

# APPENDIX

## **3**            **Natural Environment Assessment**

If technical reports are required in an alternative format for accessibility needs, please contact:

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# Road Alignment and Intersection Improvements of Thirty Road at Young Street

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Natural Environment Assessment Report

February 20, 2024

Prepared for:



**ECOLOGICAL SERVICES**  
Innovative solutions for complex challenges





# Road Alignment and Intersection Improvements of Thirty Road at Young Street

## Natural Environment Assessment Report

### Region of Niagara

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**RVA 226468**

**February 20, 2024**

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## 1.0 Project Overview

The Region of Niagara (the Region) has retained R.V. Anderson Associates Limited (RVA) to complete a Schedule 'C' Class Environmental Assessment (EA), Detailed Transportation Assessment, and Preliminary Design for the re-alignment and intersection improvements of Regional Road 14 (Thirty Road) at Young Street in the Township of West Lincoln (the Project).

As part of the Natural Environment Assessment, an inventory of existing natural environment conditions was undertaken in support of the MCEA process, to assist with the evaluation of alternative solutions for road re-alignment and improvements. Design alternatives for the re-alignment and improvement of Thirty Road have been proposed and evaluated in a feasibility matrix included within the main EA document. This report summarizes the results of the background review, field investigations, Species at Risk (SAR) screening, and examines the potential impacts of the preferred design alternative on the natural environment, as well as provides recommendations for measures to avoid/mitigate these impacts.

### 1.1 Study Area

The Study Area is in the Township of West Lincoln and is centred at the intersection of Thirty Road and Young Street (**Map 1**)

### 1.2 Project Scope

The objectives of this Natural Environment Assessment Report include:

- › Characterizing the existing natural heritage features within the Study Area through field investigations and consultation with agencies;
- › Evaluating the significance of the identified natural heritage features and functions;
- › Assessing the potential impacts of the Project on the natural heritage features; and
- › Recommending mitigation measures to minimize the impacts as well as enhancement possibilities where possible.



**Schedule C Municipal Class Environmental Assessment  
Niagara Region**

Environment Study Report

**Map 1: Study Area Overview**



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**Legend**

Study Area

Watercourse

Data source: Maxar, Microsoft, Esri Community Maps Contributors, Province of Ontario, Haldimand County, Niagara Region, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Niagara Peninsula Conservation Authority (NPCA), Ontario GeoHub, RVA



## 2.0 Existing Conditions

A desktop review was completed to identify natural environment components that are found within and adjacent to the Study Area (**Map 2**).

### 2.1 Background Review Sources

The preliminary desktop review included an examination of publicly available information, related to geological and natural environment components within the Study Area, that included public databases, published reports, and agency consultation. The information reviewed is listed in **Table 2.1**.

Table 2.1 – Summary of Information Sources

Source	Data Reviewed
Region of Niagara	› Region of Niagara Official Plan (2022)
Township of West Lincoln	› Official Plan of the Township of West Lincoln (2021)
Greenbelt Plan	› Greenbelt Plan (2017)
Ministry of Environment Conservation and Parks (MECP)	› Information Request Letter
Ministry of Natural Resources and Forestry (MNR)	› Vineland Office Information Request Letter › Natural Heritage Information Centre (NHIC) database › Land Information Ontario (LIO) Mapping
Niagara Peninsula Conservation Authority (NPCA)	› Information Request Letter
Fisheries and Oceans Canada (DFO)	› Aquatic SAR Mapping
Ministry of Agriculture, Food and Rural Affairs (MAFRA)	› AgMaps Mapping
Other Publicly Available Data	› Ontario Breeding Bird Atlas (OBBA, Cadman <i>et al.</i> 2007) › Ontario Nature – Ontario Reptile and Amphibian Atlas (ORAA, Ontario Nature 2020) › iNaturalist (screened to include Research Grade and Threatened species) › Ontario Moth Atlas (Kaposi <i>et al.</i> 2022) › Ontario Butterfly Atlas (MacNaughton <i>et al.</i> 2022) › Ontario Freshwater Fishes Life History Database, Robert J. Eakins (1999-2023)





