BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

Environmental Impact Study
1240 Anderson Line, Township of Severn, County of Simcoe

Prepared For:

Granite Engineering Services

Prepared By:

Beacon Environmental Limited

Date: *Project:*

June 2020 **219215**

MARKHAM
80 Main Street North
Markham, ON L3P 1X5
T) 905.201.7622❖ F) 905.201.0639

BRACEBRIDGE
126 Kimberley Avenue
Bracebridge, ON P1L 1Z9
T) 705.645.1050

GUELPH
373 Woolwich Street
Guelph, ON N1H 3W4
T) 519.826.0419

PETERBOROUGH
305 Reid Street
Peterborough, ON K9J 3R2
T) 705.243.7251

BARRIE
6 Cumberland Street
Barrie, ON L4N 2P4
T) 705.999.4935

Table of Contents

page

Figures

Tables

Appendices

1. Introduction

Beacon Environmental Limited (Beacon) has been retained by Granite Engineering Services to complete an Environmental Impact Study (EIS) for a site that is in Part of Lot 23, Concession 12 in the Township of Severn, County of Simcoe (the "subject property", **Figure 1**).

The subject property is approximately 6.14 ha in size, predominantly agricultural land, and is bounded by suburban development to the north, and more agricultural lands to the east and south. There is a treed natural feature that includes an area of wetland (treed deciduous swamp) in the westernmost end of the property, and a watercourse along the north end.

The data presented in this EIS was collected through a review of background documents and seasonally appropriate field investigations undertaken in 2019 and 2020. The data collected for the subject property were used to characterize the natural heritage features on the subject property and were assessed against the policies of the Provincial Policy Statement, Township of Severn Official Plan, and County of Simcoe Official Plan. Considerations for species and habitats protected under the *Endangered Species Act (ESA)* were included in the EIS. Finally, this EIS provides an outline of the proposed development plan, identifies potential negative impacts to natural heritage features, and recommends appropriate mitigation measures.

2. Policy Context

2.1 Provincial Policy Statement (2020)

Natural Heritage Policy 2.1 of the *Provincial Policy Statement* (PPS) (MMAH 2014) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources for applications pursuant to the *Planning Act*. The PPS defines natural heritage features and provides planning policies for each. The key text from the PPS that applies to the study area is reproduced below. The study area is situated in Ecoregion 6E.

2.1.4 *Development* and *site alteration* shall not be permitted in:

- *Significant wetlands* in Ecoregions 5E, 6E and 7E; and
- *Significant coastal wetlands*.

2.1.5 *Development* and *site alteration* shall not be permitted in:

- *Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
- *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
- *Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
- *Significant wildlife habitat;*
- *Significant areas of natural and scientific interest; and*

- *Coastal wetlands* in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).

Unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

2.1.6 *Development* and *site alteration* shall not be permitted in *fish habitat* except in accordance with *provincial and federal requirements*.

2.1.7 *Development* and *site alteration* shall not be permitted in *habitat of endangered species and threatened species*, except in accordance with *provincial and federal requirements*.

Of these features, provincially significant wetlands and significant ANSIs are identified directly by the Ministry of Natural Resources and Forestry (MNRF). Woodlands are identified using MNRF criteria, and other significant features may be identified using MNRF criteria or municipal criteria that meet the same standard. In Ontario, Fisheries and Oceans Canada (DFO) manages fish habitat and the MNRF manages fisheries. Habitat of endangered and threatened species is mainly governed by the provincial *Endangered Species Act* (2007) (See section 2.5).

2.2 County of Simcoe Official Plan (2016)

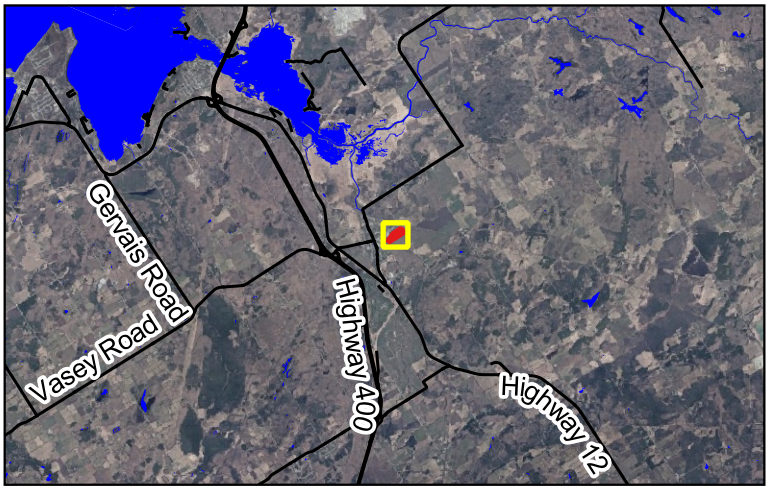
The County of Simcoe Official Plan (County OP) was approved as of December 29, 2016 and is designed to assist in growth management in the County.

Section 5.8 (Definitions) of the County OP defines an Environmental Impact Statement (Study) as:

> *A report or document that identifies and describes natural heritage features and areas and ecological functions and determines and evaluates the implications of proposed development or infrastructure and its interactions with the natural heritage features and areas and ecological functions of an area. An EIS must determine whether the likelihood of negative impacts occurring on the natural heritage features and areas and ecological functions is definite or probable if the development proceeds under a given proposed design. The EIS will determine the need for modifications to proposed plans, buffers, and other mitigation strategies to demonstrate that there will be no negative impacts on natural heritage features and areas and ecological functions of the County or local natural heritage systems.*

With respect to natural heritage policies, Section 3.3.15 of the County OP dictates:

> *Despite anything else in this Plan, except Section 4.4 as it applies to mineral aggregate operations only, development and site alteration shall not be permitted:*
>
> - *In significant wetlands and significant coastal wetlands;*
> - *In the following unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions: Significant woodlands, significant valleylands, significant wildlife habitat, significant areas of*



Site Location	Figure 1
EIS Anderson Line Coldwater	
BEACON ENVIRONMENTAL	Project: 219215 Last Revised: May 2020
Client: Granite Engineering Services	Prepared by: RW Checked by: JN
N 1:4,000	Inset Map:1:225,000

