR
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	G5	S5	-
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	G5	S5	-
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	G5	S4B	-
Emberizidae	<i>Spizella pallida</i>	Clay-coloured Sparrow	G5	S4B	-
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle	G5	S5B	-
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	G5	S5B	-
Tyrannidae	<i>Tyrannus tyrannus</i>	Eastern Kingbird	G5	S4B	-
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	G5	SNA	-
Emberizidae	<i>Spizella pusilla</i>	Field Sparrow	G5	S4B	-
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	G5	S4B	-
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	G5	S4B	-
Fringillidae	<i>Carpodacus mexicanus</i>	House Finch	G5	SNA	-
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	G5	S5B	-
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting	G5	S4B	-
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	G5	S5B, S5N	-
Columbidae	<i>Zenaidura macroura</i>	Mourning Dove	G5	S5	-
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S5	-
Picidae	<i>Colaptes auratus</i>	Northern Flicker	G5	S4B	-
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	G5	S5B	-
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	G5	S4	-
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	G5	S5B, S4N	-
Regulidae	<i>Regulus calendula</i>	Ruby-Crowned Kinglet	G5	S4B	-
Emberizidae	<i>Passerculus sandwichensis</i>	Savannah Sparrow	G5	S4B	-
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	G5	S5B	-
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	G5	S5B	-
Turdidae	<i>Catharus fuscescens</i>	Veery	G5	S5B	-
Vireonidae	<i>Vireo gilvus</i>	Warbling Vireo	G5	S5B	-
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	G5	S5B	-

<sup>1,2</sup> Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N - Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure. Protection status: <sup>3</sup>SARO - Species at Risk in Ontario; END - Endangered, THR - Threatened, SC - Special concern, "-" - Not listed.

## Study Area #3

**Table 1: Bird Observations**

Family Name	Scientific Name	Common Name	GRank <sup>1</sup>	SRank <sup>2</sup>	SARO <sup>3</sup>
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	G5	S5B	-
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	G5	S5B	-
Turdidae	<i>Turdus migratorius</i>	American Robin	G5	S5B	-
Icteridae	<i>Icterus galbula</i>	Baltimore Oriole	G5	S4B	-
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	G5	S4B	THR
Alcedinidae	<i>Megaceryle alcyon</i>	Belted Kingfisher	G5	S4B	-
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	G5	S5	-
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	G5	S5	-
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	G5	S4B	-
Anatidae	<i>Branta canadensis</i>	Canada Goose	G5	S5	-
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	G5	S5B	-
Emberizidae	<i>Spizella passerina</i>	Chipping Sparrow	G5	S5B	-
Emberizidae	<i>Spizella pallida</i>	Clay-coloured Sparrow	G5	S4B	-
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle	G5	S5B	-
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	G5	S5B	-
Picidae	<i>Picoides pubescens</i>	Downy Woodpecker	G5	S5	-
Tyrannidae	<i>Tyrannus tyrannus</i>	Eastern Kingbird	G5	S4B	-
Tyrannidae	<i>Sayornis phoebe</i>	Eastern Phoebe	G5	S5B	-
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	G5	SNA	-
Emberizidae	<i>Spizella pusilla</i>	Field Sparrow	G5	S4B	-
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	G5	S4B	-
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	G5	S4B	-
Fringillidae	<i>Carpodacus mexicanus</i>	House Finch	G5	SNA	-
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	G5	S5B	-
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting	G5	S4B	-
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	G5	S5B, S5N	-
Columbidae	<i>Zenaidura macroura</i>	Mourning Dove	G5	S5	-
Parulidae	<i>Geothlypis philadelphia</i>	Mourning Warbler	G5	S4B	-
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S5	-
Picidae	<i>Colaptes auratus</i>	Northern Flicker	G5	S4B	-
Fringillidae	<i>Carpodacus purpureus</i>	Purple Finch	G5	S4B	-
Sittidae	<i>Sitta canadensis</i>	Red-breasted Nuthatch	G5	S5	-
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	G5	S5B	-
Accipitridae	<i>Buteo jamaicensis</i>	Red-tailed Hawk	G5	S5	-
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	G5	S4	-
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	G5	S5B, S4N	-
Columbidae	<i>Columba livia</i>	Rock Pigeon	G5	SNA	-
Cardinalidae	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	G5	S4B	-
Regulidae	<i>Regulus calendula</i>	Ruby-Crowned Kinglet	G5	S4B	-
Emberizidae	<i>Passerculus sandwichensis</i>	Savannah Sparrow	G5	S4B	-
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	G5	S5B	-
Emberizidae	<i>Melospiza georgiana</i>	Swamp Sparrow	G5	S5B	-
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	G5	S5B	-
Turdidae	<i>Catharus fuscescens</i>	Veery	G5	S5B	-
Vireonidae	<i>Vireo gilvus</i>	Warbling Vireo	G5	S5B	-
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch	G5	S5	-
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	G5	S5B	-