**Schedule C Municipal Class Environmental Assessment  
Niagara Region**

Environment Study Report

**Map 2: Natural Heritage Features Overview**



Scale: 1:4200

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**Legend**

- Study Area
- Watercourse
- Waterbody
- Woodland
- NPCA Regulated Lands
- Provincial Evaluated Wetland (PSW)

Data source: Maxar, Microsoft, Esri Community Maps Contributors, Province of Ontario, Haldimand County, Niagara Region, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Niagara Peninsula Conservation Authority (NPCA), Ontario Geohub, RVA



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## 2.2 Agency Consultation

Information requests pertaining to natural heritage components within and adjacent to the Study Area were submitted to the Ministry of Natural Resources and Forestry (MNRF) Vineland District office, the Ministry of Environment, Conservation and Parks (MECP) Species at Risk Branch, and the Niagara Peninsula Conservation Authority (NPCA) on September 7, 2022. All correspondence requests and responses can be found in **Appendix A**.

## 2.3 Summary of Background Information

Review of the information sources listed in **Section 2.1** indicated that several SAR are found or are potentially found within the vicinity of the Thirty Road Study Area. The MNRF Make-a-Map: Natural Heritage Areas application did not identify any significant natural heritage features within the Study Area; however, areas identified as Woodlands and Provincially Significant Wetlands (PSW) on NHIC mapping are identified adjacent to the Study Area.

Sections of the Study Area, associated with a tributary of Twenty Mile Creek and its floodplain, are regulated by NPCA under the *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, Ontario Regulation (O. Reg.) 155/06* (Government of Ontario 1990).

## 3.0 Field Review

Field investigations were conducted during the 2023 field season including a single season floral inventory, Ecological Land Classification (ELC) community delineation, Aquatic Habitat Assessment, and incidental wildlife observations within the Study Area (**Table 3.1**).

Table 3.1 – Field Investigations Schedule

Survey Type	Date	Weather	RVA Staff
Single-season site review; ELC; Incidental Wildlife Observations	June 13, 2023	Sunny, clear, light breeze	Zachary Anderson
Aquatic Habitat Assessment	June 13, 2023	Sunny, clear, light breeze	Natasha Welch

## 4.0 Existing Conditions

The natural heritage system features (as shown on Schedules A and B1-3 of the Township of West Lincoln Official Plan (2021)) within the Study Area require an evaluation to determine the significance of these areas and the presence/absence of both SWH and SAR.

An overview of the natural heritage features and regulated areas within the Study Area are presented in **Map 2 and Map 2a**.

### 4.1 Designated Natural Areas

No provincially or locally designated parks, conservation areas, reserves, provincially significant wetlands (PSW), or Areas of Natural or Scientific Interest (ANSI) were identified in the Study Area. The following sections examine the identified natural areas and features within the Study Area from the background sources reviewed in **Table 2.1**.

#### 4.1.1 West Lincoln Natural Heritage System

The core Natural Heritage System as identified on Schedules B1-3 (West Lincoln 2021), consists of:

1. Environmental Protection Areas or Environmental Conservation Areas;
2. Potential Natural Heritage Corridors connecting natural areas;
3. Greenbelt Natural Heritage and Water Resources Systems; and
4. Fish Habitat

Within the Study Area, the limits of the Natural Heritage System generally align with the regulation limits of the Niagara Peninsula Conservation Authority (NPCA), coinciding with potential fish habitat and water resources systems (**Map 2a**).

#### 4.1.2 Greenbelt Lands

Lands within the eastern Study Area limits are identified as Protected Countryside and part of the Greenbelt Area (O. Reg. 59/05) under the Greenbelt Plan (2017) (**Map 2a**).

Infrastructure works are permissible within Greenbelt Lands subject to the adherence of Section 4.2.1 of the Greenbelt Plan (2017) that includes minimizing the amount of Greenbelt Lands occupied by infrastructure and minimizing the impacts to identified natural heritage features.