C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2019\219215 Granite EIS Anderson Line Coldwater\Q Project Files\2019-09-06 Primary Project for Anderson Line - 219215.qgz

natural and scientific interest (ANSIs), and coastal wetlands (not covered by 3.3.15 i) above);

- *In the following regional and local features, where a local official plan has identified such features, unless is has been demonstrated that there will be no negative impacts on the natural heritage features or their ecological functions: wetlands 2.0 hectares or larger in area determined to be locally significant by an approved EIS, including but not limited to evaluated wetlands, and Regional areas of natural and scientific interest (ANSIs);*
- *In fish habitat except in accordance with provincial and federal requirements;*
- *In habitat of endangered species and threatened species, except in accordance with provincial and federal requirements; and*
- *On adjacent lands to the natural heritage features and areas listed above, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.*

Schedule 5.1 of the County OP describes the site as occurring within a Settlement. As per Policy 3.5.7 of the County OP:

> *Settlement areas shall be the focus of population and employment growth and their vitality and regeneration shall be promoted. Lands may only be redesignated from lands not for urban uses to lands for urban uses in accordance with Sections 3.5.8 or 3.5.10 of this Plan. Residential, commercial, industrial, institutional, and recreational land uses shall be developed within settlement area boundaries on land appropriately designated in a local municipal official plan for the use.*

Regarding Development Control in Natural Heritage Systems occurring in Settlement Lands, County OP Policy 3.8.17 states:

> *Within settlement areas, all lands shall be deemed to be Settlement designation in this Plan. Local municipal official plans are required to identify and map natural heritage features and areas within settlement areas and provide policy direction in accordance with Section 3.3.15 i) and ii). Local municipal official plans may also map other natural heritage systems and provide policy direction related to those systems within settlement areas.*

Section 3.3 (General Development Policies) provides direction in Policy 3.3.17 for environmental buffers and states:

> *Subject to the findings and recommendations of an EIS, satisfactory to the appropriate authorities, the County encourages an area of environmental constraint and buffer areas to be maintained as single ownership, where appropriate. Notwithstanding this policy, local municipalities may utilize alternative implementation measures to ensure the integrity of the environmental features and its buffers.*

Regarding Watercourses, CSOP Policy 4.5.25 states:

> *New development and redevelopment should be sufficiently set back from rivers, streams, and lakes within the County in order to develop vegetative corridors along*

shorelines and watercourses. The development setback distance shall be determined on-site in consultation with a qualified professional at the applicant's expense. The following factors shall be considered when establishing the setback distance, established through an EIS and slope stability report if necessary, with the intent of protecting significant natural heritage features and ecological functions, providing riparian habitat, and minimizing risk to public safety and property:

- *Soil type;*
- *Vegetation type and cover;*
- *Slope of the land including existing drainage patterns;*
- *Natural heritage features and ecological functions including fish habitat;*
- *The nature of the development;*
- *Defined portions of dynamic beaches; and*
- *Flooding and erosion hazards.*

Development and/or site alteration is not permitted within the habitat of threatened or endangered species, except in accordance with provincial and federal requirements. New uses proposed adjacent to these areas are not permitted unless it can be demonstrated that they do not negatively impact the natural features and associated ecological functions.

2.3 Township of Severn Official Plan (2010)

The Township of Severn Official Plan (the Township OP), was approved by the Ontario Municipal Board in 2010 and is a general land use guide, intended to serve as the basis for land use decisions. The requirement for an EIS is explained in section *C1.7.1* of the Township OP:

> *The purpose of an EIS is to identify and evaluate the potential environmental impacts of a proposed development or site alteration, determine whether site design and/or mitigative measures are necessary to minimize disturbance to the natural environment and to thereby conclude whether the proposed development and site alteration at that location is appropriate given the goals, objectives and policies of this Plan.*

The Township provides policy in their Official Plan regarding the requirements for an EIS. The following is taken directly from section C1.7.2 (Contents of an EIS):

> *The EIS shall include a description of:*
>
> - *The proposed undertaking including a detailed drawing of the proposed development and its location;*
> - *The natural features and ecological functions on the subject property and in the surrounding area; a description of those features and functions which may be potentially affected directly or indirectly by the undertaking; and their sensitivity to development and biodiversity of the Natural Heritage System, including an extensive inventory of the flora and fauna and the ecological conditions necessary to sustain them;*
> - *Any lands that support environmental attributes and functions that may qualify the lands for designation within the GREENLANDS and the ENVIRONMENTAL PROTECTION AREA designations;*

- *The direct and indirect effects to the ecosystem that might be caused by the undertaking;*
- *Any environmental hazards (i.e. slope, flooding contaminants) that need to be addressed as part of the design;*
- *How the proposed use affects the possibility of linking core areas of the Natural Heritage System by natural corridors that may or may not be identified on Schedule A to this Plan;*
- *A Management Plan (MP) identifying how any potential adverse effects will be avoided or minimized over the construction period and the life of the undertaking and how environmental features and functions may be rehabilitated or restored where appropriate and describing the net effect of the undertaking after implementation of the MP. The MP shall also establish the limits of buffers and setbacks adjacent to watercourses, water bodies, valleys, significant wetlands and vegetation to protect the natural feature and its attributes and/or function from the effects of development;*
- *An implementation and monitoring plan, including contingency, that may be required to ensure that mitigation measures are achieving the intended goal of having no negative impact on the natural features, ecological functions and biodiversity of the Natural Heritage System; and*
- *A review of alternative development options and alternative methods of mitigating the impacts of the development proposed, to determine if the development form proposed is the most appropriate and what are the best measures available to protect the features, functions and biodiversity of Natural Heritage Systems of the site.*

Section A3.1 (Natural Heritage System) provides direction in Policy A3.1.2 for environmental protection areas and states:

> *This designation applies to lands which were designated Environmental Protection in the Official Plans that comprised the former municipalities of the Township of Severn. These lands are comprised of intermittent or permanent streams together with a ten (10) metre setback from the top of bank.*

2.4 *Endangered Species Act* (2007)

Ontario's *Endangered Species Act, 2007* (ESA) came into effect on June 30, 2008. The ESA protects species (and their habitat) listed as threatened or endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO). The purposes of the ESA are:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and Aboriginal traditional knowledge;
- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk; and
- To promote stewardship activities to assist in the protection and recovery of species that are at risk.