<sup>1,2</sup> Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N - Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

Protection status: <sup>3</sup>SARO - Species at Risk in Ontario; END - Endangered, THR - Threatened, SC - Special concern, "-" - Not listed.

# Appendix C

**SITE PHOTOGRAPHS**

## Appendix C: Site Photographs



**Image 1:** Bobolink habitat within the vicinity of breeding bird point count #5 (June 29, 2016).



**Image 2:** Bobolink habitat within the vicinity of breeding bird point count #5 (June 29, 2016).

# Appendix D

ONTARIO BREEDING BIRD ATLAS SEARCH RESULTS



**Square Summary (17PJ55)**

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
13	24	60	97	13	18	95	126	88	421	50	51

**Region summary (#12: Toronto)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
16	16	16	130	159	833	400

**Target number of point counts in this square:** 21 road side, 4 off road (1 in treed wetlands, 1 in deciduous forest, 1 in coniferous forest, 1 in pasture/grassland). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	NE	AE	87	100
Mute Swan	NE	AE	18	56
Trumpeter Swan †		FY	0	18
Wood Duck	H	AE	31	81
Gadwall	P	AE	31	68
American Wigeon ‡			0	6
American Black Duck	P	FY	50	68
Mallard	FY	NE	93	100
Blue-winged Teal	FY	FY	56	31
Northern Shoveler ‡	NE		6	6
Green-winged Teal ‡			0	6
Canvasback †			0	12
Redhead †			0	6
Lesser Scaup ‡			0	0
Hooded Merganser		P	0	81
Ruddy Duck †			0	0
Ring-necked Pheasant	H	H	81	68
Ruffed Grouse		FY	12	25
Wild Turkey		H	0	18
Pied-billed Grebe			6	6
Red-necked Grebe †			0	18
Double-crest Cormorant §			6	12
American Bittern	S	H	18	6
Least Bittern †		H	6	12
Great Blue Heron §	H	NB	37	25
Great Egret †			0	12
Green Heron §	NY	T	56	81
Black-crown N.-Heron † §	H		31	6
Turkey Vulture		NY	0	75

SPECIES	Code		%	
	1st	2nd	1st	2nd
Northern Harrier	P	CF	37	56
Sharp-shinned Hawk		A	0	100
Cooper's Hawk		NY	0	100
Northern Goshawk			0	6
Red-should Hawk †	N		12	0
Broad-winged Hawk			12	6
Red-tailed Hawk	NY	FY	81	100
American Kestrel	FY	FY	81	100
Peregrine Falcon †			0	50
Virginia Rail	NE	T	18	56
Sora	T	FY	31	87
Common Moorhen	CF	FY	12	6
American Coot	FY	H	6	6
Coot/Moorhen			0	0
Killdeer	NE	NE	93	100
Rock Dove	AE	NY	100	100
Spotted Sandpiper	FY	FY	93	93
Upland Sandpiper		S	31	12
Common Snipe	T	A	43	25
American Woodcock	T	FY	50	81
Ring-billed Gull §		H	6	31
California Gull †			6	0
Herring Gull §			43	6
Great Black-backed Gull †			12	6
Caspian Tern †			12	6
Black Tern † §	CF		12	0
Common Tern §		NY	25	18
Mourning Dove	NE	NE	100	100
Yellow-billed Cuckoo		FY	25	75