**Schedule C Municipal Class Environmental Assessment  
Niagara Region**

Environment Study Report

**Map 2a: Greenbelt and Natural Heritage System**



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**Legend**

- Study Area
- Natural Heritage System (Approximate)
- Protected Countryside
- Greenbelt Area (O.Reg. 59/05)

Data source: Maxar, Microsoft, Esri Community Maps Contributors, Province of Ontario, Halldmand County, Niagara Region, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Niagara Peninsula Conservation Authority (NPCA), Township of West Lincoln, RVA



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### 4.1.3 Conservation Authority Regulated Areas

O. Reg. 155/06 (the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation) under Section 28 of the Conservation Authorities Act, administrated by the NPCA, applies to the drainage features within the Study Area. Under this regulation, any development, site alteration, construction, or placement of fill within the regulated area requires a permit from NPCA, as does interference with a wetland or any alteration to an existing watercourse channel.

## 4.2 Vegetation and Vegetation Communities

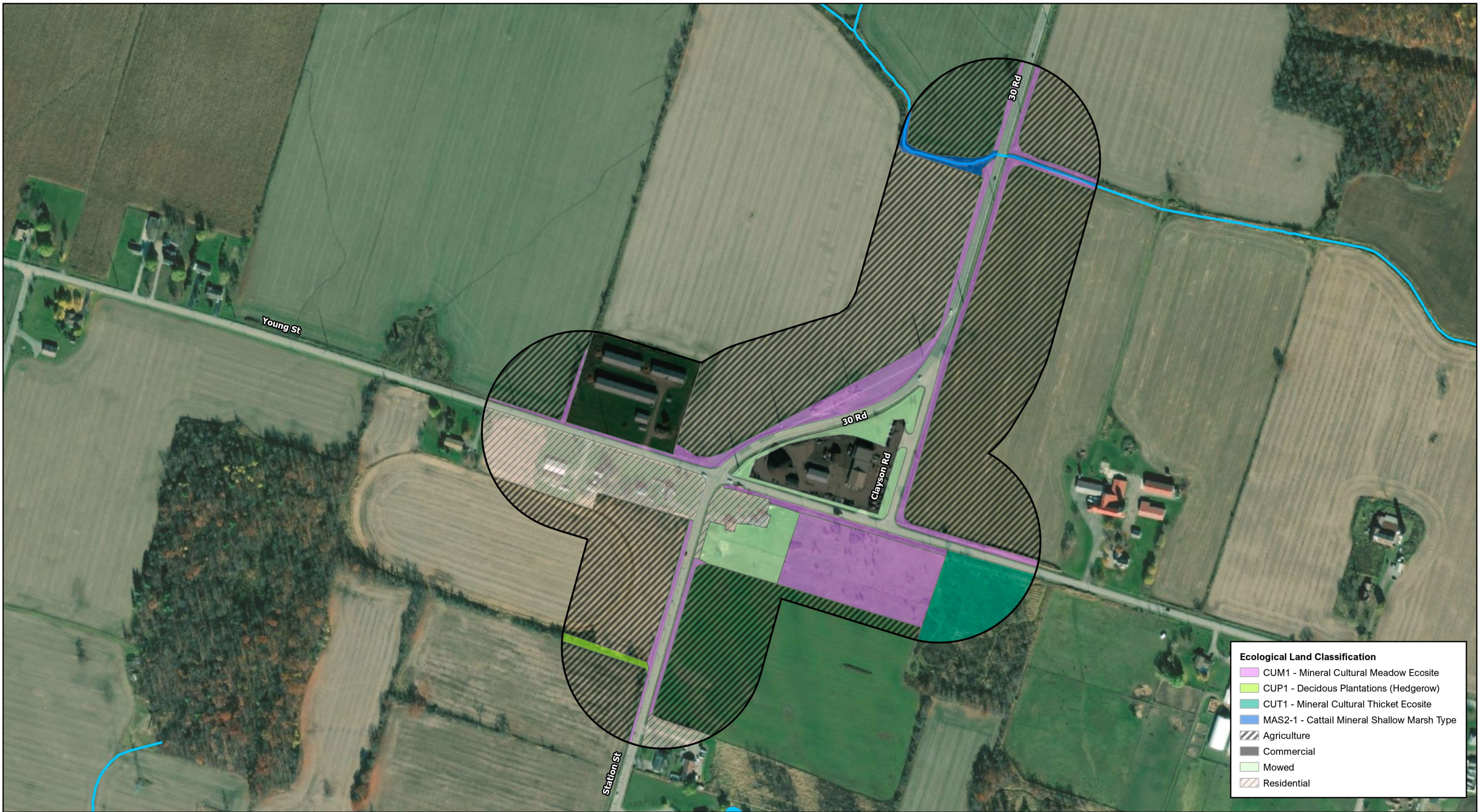
A single-season floral inventory and ELC community survey was completed for the Study Area. The field visit was timed to correspond with an early summer inventory window to identify as many plant species as possible, as well as local breeding birds. ELC was completed as per Lee *et al.* (1998).