Section 9 of the ESA prohibits the killing, harming, harassing, possession, collection, buying and selling of extirpated, endangered, and threatened species on the Species at Risk in Ontario (SARO) List.

Section 10 prohibits the damage or destruction of protected habitat of species listed as extirpated, endangered, or threatened on the SARO list. Depending on the time of a species' listing, habitat is protected either under a General Habitat protection provision or a Species-Specific Habitat protection provision. Under the ESA, "habitat" is defined as either:

- General Habitat (based on the general definition in clause 2(1)(b) of the Act) - *an area on which a species depends directly or indirectly to carry on its life processes including life processes such as reproduction, rearing, hibernation, migration or feeding*; or
- Regulated Habitat (as defined in clause 2(1)(a) of the Act) - *the area prescribed for a specific species in a habitat regulation*.

2.5 Federal *Migratory Birds Convention Act*

Section 6 of the Migratory Birds Regulations under the *Migratory Bird Convention Act* (1994) makes it an offence to: "disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird". The breeding bird season in central Ontario is generally from mid-April to the end of August.

2.6 Federal *Species at Risk Act* (SARA)

The provisions of the federal *Species at Risk Act* (SARA) apply to listed bird species on Schedule 1.

3. Methods

3.1 Background Review

Background information pertaining to the natural and physical setting of the subject property was gathered and reviewed at the outset of the project. The information sources included, but were not limited to:

- County of Simcoe Official Plan (2016);
- Township of Severn Official Plan (2010);
- Provincial Policy Statement (2020);
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF 2015);
- Natural Heritage Reference Manual for Natural Heritage Policies of The Provincial Policy Statement 2005 (MNRF 2010); and
- *Endangered Species Act* (2007).

3.2 Desktop Assessment

In preparation for on-site investigations the following information sources were reviewed as part of the desktop screening:

- Provincially Tracked Species Layer (1 km grid) from Land Information Ontario (LIO);
- Ontario Reptile and Amphibian Atlas (ORAA);
- Ontario Breeding Bird Atlas (OBBA);
- Natural Heritage Information Centre (NHIC) Data via the Make-A-Map application;
- Species at risk range maps https://www.ontario.ca/environment-and-energy/species-risk-ontario-list;
- High Resolution aerial photography of the property; and
- Natural heritage and physical feature layers from LIO (accessed through the Ontario GeoHub website), including wetlands (provincially significant and un-evaluated wetlands), watercourses with thermal regime, as well as other geospatial layers.

The information sources referenced above were reviewed in a Geographic Information System (GIS) mapping environment that Beacon uses to assess the likelihood that species at risk and other significant natural heritage features and functions are present in an area of interest. This system allows Beacon to combine the most current information from the Province (e.g., wetland and watercourse layers from LIO) with GIS layers from provincial floral and faunal atlases. All relevant layers can then be overlaid on the most recent high resolution orthoimagery. The screening process helps identify areas that can then be targeted (for example, potential habitat) during field assessment to maximize the efficiency and effectiveness of on-site investigations.

The Ministry of the Environment, Conservation and Parks (MECP) was also contacted to determine if the province had additional information regarding the likelihood that endangered or threatened species potentially occur on or adjacent to the subject property.

3.3 Field Investigations

Table 1 describes the field surveys undertaken in 2019 and 2020 by Beacon staff on the subject property. Additional information about the methods used is provided in subsequent sections where warranted.

Table 1. Field Investigations Conducted

Survey/Assessment Type	Date(s)
Ecological Land Classification, flora, and watercourse assessment	May 14 and August 15, 2019, April 7, 2020
Calling amphibian survey	(Night of) May 14, 2019
Dawn breeding bird surveys	June 1 and 22, 2019

3.3.1 Calling Amphibian Surveys

A breeding amphibian survey was completed on May 14, 2019, after dusk and during suitable temperature conditions. All areas that contained potential breeding amphibian habitat (i.e., wetlands) were surveyed from a distance that would enable calling amphibians to be heard. Breeding amphibian surveys were completed according to Environment Canada's Marsh Monitoring Program protocol (Bird Studies Canada 2017) and consisted of auditory surveys, although amphibians visually observed were also recorded.

After the first breeding amphibian survey, it was determined that suitable habitat for breeding amphibians was absent from the area proposed for development, and as such further surveys were not conducted.

3.3.2 Breeding Bird Surveys

Surveys for breeding birds were completed in 2019 on June 1 and June 22. Surveys were completed early in the morning under appropriate environmental conditions as described in **Table 2**. A roving method was used to assess the entire property and survey routes were altered on each of the survey days so that areas sampled early on the first day were surveyed later in the morning on the second day. All birds seen or heard on or adjacent to the property were documented.

Table 2. 2019 Breeding Bird Survey Details

	Survey 1	Survey 2
Date:	June 1, 2019	June 22, 2019
Time (start–finish):	07:30–10:00	07:15–9:30
Temperature (°C; start–finish):	10–11	12–17
Wind (Beaufort scale; start–finish):	0–1	0–0
Cloud cover (%; start–finish):	100–100	0–0
Precipitation	None	None

3.3.3 Ecological Land Classification and Flora

Ecological communities were mapped and described according to the ELC system for Southern Ontario (Lee *et al.* 1998). For each vegetation community, data was collected on the dominant species cover, community structure, level of disturbance, presence of indicator species, and other notable features.

Floral surveys were conducted, and as part of those surveys, ecologists searched for the tree, Butternut (*Juglans cinerea*), as this species is relatively common despite its endangered status.

3.3.4 Incidental Wildlife

Incidental observations of wildlife species, including mammals were made during field investigations that were primarily for other purposes.

3.3.5 Aquatic Habitat Assessment

An aquatic habitat assessment was undertaken on August 15, 2019. Information recorded during the assessment included stream morphology, flow regime, location of inflows, in-stream features, and habitat conditions. While completing the habitat assessment, riparian characteristics were documented.