SPECIES	Code		%	
	1st	2nd	1st	2nd
Black/Yell-billed Cuckoo			0	6
Black-billed Cuckoo	FY	CF	68	87
Eastern Screech-Owl		T	50	100
Great Horned Owl	NE	NY	81	100
Barred Owl ‡			0	0
Long-eared Owl ‡		FY	0	12
Short-eared Owl †			0	0
Common Nighthawk	H	T	68	87
Chimney Swift	AE	AE	87	100
Ruby-thr Hummingbird	T	NY	62	93
Belted Kingfisher	T	AE	93	100
Red-headed Woodpecker †	H		37	12
Red-bell Woodpecker		FY	0	43
Yellow-bellied Sapsucker		H	37	56
Downy Woodpecker	T	AE	81	100
Hairy Woodpecker	H	AE	68	100
Northern Flicker	N	CF	93	100
Pileated Woodpecker	P	FY	31	81
Eastern Wood-Pewee	T	CF	81	93
Acadian Flycatcher †		S	6	6
Alder Flycatcher	H	CF	31	50
Willow Flycatcher	NY	CF	87	100
Least Flycatcher		CF	56	81
Eastern Phoebe	NY	NE	68	100
Gr Crested Flycatcher	T	CF	87	100
Eastern Kingbird	NY	NY	93	100
Yellow-throated Vireo ‡			12	6
Blue-headed Vireo			0	12
Warbling Vireo	AE	CF	93	100

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## Ontario Breeding Bird Atlas - Summary Sheet for Square 17PJ55 (page 2 of 2)

SPECIES	Code		%		SPECIES	Code		%		SPECIES	Code		%	
	1st	2nd	1st	2nd		1st	2nd	1st	2nd		1st	2nd	1st	2nd
Red-eyed Vireo	FY	CF	93	100	Brown Thrasher	CF	CF	100	100	Song Sparrow	NE	NY	100	100
Blue Jay	AE	CF	100	100	European Starling	AE	NY	100	100	Swamp Sparrow	FY	CF	43	75
American Crow	AE	CF	87	100	Cedar Waxwing	CF	CF	87	100	White-throat Sparrow	H	T	43	62
Horned Lark	T	S	68	87	Blue-winged Warbler			0	6	Scarlet Tanager		CF	50	56
Purple Martin	AE	FY	75	93	Golden-winged Warbler		CF	0	6	Northern Cardinal	FY	CF	93	100
Tree Swallow	AE	AE	87	100	Nashville Warbler		A	18	50	Rose-breast Grosbeak	CF	CF	75	93
North Rgh-wing Swallow	AE	AE	93	100	Yellow Warbler	FY	CF	93	100	Indigo Bunting	T	NY	81	93
Bank Swallow §	NY	AE	100	100	Chestn-sided Warbler		S	37	62	Bobolink	CF	CF	81	93
Cliff Swallow §	AE	AE	50	87	Magnolia Warbler		CF	0	18	Red-wing Blackbird	NY	NY	100	100
Barn Swallow	FY	NY	93	100	Black-thr Blue Warbler ‡			0	6	Eastern Meadowlark	FY	CF	93	93
Black-capped Chickadee	CF	AE	100	100	Black-thr Green Warbler		T	12	12	Western Meadowlark ‡			6	0
Tufted Titmouse †			0	12	Blackburnian Warbler ‡			6	6	Common Grackle	CF	NY	100	100
Red-breast Nuthatch		FY	37	100	Pine Warbler		FY	0	68	Brown-head Cowbird	FY	FY	93	100
White-breast Nuthatch	V	FY	81	100	Cerulean Warbler †			12	0	Orchard Oriole		FY	37	93
Brown Creeper		T	18	43	Black-white Warbler		T	18	18	Baltimore Oriole	FY	CF	100	100
Carolina Wren		T	0	62	American Redstart	T	CF	62	81	House Finch	FY	AE	81	100
House Wren	CF	CF	81	100	Ovenbird		T	50	37	Red Crossbill ‡	T		18	0
Winter Wren	S	FY	31	37	North Waterthrush	D	A	37	25	<u>Pine Siskin</u>	FY		37	25
Sedge Wren ‡			0	12	Mourning Warbler	T	CF	50	81	American Goldfinch	FY	NY	93	100
Marsh Wren	FY	CF	6	18	Common Yellowthroat	T	CF	75	87	House Sparrow	AE	CF	100	100
Golden-crown Kinglet		H	0	12	Canada Warbler ‡		S	12	12					
<u>Ruby-crown Kinglet ‡</u>	FY		6	0	Yellow-breast Chat †		T	0	6					
Blue-gr Gnatcatcher		FY	37	100	Eastern Towhee	T	A	43	56					
Eastern Bluebird		FY	0	18	Chipping Sparrow	FY	CF	100	100					
Veery	H	CF	62	68	Clay-colored Sparrow			0	18					
Wood Thrush	T	CF	75	93	Field Sparrow	FY	NY	56	75					
American Robin	NY	NY	100	100	Vesper Sparrow	H	FY	50	37					
Gray Catbird	CF	NE	93	100	Savannah Sparrow	FY	CF	93	93					
Northern Mockingbird		NE	12	87	Grasshopper Sparrow	FY	T	18	18					