Vegetation surveys were restricted to the ROW within the Study Area and immediately adjacent areas. Surveys were completed during a single site visit by walking transects throughout the roadside, ROW, and areas where property access was granted. Areas exhibiting variation in floral or topographical composition, such as ditches or vegetation clumps, were reviewed in further detail. Species not readily identifiable in the field were sampled and identified later utilizing Michigan Flora Online (Reznicek *et al.* 2011).

Vegetation communities identified within the Study Area are described in **Table 4.1** and are shown on **Map 3**.

Table 4.1 – Thirty Road Natural and Cultural Vegetation Communities

ELC Code	ELC Vegetation Community	Description
CUM1	Mineral Cultural Meadow Ecosite	Meadow and grassland communities that have a history of anthropogenic influence. Non-native floral species are often the most dominant vegetation form.
CUT1	Mineral Cultural Thicket Ecosite	Thicket communities that have a history of anthropogenic influence. Non-native floral species are often the most dominant vegetation form.
CUP1	Deciduous Plantation	Cultural communities that have a history of anthropogenic influence. Deciduous tree species >75% of canopy cover.
MAS2-1	Cattail Mineral Shallow Marsh Type	Wetland community, with standing water, dominated by Cattail species. Additional sedges, grasses, and other hydrophytic species present in the ground layer.



**Ecological Land Classification**

- CUM1 - Mineral Cultural Meadow Ecosite
- CUP1 - Deciduous Plantations (Hedgerow)
- CUT1 - Mineral Cultural Thicket Ecosite
- MAS2-1 - Cattail Mineral Shallow Marsh Type
- Agriculture
- Commercial
- Mowed
- Residential

<p><b>Schedule C Municipal Class Environmental Assessment</b> <b>Niagara Region</b></p> <p>Environment Study Report</p>	<p>0 60 120 180 240 m</p> <p>Scale: 1:4200</p>	<p>N</p>	<p><b>Legend</b></p> <p><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Study Area</p> <p><span style="background-color: blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Waterbody</p> <p><span style="border-bottom: 1px solid blue; display: inline-block; width: 15px; margin-right: 5px;"></span> Watercourse</p>	
<p><b>Map 3: Vegetation Communities Overview</b></p>	<p>Date: 11/21/2023</p> <p>RVA: 226468</p>	<p>Page 3</p> <p>Draft By: KW</p>	<p><small>Data source: Maxar, Microsoft, Esri Community Maps Contributors, Province of Ontario, Haldimand County, Niagara Region, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Niagara Peninsula Conservation Authority (NPCA), RVA</small></p>	<p><small>Note: RVA makes no guarantees, representations or warranties respecting the accuracy, completeness or reliability of the map either expressed or implied. RVA specifically disclaims any and all liability, including without limitation, consequential and incidental damages, that may arise in any way from the use or reliance on the map. The digital drawing is not a legal plan or survey. Contains information licensed under the Open Government License - Ontario</small></p>

The Study Area is within a landscape that is primarily rural and dominated by agricultural land use interspersed with residential areas. Aside from these areas, the dominant natural/successional vegetation community within the Study Area is classified as Mineral Cultural Meadow (CUM1) associated with the road right of way (ROW) and meadow communities off the roadside. This community is dominated by both common native and non-native forb and grass species in the ground layer and sparse numbers of pioneering shrubs and small trees.

A shrub dominated Mineral Cultural Thicket (CUT1) community is located within the eastern extent of the Study Area on the south side of Young Street. The canopy of this community is dominated Hawthorn (*Crataegus spp.*), Gray Dogwood (*Cornus racemosa*) and young American Elm (*Ulmus americana*). The lower layer is comprised primarily of forbs including Late Goldenrod (*Solidago altissima*), Cow Vetch (*Vicia craca*), and Teasel (*Dipsacus fullonum.*).