4. Existing Conditions

4.1 General Conditions and Landscape Context

The subject property is approximately 6.14 ha, the majority of which is agricultural land (**Photograph 1**). During the 2019 field investigations, the agricultural lands were being farmed for Winter Wheat *(Triticum spp.)*. The property is bounded by suburban developments to the north, agricultural lands to the east and south. A treed deciduous swamp occurs in the southwestern corner of the property and a watercourse flows from east to west along the northern boundary. A cultural thicket occurs along the length of this watercourse as well as associated riparian and aquatic vegetation.

Photograph 1. The Subject Property Viewed from Anderson Line, Agricultural Land (AG) in Foreground, Treed Wetland and Forest Communities in Background (West) (August 15, 2019)

4.2 Aquatic Resources

The watercourse that traverses the northern boundary of the property (**Figure 2**) flows from east to west (**Photographs 2** to **4**). The watercourse is identified by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) as a constructed municipal drain recognized as Municipal Drain No. 1. It is channelized and straight through the length of the property and continues to be channelized downstream until the confluence of the Coldwater River. It passes through a culvert under an old railbed, and approximately 400 m downstream of the property, enters the Coldwater River under a culvert below Coldwater Road.

On the subject property, the watercourse is channelized, and the flow was minimal during the summer field investigations. Higher flow was apparent during the April 2020 site visit. Aquatic vegetation has established within the watercourse including Broadleaf Arrowhead *(Sagittaria latifolia)*, Spotted Joe-pye Weed *(Eutrochium maculatum)*, Swamp Milkweed *(Asclepias incarnata)*, Water Hemlock *(Cicuta maculata)*, Northern Water Plantain *(Alisma triviale)* and Spotted Jewelweed *(Impatiens capensis)*.

Existing Conditions

Figure 2

EIS Anderson Line Coldwater

Legend

- Subject Property
- Permanent Watercourse
- Constructed_Drain
- Ecological Community

Ecological Communities

AG (Row Crop): Agricultural
CUT1: Mineral Cultural Thicket
HE: Hedgerow
SWD3: Maple Mineral Deciduous Swamp

BEACON ENVIRONMENTAL

Project: 219215
Last Revised: June 2020

Client: Granite Engineering Services

Prepared by: RW
Checked by: JN

N

1:2,000

0 40 80 m

C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2019\219215 Granite EIS Anderson Line Coldwater\Q Project Files\2019-09-06 Primary Project for Anderson Line - 219215.qgz

Photograph 2. Watercourse and Cultural Thicket (CUT1) Conditions in Spring (May 14, 2019)

Photograph 3. Watercourse in North end of Subject Property, Occupied by Aquatic Vegetation in Summer (August 15th, 2019)

Photograph 4. Watercourse within SWD3 Community on the West end of the Subject Property (August 15th, 2019)

Debris and sporting equipment were apparent within the watercourse within the wetland community (**Photograph 4**).

4.3 Ecological Land Classification

The subject property is situated within Ecoregion 6E - Lake Simcoe-Rideau and Ecodistrict 6E-6 (Henson and Brodribb 2005). Additionally, most of the subject property is within the Carden Plain physiographic region, while the most western portion that is generally associated with the swamp wetland is identified as in the Simcoe Uplands physiographic region (Chapman and Putnam 1984).

The subject property is represented primarily by agricultural lands, with a natural feature to the west identified as an unassessed swamp wetland by LIO, a drainage feature along the north edge of the subject property and hedgerows adjacent to the northern and eastern property boundaries. The natural area (swamp wetland) in the most western portion of the subject property is part of a larger contiguous natural area extending west of the property.

The following paragraphs describe the ecological communities documented on the subject property, as shown in **Figure 2**.

4.3.1 Cultural Communities

Agricultural (AG)

In 2019 the agricultural lands were planted with Winter Wheat (**Photographs 1**, **5** and **6**).

Mineral Cultural Thicket (CUT1)

The Cultural Thicket community is associated with the riparian area of the watercourse feature (**Photographs 2** and **6**). Dominant vegetation cover varies along the watercourse as does the percent cover, in some areas containing large trees while some small areas are similar to meadow with little canopy cover. This is characteristic of a riparian community which has been left to naturalize after historic clearing. Species include: White Ash, American Elm, Black Walnut, Staghorn Sumac, Nannyberry, Choke Cherry, Bur Oak, Red-osier Dogwood *(Cornus sericea)*, Willow species *(Salix* spp.*)*, Canada Anemone, Greater Burdock, Field Horsetail *(Equisetum arvense)* and Reed Canary Grass *(Phalaris arundinacea)*.

Hedgerow (HE)

Hedgerows can be found along the property boundary on Anderson Line, and associated with the watercourse (**Photograph 7**). These hedgerows primarily contain Bur Oak (*Quercus macrocarpa),* White Elm *(Ulmus americana)*, and White Ash *(Fraxinus americana)*, with European Buckthorn *(Rhamnus cathartica)*, Choke Cherry *(Prunus virginiana)* and Tartarian Honeysuckle *(Lonicera tatarica)* associates. The understory contains a mix of native and non-native weeds such as Smooth Brome *(Bromus inermis)*, Common Milkweed *(Asclepias syriaca)*, Common Yarrow *(Achillea millefolium)*, Riverbank Grape *(Vitis riparia)* and Thicket Creeper *(Parthenocissus inserta)*.

Photograph 5. Agricultural Lands on the Subject Property (May 14, 2019)

Photograph 6. Agricultural Lands (left) and Cultural Thicket (right) (August 15, 2019)

Photograph 7. Hedgerow Along the Property Boundary on Anderson Line (May 14, 2019)

4.3.2 Wetland Community

Maple Mineral Deciduous Swamp (SWD3)

The SWD3 swamp community is dominated by mature deciduous trees (**Photographs 4**, **8** and **9**). Open water or deep organic soil was not found within the portion of this community that is within the subject property's boundaries. Species documented included a mix of Red Maple *(Acer rubrum)* and Freeman's Maple *(Acer x freemanii)*, with the latter being the dominant canopy species. Other tree species in this community include American Elm *(Ulmus americana)*, Black Cherry *(Prunus serotina)*, Black Ash *(Fraxinus nigra)* and Choke Cherry *(Prunus virginiana)*. The suite of species present, including Red Maple and Freeman's Maple indicate that this is community is a wetland under Ontario's Wetland Evaluation System. Despite this wetland designation, most of the understory species present are associated with upland forest communities. The understory species include White Ash saplings, Urban Avens *(Geum urbanum)*, Wild Red Raspberry *(Rubus idaeus)*, Herb Robert *(Geranium robertianum)*, Dwarf Raspberry *(Rubus pubescens)* and Gooseberry species *(Ribes* spp.*)*.