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #12 (Toronto). Underlined species are those that you should try to add to this square. They have not yet been reported during the 2nd atlas, but were found during the 1st atlas in this square or have been reported in more than 50% of the squares in this region during the 2nd atlas so far. In the species table, "BE 2nd" and "BE 1st" are the codes for the highest breeding evidence for that species in square 17PJ55 during the 2nd and 1st atlas respectively. The % columns give the percentage of squares in that region where that species was reported during the 2nd and 1st atlas (this gives an idea of the expected chance of finding that species in region #12). Rare/Colonial Species Report Forms should be completed for species marked: § (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 28/07/2016. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=17PJ55>

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**Square Summary (17PJ56)**

#species (1st atlas)				#species (2nd atlas)				#hours		#pc done	
poss	prob	conf	total	poss	prob	conf	total	1st	2nd	road	offrd
36	19	46	101	17	53	45	115	94	81	24	4

**Region summary (#46: Durham)**

#squares	#sq with data		#species		#pc done	target #pc
	1st	2nd	1st	2nd		
27	26	27	168	175	1103	675

**Target number of point counts in this square:** 22 road side, 3 off road (2 in deciduous forest, 1 in mixed forest). Please try to ensure that each off-road station is located such that the entire 100m radius circle is within the prescribed habitat.

SPECIES	Code		%	
	1st	2nd	1st	2nd
Canada Goose	FY	FY	96	100
Mute Swan			15	37
Trumpeter Swan †			0	25
Wood Duck		FY	80	92
Gadwall			38	40
American Wigeon			23	18
American Black Duck			57	25
Mallard	FY	P	100	100
Blue-winged Teal			88	48
Northern Shoveler			11	22
Northern Pintail			15	18
Green-winged Teal			0	22
Redhead †			0	7
Hooded Merganser			7	37
Common Merganser			15	18
Red-breast Merganser ‡			3	0
Ruddy Duck †			7	14
Ring-necked Pheasant	S		61	40
Ruffed Grouse	H	FY	96	96
Wild Turkey		H	0	77
Northern Bobwhite †			0	3
Common Loon ‡			19	14
Pied-billed Grebe	H	S	46	33
Double-crest Cormorant ‡§			3	0
American Bittern		S	46	44
Least Bittern †			38	33
Great Blue Heron §	H	NU	100	55
Great Egret †			0	0
Green Heron ‡§	H	T	92	96