### 4.3 Wetlands

There are no Provincially Significant Wetlands (PSW) or other identified locally significant wetlands within the Study Area. Sections of the Lower Twenty Mile Creek Wetland Complex PSW are located on adjacent lands southwest, northeast, and southeast of the Study Area (**Map 2**). A wetland feature was identified during field work within the Study Area associated with the riparian areas along the tributary of Twenty Mile Creek, characterized by Cattail species (*Typha sp.*) and other hydrophilic species.

### 4.4 Wildlife and Wildlife Habitats

During field investigations on June 13, 2023, all terrestrial wildlife observed, including calls and signs, were recorded. Due to the limited natural/successional habitats near the Study Area, it is anticipated that wildlife species in the area are limited to those that tolerate humans and cultural landscapes. Birds recorded have been assumed to be residents/breeding. **Table 4.2** lists all wildlife species identified during field investigations.

Table 4.2 – Incidental Terrestrial Wildlife

Common Name	Scientific Name	Provincial Status (S Rank) *
<b>Birds</b>		
American Crow	<i>Corvus brachyrhynchos</i>	S5B,SZN
American Goldfinch	<i>Carduelis tristis</i>	S5B,SZN
American Robin	<i>Turdus migratorius</i>	S5B,SZN

Baltimore Oriole	<i>Icterus galbula</i>	S5B,SZN
Barn Swallow	<i>Hirundo rustica</i>	S5B,SZN
Common Grackle	<i>Quiscalus quiscula</i>	S5B,SZN
Horned Lark	<i>Eremophila alpestris</i>	S5B,SZN
House Wren	<i>Troglodytes aedon</i>	S5B,SZN
Killdeer	<i>Charadrius vociferus</i>	S5B,SZN
Mourning Dove	<i>Zenaida macroura</i>	S5B,SZN
Northern Cardinal	<i>Cardinalis cardinalis</i>	S5
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S5B,SZN
Turkey Vulture	<i>Cathartes aura</i>	S4B,SZN
Willow Flycatcher	<i>Empidonax traillii</i>	S5B,SZN
Yellow Warbler	<i>Setophaga petechia</i>	S5B,SZN
<b>Mammals</b>		
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	S5

\* S Rank: S5 – Secure, S4 – Apparently secure, S3 – Vulnerable, S2 – Imperiled, S1 – Critically imperiled, SNA – Non-native

#### 4.4.1 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) was assessed based on the collection of targeted and incidental field data and comparisons to thresholds set out in the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (OMNR 2015). SWH is protected through the Provincial Policy Statement (OMMAH 2020). Significant wildlife habitat is generally determined based on the presence of listed wildlife species, identified utilizing a specific vegetation community or habitat, with an additional qualifier which often includes a threshold of individuals utilizing the habitat, as well as the extent of available habitat or the geographic location of the habitat. If all these values are confirmed, the habitat is considered Confirmed Significant Wildlife Habitat. If only some of these values are confirmed, the habitat is considered Candidate SWH, or Confirmed Non-SWH. In many cases, to complete a full suite of evaluations for every potential SWH would be extremely arduous and time consuming, so in many cases professional opinion and experience is utilized to screen potential SWH.

During site visits within the Study Area, terrestrial wildlife observations, including call and signs, were recorded. Specific habitats surveyed for included mammal burrows (often on slopes), recently disturbed soils, potential cover objects, or other anomalous or unique features or habitat within the Study Area including large dead or decaying (wildlife) trees. Wildlife surveys were conducted in conjunction with floral inventories, described above.

No provincially rare vegetation communities were observed during site investigations nor were any candidate or confirmed point-source areas of wildlife concentration/specialized



habitats, such as terrestrial reptile hibernacula, turtle nesting areas, or terrestrial crayfish burrows. Targeted surveys for snag and cavity trees (i.e., in leaf-off conditions) were not included in the scope of the Project. Roadside trees, including healthy or dead/decaying individuals, may provide SWH for bat maternity colonies, as well as habitat for at-risk bats.

## 4.5 Fish and Fish Habitat

A watercourse located towards the northern extent of the Study Area flows southeast through agricultural fields towards the main branch of Spring Creek, east of the Study Area. Spring Creek, an NPCA regulated watercourse, is situated within the Twenty Mile Creek subwatershed, and ultimately drains north to Lake Ontario.