Photograph 8. Maple Swamp Community (SWD3) in Spring (May 14, 2019)

Photograph 9. Maple Swamp Community (SWD3) in Spring (May 14, 2019)

4.3.3 Flora

Although most of the site was being farmed, the species richness of the flora present is consistent with the ELC communities present. Most species found on the site are native to Ontario, and are all considered S5 in Ontario, indicating they are common and secure.

4.4 Breeding Amphibians

Moderate rainfall events, amounting to 24% of the total amount of rain in May, occurred during the 2 days preceding the breeding amphibian survey conducted May 14, 2019. The rainfall amounts recorded at the Coldwater Warminster Station on May 12 and May 13 were 10.8 mm, and 10.4 mm, respectively.

During the breeding amphibian survey, it was determined that breeding habitat for amphibians was absent from the subject property due to the lack of pooled water in the wetland community. While the Maple Deciduous Swamp (SWD3) is a wetland, at the time of the breeding amphibian survey the portion of this wetland that occurs within the subject property did not contain open or pooled water, and therefore did not contain habitat for breeding amphibians. The watercourse is channelized (straight) and does not provide ideal breeding habitat for amphibians.

4.5 Breeding Birds

A total of 43 species of birds were documented on or adjacent to the subject property during the breeding bird surveys. Based on the habitat types present, as well as observations of bird behaviour, all these species, except for Barn Swallow (*Hirundo rustica*) and Blackpoll Warbler (*Setophaga striata*), can be expected to breed or potentially breed on the subject property (**Appendix A**). Although Barn Swallows were observed foraging over the agricultural field, nesting habitat for Barn Swallow is not present on the subject property. The Blackpoll Warbler documented would have still been migrating north to its known breeding grounds. The most numerous species documented on the subject property were Song Sparrow (*Melospiza melodia*), House Wren (*Troglodytes aedon*) and Red-eyed Vireo (*Vireo olivaceus*). The bird species assemblage documented was typical of the habitat types present.

Eastern Wood-pewee (*Contopus virens*), a species of special concern on the provincial Species at Risk in Ontario (SARO) list, was documented breeding within the treed community in the southwest corner of the subject property. It is likely that the breeding territory extends into the adjacent properties to the west.

One bird species documented on the subject property is listed as an area-sensitive, woodland-breeding species in the MNRF's (2015) *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (**Appendix A**). In general, woodland-breeding bird species considered to be area sensitive exhibit higher reproductive success when their breeding territories are located greater than 200 m from the edge of treed communities (e.g., woodlands, forests, swamps). Habitat edges are often created by roads and other development activities but can also be the result of a natural transition to non-treed communities such as meadows or rock barrens. Given that the treed community in the southwest corner of the subject property (including the adjacent lands) is only 260 m x 270 m, and because its shape makes no portion of the community >200 m from an edge, finding of only one area sensitive species breeding in this area is expected.

4.6 Reptiles

Targeted surveys for reptiles were not conducted given the low likelihood of documenting specimens on the subject property (i.e., there were no open water wetlands likely to provide basking habitat for turtles, and snakes are difficult to detect). Even though surveys were not conducted, a habitat-based assessment was completed and the physical conditions on the subject property suggest that several reptile species have the potential to occur on or occasionally move through the subject property. Of the reptiles with the potential to occur on the subject property, the Snapping Turtle (*Chelydra serpentina*) is a species of special concern on the provincial SARO list. Habitat for this species is present along the watercourse. Potential nesting habitat is present in open areas throughout property; however, none of these areas have a higher likelihood of use.

4.7 Endangered and Threatened Species

As described in the preceding sections, Beacon staff conducted both desktop and on-site investigations to assess whether any endangered or threatened species were likely to occur on or adjacent to the subject property. **Table 3** provides Beacon's assessment based on the results of those field investigations combined with knowledge of the habitat preferences and natural history of the species being considered.

Table 3. Endangered and Threatened Species Potentially Occurring on or Adjacent to the Subject Property

Species	Status on SARO List	Were Species and/or Habitat Documented during on-site Assessment?
Bank Swallow (*Riparia riparia*)	THR	**No**, species or nests not detected on the subject property during breeding bird surveys.
Barn Swallow (*Hirundo rustica*)	THR	**Yes**, a single individual was observed foraging over the agricultural field; however, nesting habitat for Barn Swallow is not present on the subject property.
Bobolink (*Dolichonyx oryzivorus*)	THR	**No**, species or nests not detected on the subject property during breeding bird surveys.
Eastern Meadowlark (*Sturnella magna*)	THR	**No**, species or nests not detected on the subject property during breeding bird surveys.
Least Bittern (*Ixobrychus exilis*)	THR	**No**, potential habitat for species is absent and species not detected on the subject property during breeding bird surveys.
Loggerhead Shrike (*Lanius ludovicianus*)	END	**No**, species or nests not detected on the subject property during breeding bird surveys.
Butternut (*Juglans cinerea*)	END	**No**, species not detected on the subject property.
Eastern Small-footed Myotis (*Myotis leibii*)	END	**No,** general habitat conditions are absent.
Little Brown Myotis (*Myotis lucifugus*)	END	**Yes**, general habitat conditions are present; however, because all development being proposed is outside of the treed deciduous swamp community, targeted maternity roost were not conducted.