SPECIES	Code		%	
	1st	2nd	1st	2nd
Black-crown N.-Heron † §			15	3
Turkey Vulture		H	57	88
Osprey			34	37
Bald Eagle †			0	0
Northern Harrier	H	T	96	92
Sharp-shinned Hawk	H	T	61	92
Cooper's Hawk	NY	FY	34	74
Northern Goshawk ‡			34	48
Red-should Hawk †	AE	A	65	51
Broad-winged Hawk	S	A	65	81
Red-tailed Hawk	NY	AE	100	100
American Kestrel	T	H	100	96
Merlin ‡			0	7
Yellow Rail †			3	0
Virginia Rail	H	T	73	74
Sora	H	P	69	51
Common Moorhen	H	T	46	40
American Coot	H		30	25
Coot/Moorhen			0	3
Sandhill Crane ‡			0	3
Killdeer	P	FY	100	96
Rock Dove	NU	P	100	100
Spotted Sandpiper	P	P	100	88
Upland Sandpiper	S		73	33
Common Snipe	FY	D	65	70
American Woodcock	H	FY	80	88
Wilson's Phalarope †			0	3
Little Gull †			3	0
Ring-billed Gull ‡§			3	7

SPECIES	Code		%	
	1st	2nd	1st	2nd
Herring Gull ‡§			23	11
Lesser Black-backed Gull †			0	0
Great Black-backed Gull †			0	0
Caspian Tern †			0	3
Black Tern † §	H		57	25
Common Tern §			19	18
Forster's Tern † §			0	0
Mourning Dove	FY	NE	100	100
Yellow-billed Cuckoo		S	38	37
Black/Yell-billed Cuckoo		S	0	33
Black-billed Cuckoo	P	S	96	81
Barn Owl †			0	0
Eastern Screech-Owl	S	T	53	85
Great Horned Owl	H	FY	100	92
Barred Owl			26	29
Long-eared Owl ‡			34	11
Short-eared Owl †			0	3
North Saw-whet Owl			7	11
Common Nighthawk			61	33
Whip-poor-will			46	25
Chimney Swift	H	H	76	62
Ruby-thr Hummingbird	AE	T	96	96
Belted Kingfisher	T	AE	100	100
Red-headed Woodpecker †	NY	P	80	51
Red-bell Woodpecker	NY		11	18
Yellow-bellied Sapsucker			61	51
Downy Woodpecker	H	CF	100	96
Hairy Woodpecker	S	NY	96	96
Northern Flicker	NY	T	100	100

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SPECIES	Code		%	
	1st	2nd	1st	2nd
Pileated Woodpecker	NY	T	88	92
Olive-sided Flycatcher ‡			7	0
Eastern Wood-Pewee	S	A	100	96
Alder Flycatcher	S	T	84	92
Willow Flycatcher	P	S	80	81
Least Flycatcher	S	A	96	92
Eastern Phoebe	NU	NU	96	96
Gr Crested Flycatcher	FY	CF	100	100
Eastern Kingbird	FY	A	100	100
Loggerhead Shrike †			11	0
White-eyed Vireo †			3	0
Yellow-throated Vireo			11	7
Blue-headed Vireo			15	37
Warbling Vireo	S	A	100	96
Red-eyed Vireo	P	A	100	96
Blue Jay	FY	NY	100	96
American Crow	FY	FY	100	100
Horned Lark	S	P	100	92
<u>Purple Martin</u>	S		80	37
Tree Swallow	FY	AE	100	100
North Rgh-wing Swallow	NY	AE	92	88
Bank Swallow ‡§	AE	AE	100	96
<u>Cliff Swallow ‡§</u>	N		80	77
Barn Swallow	NY	AE	100	100
Black-capped Chickadee	AE	CF	100	100
Tufted Titmouse †			0	0
Red-breast Nuthatch		A	65	85
White-breast Nuthatch	FY	P	88	96
Brown Creeper	H	FY	73	66