Within the Study Area, the Spring Creek tributary is conveyed under Thirty Road by a concrete box culvert. Although the creek banks were not well defined, the creek appeared to be channelized. Within the ROW, flats comprised the upstream and downstream reaches, with refuge pools observed at the culvert inlet and outlet. Detritus was observed to dominate the creek substrate, followed by silt, sand and clay, with muck noted in the downstream pool. Though no flow was observed at the culvert, roadside ditches drain to the creek from the north and the south, both upstream and downstream of the culvert crossing. At the time of investigation, the creek appeared turbid. Water quality was measured in the pools on June 13, 2023, and are presented in **Table 4.3** below.

Along the study reach, cattails and reed canary grass lined the channel banks, with a few riparian trees noted throughout. Potential seasonal barriers to fish passage are likely present during periods of low flow due to the shallow depth of the upstream channel and thick instream vegetation downstream.

Although fish were not observed, the Spring Creek tributary appears to provide intermittent flow that may function as direct fish habitat. Given the channel's downstream connection to Spring Creek, the watercourse likely supports a warmwater tolerant fish community.

Table 4.3 – Water Quality at the Spring Creek Tributary Crossing

Parameter	Upstream	Downstream
Water Temperature (°C)	16.0	15.3
pH	7.15	7.3
Conductivity (µS/cm)	6903	5084
Dissolved Oxygen (mg/L)	0.22	1.03
Air Temperature (°C)	18	18

## 4.6 Species at Risk

Provincially protected Species at Risk (SAR) can be found throughout Ontario in both documented and undocumented populations and are protected through the Endangered Species Act (ESA 2007) administered by the MECP. According to the sources reviewed in **Table 2.1**, a variety of floral and faunal species of provincial interest have been recorded within or in the vicinity of the Study Area. These species and their habitat are generally found in more natural landscapes; however, some listed species have adapted to anthropogenic habitats. Additionally, the province has not been surveyed extensively and novel individuals and populations can be located during site-specific surveys.

A full list of SAR identified in the background sources with potential to be found in the Study Area is presented in **Appendix B**. The field studies described above were compared to the known habitat preferences and general locations of SAR to determine the potential that these species or their habitat could occur in the Study Area. No SAR individuals nor suitable habitat for SAR identified in background review were observed during the completed field investigations within the Study Area.

## 4.7 Natural Heritage and Significant Habitat Summary

### 4.7.1 Confirmed Habitat within the Study Area

No fish and wildlife habitats of significance were confirmed within the Study Area during site investigations. Confirmed features of significance within the Study Area consist of:

- > Greenbelt Lands (Protected Countryside and Niagara Escarpment Plan Area)
- > Natural Heritage System (Township of West Lincoln)

### 4.7.2 Candidate Habitat within the Study Area

Candidate significant wildlife habitats with potential to occur within the Study Area (i.e. were not confirmed, but could not be ruled out following field investigations) consist of:

- > Candidate SAR Bat maternity roosting habitat (treed communities)

## 5.0 Summary of Proposed Project

The proposed Project involves intersection improvements and the potential realignment of Thirty Road (Regional Road 14) at Young Street in the Township of West Lincoln. The main

objective of the Project is to address the need for operational and safety improvements at the intersection.

## 5.1 Preferred Alternative

Several design alternatives were identified for the Project and have been evaluated and presented to the public in two Information Packages in accordance with the Class Environmental Assessment process. The preferred alternative includes upgrading the intersection with a roundabout. The north leg of Thirty Road would need to be realigned to the south of the Niagara Region Windfarm (Windfarm) poles to address sightline and right-of-way conflict issues north of Clayson Road, whereby Clayson Road would no longer be connected to Thirty Road (**Map 4**). This alternative provides traffic calming benefits and avoids relocating the Windfarm poles, while minimizing impacts to agricultural lands and floodplain area.

## 6.0 Impact Assessment and Environmental Protection

The following sections discuss the potential impacts associated with the preferred alternative on the identified natural heritage components with recommendations to avoid and/or operational constraints to mitigate these impacts.