Species	Status on SARO List	Were Species and/or Habitat Documented during on-site Assessment?
Northern Myotis (*Myotis septentrionalis*)	END	**Yes**, general habitat conditions are present; however, because all development being proposed is outside of the treed deciduous swamp community, targeted maternity roost were not conducted.
Tri-colored Bat (*Perimyotis subflavus*)	END	**Yes**, general habitat conditions are present; however, because all development being proposed is outside of the treed deciduous swamp community, targeted maternity roost were not conducted.
Lake Sturgeon [Great Lakes - Upper St. Lawrence River] (*Acipenser fulvescens*)	THR	**No**, the drainage feature on the subject property is too shallow and channelized to support this species.
Eastern Hog-nosed Snake (*Heterodon platirhinos*)	THR	**No**, populations of the species no longer occur in the area of the subject property.
Massasauga [Great Lakes / St. Lawrence] (*Sistrurus catenatus*)	THR	**No**, populations of the species no longer occur in the area of the subject property.
Blanding's Turtle (*Emydoidea blandingii*)	THR	**No**, although there are historical records to the north, suitable wetland or aquatic habitat is absent from the property and it is very unlikely that the species would move through the subject property to reach areas of suitable habitat (i.e., the subject property is not situated between areas of potential habitat).
Spotted Turtle (*Clemmys guttata*)	END	**No**, although there are historical records to the north, suitable wetland or aquatic habitat is absent from the property and it is very unlikely that the species would move through the subject property to reach areas of suitable habitat (i.e., the subject property is not situated between areas of potential habitat).

1- END - Endangered
2- THR - Threatened
3- SARA - *Species at Risk Act*
4- COSEWIC - Committee on the Status of Endangered Wildlife in Canada

4.8 Landscape Connectivity

The subject property occurs in an area where the local landscape has been altered through past and present anthropogenic use. The property is situated directly adjacent to existing urban land use to the north and agricultural farming to the east and south. The SWD3 swamp community is connected to a treed linear corridor along the Uhthoff Trail west of the subject property. Urban tolerant wildlife may use this corridor for movement, and it would likely provide habitat for smaller, urban tolerant wildlife on a smaller local scale. The aquatic and terrestrial connectivity provided by the watercourse along the northern boundary will remain intact.

5. Proposed Development

As noted in the Granite Engineering Services (GES) Preliminary Stormwater Management (SWM) Report (May 2020), the proposed residential development consists of 42 residential lots and a larger lot for a proposed 3 storey retirement facility.

The GES SWM Report (May 2020) has evaluated pre and post-development conditions and recommended measures to address both the quantity and the quality of stormwater runoff on the site, and to ensure peak flows are controlled to prevent sediment and other contaminants from being transported off-site into the municipal drain or wetland. The GES SWM Report also ensures that post-development peak flows at outlets do not exceed the pre-development peak flows for the 1/100 year 24-hour storm and recommends water quality control measures in accordance with the Ministry of Environment, Conservation and Parks' guidelines.

Additionally, one lot has been designated for a stormwater management pond facility. Development lots will be serviced with potable water through a water main running along the proposed road. Wastewater will be collected in sanitary sewers. The GES SWM Report (May 2020) provides the following direction regarding proposed drainage conditions:

> *The runoff from the northeastern half of Street A, along with the front half of the adjacent lots on both sides of the road will be conveyed by storms sewers through an oil and grit separator (OGS) and will discharge into Medonte Drain #1 where the northern point of the property meets Anderson Line (Outlet 1-B). The stormwater from the remaining impervious areas will be directed through other OGS's to a stormwater management wet pond on a lot adjacent to the undisturbed wetland area on one side and the retirement facility on the other. These areas include the southwestern half of the Street A along with the stormwater from the roof of the 3-storey retirement facility and its parking lot. Stormwater and roof water will be conveyed to the pond via storm sewers (Outlet 1-C). The outlet of the SWM pond will be to Medonte Drain #1.*
>
> *The runoff from the back part of the lots on the southeast side of Street A along with the runoff form the external drainage areas will flow to a grassed swale and will be conveyed along the southeast boundary of the property to be discharge to the wetland area (Outlet 2).*

As noted above, runoff will be conveyed through OGS's, and to clarify, the development proposal will direct runoff from all impervious surfaces (parking/parking lots/street/etc.) to go through OGS's.

6. Impact Assessment and Recommendations

The following section provides a description of impacts anticipated as a result of the proposed development and identifies mitigation measures to be implemented.

To assess potential impacts associated with the various components of the proposed development and to evaluate their effect on the physical and biological environment, an impact assessment matrix is provided in **Table 4**. The table includes a description of the anticipated impacts, mitigation recommendations, as well as the predicted net impact or residual effect.