SPECIES	Code		%	
	1st	2nd	1st	2nd
Carolina Wren		S	3	25
House Wren	FY	D	100	100
Winter Wren	S	S	84	85
Sedge Wren ‡			15	22
Marsh Wren		T	34	40
Golden-crown Kinglet		P	23	62
Ruby-crown Kinglet			11	0
Blue-gr Gnatcatcher		S	26	48
Eastern Bluebird		FY	57	81
Veery	T	A	100	96
Swainson's Thrush ‡			3	0
Hermit Thrush		S	23	55
Wood Thrush	T	FY	96	96
American Robin	NY	NE	100	100
Gray Catbird	FY	A	100	100
Northern Mockingbird		H	7	51
Brown Thrasher	FY	NY	100	100
European Starling	CF	CF	100	100
Cedar Waxwing	CF	P	100	100
Blue-winged Warbler	CF	A	15	40
Golden-winged Warbler	T	T	38	25
Blue/Gold-wing Warbler			0	11
Lawrence's Warbler †			0	0
Brewster's Warbler †	T	S	3	11
Nashville Warbler	CF	FY	84	74
Northern Parula			3	3
Yellow Warbler	V	DD	100	100
Chestn-sided Warbler	S	T	76	88
<u>Magnolia Warbler</u>			19	66

SPECIES	Code		%	
	1st	2nd	1st	2nd
Black-thr Blue Warbler			0	44
Yellow-rumped Warbler		A	57	70
Black-thr Green Warbler	S	A	38	88
Blackburnian Warbler			34	29
Pine Warbler		FY	26	85
Cerulean Warbler †			7	3
Black-white Warbler	CF	FY	84	92
American Redstart	S	A	96	92
Worm-eating Warbler ‡		H	0	3
Ovenbird	S	FS	100	96
North Waterthrush	S	A	92	92
Louis Waterthrush †			0	7
Mourning Warbler	S	A	80	96
Common Yellowthroat	DD	DD	100	100
Hooded Warbler †		NE	0	3
Canada Warbler		T	46	44
Eastern Towhee	CF	T	69	70
Chipping Sparrow	NY	FY	100	96
Clay-colored Sparrow		T	46	55
Field Sparrow	CF	CF	92	92
Vesper Sparrow	P	T	100	85
Savannah Sparrow	P	FY	100	100
<u>Grasshopper Sparrow</u>	CF		76	66
Henslow's Sparrow †			0	0
Song Sparrow	A	CF	100	100
Swamp Sparrow	S	T	84	100
White-throat Sparrow	S	A	100	85
Dark-eyed Junco			15	3
Summer Tanager ‡			0	0

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## Ontario Breeding Bird Atlas - Summary Sheet for Square 17PJ56 (page 3 of 3)

SPECIES	Code		%	
	1st	2nd	1st	2nd
Scarlet Tanager		T	69	74
Northern Cardinal	NY	A	96	96
Rose-breast Grosbeak	NY	A	100	96
Indigo Bunting	A	A	96	100
Dickcissel †			0	0
Bobolink	T	FS	100	100
Red-wing Blackbird	NY	CF	100	100
Eastern Meadowlark	FY	T	100	100
Western Meadowlark ‡			3	0
Brewer's Blackbird ‡			0	0
Common Grackle	CF	FY	100	100
Brown-head Cowbird	FY	FY	100	96
Orchard Oriole			15	37
Baltimore Oriole	FY	CF	100	100
<u>Purple Finch</u>			57	66
House Finch		T	26	96
Red Crossbill ‡			11	3
White-winged Crossbill ‡			3	3
Pine Siskin			26	11
American Goldfinch	NE	P	100	100
Evening Grosbeak			11	7
House Sparrow	P	NU	100	96

This list includes all species found during the Ontario Breeding Bird Atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005) in the region #46 (Durham). Underlined species are those that you should try to add to this square. They have not yet been reported during the 2nd atlas, but were found during the 1st atlas in this square or have been reported in more than 50% of the squares in this region during the 2nd atlas so far. In the species table, "BE 2nd" and "BE 1st" are the codes for the highest breeding evidence for that species in square 17PJ56 during the 2nd and 1st atlas respectively. The % columns give the percentage of squares in that region where that species was reported during the 2nd and 1st atlas (this gives an idea of the expected chance of finding that species in region #46). Rare/Colonial Species Report Forms should be completed for species marked:

§ (Colonial), ‡ (regionally rare), or † (provincially rare). Current as of 28/07/2016. An up-to-date version of this sheet is available from <http://www.birdsontario.org/atlas/summaryform.jsp?squareID=17PJ56>

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