### 6.1 Vegetation Removal

Potential direct impacts to terrestrial vegetation as a component of road realignment and roundabout construction include complete removal through construction and grading activities, as well as vegetation clearing to support surveying and construction equipment access. Indirect impacts to woody vegetation along the periphery of construction areas may occur due to damage to roots, stems, and branches through interaction with construction equipment. The removal of some roadside trees may also be required. Temporary impacts to Cultural Meadow habitats within the ROW may occur if areas are required for laydown and staging. These areas are occupied by pioneering native and exotic plant species. No other vegetation communities are proposed to be impacted by this alternative, including wetlands. The following measures are recommended to reduce impacts from vegetation removal:

- > To prevent incidental impacts to nesting birds, (including at-risk and rare species) as well as bat maternity colonies, clearing of unmaintained and/or woody vegetation should be restricted to outside of the migratory bird nesting seasons, April 1 through September 30.



**Ecological Land Classification**

- CUM1 - Mineral Cultural Meadow Ecosite
- CUP1 - Deciduous Plantations (Hedgerow)
- CUT1 - Mineral Cultural Thicket Ecosite
- MAS2-1 - Cattail Mineral Shallow Marsh Type
- Agriculture
- Commercial
- Mowed
- Residential

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	<p>Date: 11/21/2023</p> <p>RVA: 226468</p>		<p>Page 4</p> <p>Draft By: KW</p> <p><small>Data source: Maxar, Microsoft, Esri Community Maps Contributors, Province of Ontario, Haldimand County, Niagara Region, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Niagara Peninsula Conservation Authority (NPCA), RVA</small></p>		

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## 6.2 Excavation, Grading, Filling, and Industrial Equipment

The road re-alignment and construction works will require excavation and grading. These activities create exposed soils and other materials (granular, loose asphalt) and alter slopes and grades, that can in turn affect drainage patterns. Consequently, there is potential for materials and/or sediment to be released into the environment and nearby aquatic features, or as dust to both terrestrial and aquatic environments. Dust on vegetation can reduce plant productivity through reduction in metabolic processes. Additionally, the industrial equipment used to accomplish these activities has the potential to release deleterious substances such as oil, fuel or grease that could be conveyed into nearby aquatic environments. Equipment can also incidentally compact soils, negatively affecting existing and future vegetation, and kill or injure fish and wildlife. The following measures are recommended to reduce impacts to natural features from excavation and grading:

- › In general, grading, vegetation clearing and other activities which expose loose soil should be, as practical, scheduled in such a way that limits the area and length of time soils are vulnerable to erosion.
- › Excavation impacts will be mitigated by the erosion and sediment controls (ESCs) implemented during construction, such as timing constraints on covering exposed slopes, and silt fence/fibre filtration tubes surrounding areas of exposed soils to slow water velocities and allow settling of suspended sediments. All permanent changes to the slopes in the area because of excavation will be stabilized in the short term with interim products (such as bonded fibre matrix) and long term with vegetation (preferably native grasses and other native plantings).
- › All excess materials generated by excavation will be stockpiled, handled, and disposed of in a manner that prevents entry into adjacent waterbodies or natural features.
- › Contractors should employ Clean Equipment Protocols to prevent movement of exotic invasive species to and throughout the project area.
- › Should a spill occur, stop work, and contain sediment-laden water to prevent dispersal into the adjacent watercourse.
- › Maintain all machinery on site in a clean condition and free of fluid leaks.
- › Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering nearby watercourses.

- › A Spill Response and Action Plan shall be prepared by the contractor in advance of work that describes actions to be taken in the event of a spill, and a spill kit containing appropriate absorbent materials will be always kept on site to be used in the event deleterious materials are released into the adjacent watercourse.
- › Design and implement ESCs to contain/isolate the construction zone, manage site drainage and prevent erosion of exposed soils and migration of sediment to adjacent watercourses/waterbodies during all phases of the project.
- › Use biodegradable ESC materials, to be specified in the contract drawings, and remove any non-biodegradable ESC materials once site is stabilized.
- › All ESC measures should be inspected weekly by a qualified professional and maintained to ensure they are functioning as intended throughout the construction period and until such time that disturbed areas have stabilized.
- › To prevent any deleterious substances from entering the watercourse, operate, store, and maintain all equipment, vehicles, and associated materials at a minimum, 30 m away from any watercourse.