Table 4. Impact Assessment Matrix

Feature or Function	Potential Impact to Natural Features & Functions	Recommended Mitigation & Enhancement	Residual Effect
Surface Water Drainages	Construction works such as grading, grubbing and excavation can cause the movement of sediment into watercourses, both on and downstream of the property. Stormwater management has the potential to alter surface water drainage.	• As shown in **Figure 3**, the watercourse will be buffered by ~15 m. • Physically delineate the limits of clearing and construction with flagging or staking, ahead of construction, to avoid unnecessary disturbance to the surrounding vegetation. • Re-vegetate/protect exposed areas and bare soils immediately after construction. • Plan seeding and plantings using native species, to allow establishment before end of growing season. • Minimize the removal and disturbance of vegetation outside of development envelopes. • Use mulches and other organic stabilizers to minimize erosion until vegetation is established on sensitive soils.	Neutral
Aquatic Habitat The watercourse on the subject property functions as direct fish habitat.	Fish habitat in the watercourse has the potential to be affected by the proposed development.	• As shown in **Figure 3**, the watercourse will be buffered by ~15 m. • See Mitigation for Surface Water Drainages.	Neutral
Wetlands There are no Provincially Significant Wetlands (PSWs) on or adjacent to the property. An unevaluated wetland (SWD3) is present in the western portion of the subject property as shown in **Figure 2**. The suite of species in the wetland community indicate that it is a wetland under Ontario's Wetland Evaluation System. Despite this wetland designation, most of the understory species present are associated with upland forest communities.	Stormwater management has the potential to alter surface water drainage.	• As shown in **Figure 3**, the wetland will be buffered by ~10 m. • See Mitigation for Surface Water Drainages.	Neutral
Treed Upland Communities (Hedgerow along Anderson Line)	The proposed development will result in the removal of deciduous trees in the Hedgerow community along Anderson Line.	• Use best management practices to ensure that trees being retained adjacent to construction areas are not damaged. • Design and plan the development of roads, utilities and building sites with as little soil excavation and disturbance as possible. • Physically delineate the limits of clearing and construction with flagging or staking, ahead of construction, to avoid unnecessary disturbance to the surrounding vegetation. • Re-vegetate/protect exposed areas and bare soils immediately after construction. • Plan seeding and plantings using native species, to allow establishment before end of growing season. • Minimize the removal and disturbance of vegetation outside of development envelopes. • Use mulches and other organic stabilizers to minimize erosion until vegetation is established on sensitive soils.	Reduced ecological function after trees in the Hedgerow are removed. Although the ecological function will be reduced, this feature is narrow, adjacent to a roadside or residential subdivision and currently has limited value for wildlife.
Breeding Birds	Because of the removal of the Hedgerow community along Anderson Line, bird species that breed in this habitat type will be affected. Birds affected may move their breeding areas to nearby lands.	• Site alteration (i.e., removal of trees, clearing, etc.) should not occur on the subject property from April through August, as this time corresponds to the peak nesting period for the majority of bird species at risk and encompasses the breeding season for the species documented on the subject property during the breeding bird surveys. • The federal *Migratory Birds Convention Act* (1994) and provincial *Fish and Wildlife Conservation Act* protect the nests, eggs and young of most bird species from harm or destruction. As the breeding bird season in southern Ontario is generally from April to the end of August, the clearing of vegetation should occur outside of these periods (i.e., **can occur from September to March**).	Function and extent of breeding habitat for birds reduced. Although breeding habitat for birds will be reduced, this type of breeding habitat (i.e., used by edge-nesting birds) is very common in these types of landscapes.

Feature or Function	Potential Impact to Natural Features & Functions	Recommended Mitigation & Enhancement	Residual Effect
Species Protected under the ESA Bats As indicated in **Table 3**, three bat species have the potential to occur in the treed wetland in the western portion of the subject property. No other endangered or threatened species have the potential to occur on the subject property.	Roosting bats could be adversely affected if trees were removed during the bat active season.	• Unless a snag survey is completed and maternity bat roosting trees are not present, tree cutting should not occur during the bat active season, i.e., should not occur between April 1 and October 1.	Neutral. The proposed development does not indicate that any trees will be removed from within the treed wetland.
Significant Wildlife Habitat: *Seasonal Concentration Areas of Animals* There are no areas on or adjacent to the subject property that should be considered for this category of significant wildlife habitat.	None	None	---
Significant Wildlife Habitat: *Rare Vegetation Communities or Specialized Habitat for Wildlife* No rare vegetation communities were documented. Several area sensitive woodland breeding birds were identified as likely breeding within the treed community on the subject property. However, within the subject property there are no areas greater than 200 m from an edge (i.e., interior forest habitat as per MNRF's (2015) ecoregional schedules). Additionally, no thresholds for number of area sensitive species or densities have been developed to determine significance within the municipality.	See Breeding Birds above.	None	---
Significant Wildlife Habitat: *Habitat for Species of Conservation Concern (not including endangered or threatened species)* One bird species that is special concern on the provincial SARO list was determined to breed on the subject property (Eastern Wood-Pewee). One turtle species that is special concern on the provincial SARO list was determined to have the potential to occur on the subject property. For these species, no thresholds for number of individuals, or particularly density thresholds, have been developed to determine significance within the municipality. Additionally, the treed wetland where Eastern Wood-Pewee was breeding is outside of the proposed development area and potential habitat for the Snapping Turtle along the watercourse is being protected (**Figure 3**).	No impact to any species of conservation concern.	None	---
Linkages	Linkages between areas of wildlife habitat can be disrupted or degraded when land use changes make it difficult for animals, including fish, to move successfully between these features.	• See Mitigation for Surface Water Drainages.	Neutral - function and extent of the linkages along the watercourse and west of the subject property will remain intact.

Proposed Development	Figure 3

EIS Anderson Line Coldwater

Legend

- Subject Property
- OHN Watercourse (Ontario Hydro Network; MNRF)
- Permanent Watercourse (OHN; MNRF)
- Constructed_Drain
- Proposed Development

BEACON ENVIRONMENTAL

Project: 219215
Last Revised: June 2020

Client: Granite Engineering Services

Prepared by: RW
Checked by: JN

N

1:2,000

0 40 80 m

C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2019\219215 Granite EIS Anderson Line Coldwater\Q Project Files\2019-09-06 Primary Project for Anderson Line - 219215.qgz

7. Policy Conformity

The following commentary describes how the proposed land use changes will be in conformance with the relevant federal, provincial, and municipal environmental legislation and policies, provided that development proceeds as indicated, and recommendations are followed.

7.1 Provincial Policy Statement (2020)

7.1.1 Significant Wetlands, Coastal Wetlands

No significant wetlands have been identified on or adjacent to the subject property.

7.1.2 Significant Woodlands and Valleylands

The treed wetland on the subject property has not been identified as a Significant Woodland. Additionally, the feature is outside of the proposed development and is being protected, and an enhanced grassed swale has been designed to control runoff to the treed wetland (Outlet 2).

There are no Valleylands on the subject property.

7.1.3 Significant Wildlife Habitat

The Township has not undertaken a comprehensive analysis as would be required to identify many of the significant wildlife habitat features described in MNRF's (2015) Wildlife Habitat Criteria Schedules for Ecoregion 6E. Additionally, the significant wildlife habitat features that were assessed in **Table 4** are being protected.

7.1.4 Areas of Natural and Scientific Interest

There are no significant areas of natural and scientific interest on or adjacent to the subject property.

7.1.5 Fish Habitat

Development and site alteration in fish habitat is not occurring and consequently is in accordance with provincial and federal requirements.

Additionally, water quality control measures for the proposed development include oil and grit separators and a wet pond facility to treat stormwater from impervious areas that discharge into Municipal Drain #1 (Outlet 1).

7.1.6 Endangered and Threatened Species

As detailed in **Table 3**, there are no endangered or threatened species or habitat confirmed to be present on the subject property, other than the potential for bat species.

Regarding the endangered bat species identified in **Table 3** that have the potential to occur on the subject property, as long as the recommendations in **Table 3** are followed, and the development occurs as proposed, then consistency with PPS Policy 2.1.7 will be achieved.

7.1.7 Adjacent Lands

The ecological function of the adjacent lands has been considered in the assessment of potential for negative impacts. The proposed development and mitigation measures such as buffers will be sufficient to prevent negative impacts on the features and their ecological functions. As such, the proposed development is consistent with PPS Policy 2.1.8.

7.2 County of Simcoe (2016)

The proposed development is consistent with the natural heritage policies of the County's Official Plan with respect to wetlands, woodlands, valleylands, wildlife habitat, fish habitat, major lake, river, and creek systems, and sensitive surface water features.

7.3 Township of Severn Official Plan (2010)

The proposed development is consistent with the natural heritage policies of the Township's Official Plan.

7.4 Provincial *Endangered Species Act* (ESA)

As detailed in **Table 3**, there are no endangered or threatened species or habitat confirmed to be present on the subject property, other than the potential for bat species.

Regarding the endangered bat species identified in **Table 3** that have the potential to occur on the subject property, as long as the recommendations in **Table 3** are followed and the development occurs as proposed, then adverse effects on species or habitat subject to the *ESA* can be avoided.

7.5 Federal *Fisheries Act*

No serious harm to fish is anticipated by the proposed development.

7.6 Federal *Migratory Birds Convention Act*

The *Migratory Birds Convention Act* protects the nests, eggs and young of most bird species from harassment, harm or destruction. The breeding bird season in southern Ontario is generally from April to August; hence the clearing of vegetation should be outside of these dates. Environment Canada considers the risk period to be from mid-March to late August.

If the recommendations in this EIS specific to clearing of vegetation outside of the breeding bird season are followed, then conformance with the regulations of the *Migratory Birds Convention Act* will be achieved.

7.7 Federal *Species at Risk Act* (SARA)

Bird species protected by the *Migratory Birds Convention Act* and listed in Schedule 1 of the SARA were not documented breeding on the subject property. Nevertheless, if the recommendations in this EIS specific to clearing of vegetation outside of the breeding bird season are followed, conformance with SARA will be achieved.

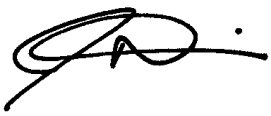
8. Recommendations

Beacon provided recommendations in **Table 4** of Section 6 to mitigate the effects of the proposed development on the natural environment.

9. Conclusions

This EIS is based on information derived from review of available background resources, field assessments, analyses and development plans prepared by other members of the team. Based upon the findings presented in this report and contingent upon the implementation of the recommendations made herein, it is our conclusion that the proposed development is in accordance with the Township's and County's Official Plans. Furthermore, the proposed development is consistent with the PPS, and complies with other relevant federal and provincial legislation.

Prepared by:
Beacon Environmental



Jamie Nairn, M.Sc., P.Ag.
Senior Ecologist, Northern Lead

Reviewed by:
Beacon Environmental

Rob Willson, B.Sc., M.Sc.
Senior Ecologist, GIS Specialist

10. References

Chapman, L.J., and D.F. Putnam. 1984.
The Physiography of Southern Ontario, Third Edition. Ontario Geological Survey Special Volume 2.

Henson, B.L., and K.E. Brodribb. 2005.
Great Lakes Conservation Blueprint for Terrestrial Biodiversity, Volume 2: Ecodistrict Summaries.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.

MNRF. 2010.
Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Toronto: Queen's Printer for Ontario.

MNRF. 2015.
Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.

Appendix A

Breeding Birds

Appendix A

Breeding Birds

Common Name	Scientific Name	Conservation Status
Mallard	*Anas platyrhynchos*	
Killdeer	*Charadrius vociferus*	
Mourning Dove	*Zenaida macroura*	
Yellow-bellied Sapsucker	*Sphyrapicus varius*	AS
Downy Woodpecker	*Picoides pubescens*	
Hairy Woodpecker	*Picoides villosus*	
Northern Flicker	*Colaptes auratus*	
Eastern Wood-pewee	*Contopus virens*	Special Concern (SARO & COSEWIC)
Alder Flycatcher	*Empidonax alnorum*	
Eastern Phoebe	*Sayornis phoebe*	
Great Crested Flycatcher	*Myiarchus crinitus*	
Eastern Kingbird	*Tyrannus tyrannus*	
Warbling Vireo	*Vireo gilvus*	
Red-eyed Vireo	*Vireo olivaceus*	
Blue Jay	*Cyanocitta cristata*	
American Crow	*Corvus brachyrhynchos*	
Barn Swallow	*Hirundo rustica*	Threatened (SARO & COSEWIC)
Black-capped Chickadee	*Poecile atricapillus*	
White-breasted Nuthatch	*Sitta carolinensis*	
House Wren	*Troglodytes aedon*	
American Robin	*Turdus migratorius*	
Gray Catbird	*Dumetella carolinensis*	
Brown Thrasher	*Toxostoma rufum*	
European Starling	*Sturnus vulgaris*	
Cedar Waxwing	*Bombycilla cedrorum*	
Tennessee Warbler	*Oreothlypis peregrina*	
Nashville Warbler	*Oreothlypis ruficapilla*	
Yellow Warbler	*Setophaga petechia*	
Magnolia Warbler	*Setophaga magnolia*	
Blackpoll Warbler	*Setophaga striata*	
American Redstart	*Setophaga ruticilla*	
Northern Waterthrush	*Parkesia noveboracensis*	
Chipping Sparrow	*Spizella passerina*	
Savannah Sparrow	*Passerculus sandwichensis*	
Song Sparrow	*Melospiza melodia*	
Northern Cardinal	*Cardinalis cardinalis*	
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	
Indigo Bunting	*Passerina cyanea*	
Red-winged Blackbird	*Agelaius phoeniceus*	
Common Grackle	*Quiscalus quiscula*	
Brown-headed Cowbird	*Molothrus ater*	
Baltimore Oriole	*Icterus galbula*	
American Goldfinch	*Spinus tristis*	