### 6.3 Wildlife and Wildlife Habitat

Potential impacts to wildlife and their habitats during construction can occur through direct injury and habitat loss as well as indirect impacts such as avoidance of areas of active construction and resulting modification to established daily movement patterns. Wildlife and habitats identified during site visits were typical of rural agricultural areas of southern Ontario. Construction activities also have the potential to indirectly affect all other wildlife within the surrounding landscape through vibration along with light and noise pollution. This disturbance will be temporary, and it is anticipated that local wildlife is accustomed to human disturbances.

Most of Canada's birds are protected under the MBCA. Vegetation clearing has the potential to impact breeding birds through disturbance of nesting birds and destruction of nests, eggs and young. Additionally, dead/dying, or injured trees within the Study Area may provide habitat for at-risk bats and their active-season maternity colonies. Candidate habitat for SAR bats (treed vegetation communities) is present within the Study Area, as are individual trees over 10 cm diameter breast height (DBH) that could provide this habitat.

Construction activities required to implement the preferred alternative will impact terrestrial wildlife habitats and have the potential to impact individuals. The following measures are recommended to reduce these impacts:

- › To prevent incidental impacts to nesting birds, (including at-risk and rare species) as well as bat maternity colonies, clearing of unmaintained and/or woody vegetation will be restricted to outside of the migratory bird nesting and bat maternity seasons, generally April 1 through September 30. If vegetation clearing must occur within this window, a qualified ecological professional should be retained to confirm no birds or bats are incidentally harmed by vegetation removals.
- › Erosion and Sediment Control (e.g. silt fencing) should be designed and installed to provide the added function of wildlife barrier fencing.

## 6.4 Fish and Fish Habitat

No in water works are required for the preferred project alternative. Provided appropriate mitigation measures discussed above are implemented prior to commencing work, impacts associated with most activities near water can be avoided. While residual effects are not anticipated for the work proposed to the ditch lines, sedimentation of sensitive receptors such as the tributary of Spring Creek need to be considered and have been addressed through the various recommendations provided above.

## 7.0 Permitting and Approval Requirements

In general, the proposed re-alignment and intersection improvements of Thirty Road and Young Street, as well as the associated vegetation clearing, have potential to impact the natural environment that will require the implementation of the described mitigation and operational constraints described above. Such impacts may require agency permitting and/or approvals and include alterations within NPCA regulated habitat and potential impacts to SAR. The following list of potential approvals and permits should be considered and confirmed with the appropriate agencies during the detailed design phase:

### NPCA

O. Reg 155/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) establishes regulated areas where development could be subject to flooding, erosion, or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. NPCA regulated lands can be found in **Map 2** associated with the tributary of Spring Creek and floodplain areas. Under this regulation, any proposed development, interference, or alteration within these areas requires a permit from NPCA.

## **MECP**

No permitting for SAR protected under the ESA is anticipated based on field work and habitats that have been identified within the Study Area, assuming that appropriate mitigation measures are followed (e.g., timing windows). It is the responsibility of the proponent to ensure that SAR are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the proposed activities to be carried out on the site. If the proposed activities cannot avoid impacting protected species and their habitats, then the proponent will need to apply for an authorization under the ESA. If the proponent believes that their proposed activities are going to have an impact or are uncertain about the impacts, they should contact [SAROntario@ontario.ca](mailto:SAROntario@ontario.ca) to undergo a formal review under the ESA.

## **8.0 Conclusions**

This Natural Environment Assessment Report documents the existing conditions within the Thirty Road Study Area, supported by field studies completed in 2023. These studies included a single season review for rare and at-risk species, as well as a wildlife habitat assessment, aquatic habitat assessment, and incidental wildlife observations.

The project will have minor impacts on terrestrial environment components within the Study Area; however, the overall function of the larger system is not expected to be significantly impacted by the proposed project. Vegetation and habitats to be lost are anthropogenic and provide habitats for common species tolerant of human activities.

Appropriate mitigation measures as described in this document including ESCs, as well as contractor education, and appropriate timing of activities should serve to further reduce impacts to the natural heritage system. No other impacts to the terrestrial environment are anticipated because of the proposed project.



## 9.0 References

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- Government of Canada. 2021. Agriculture and Agri-Food Canada; Science and Technology Branch.
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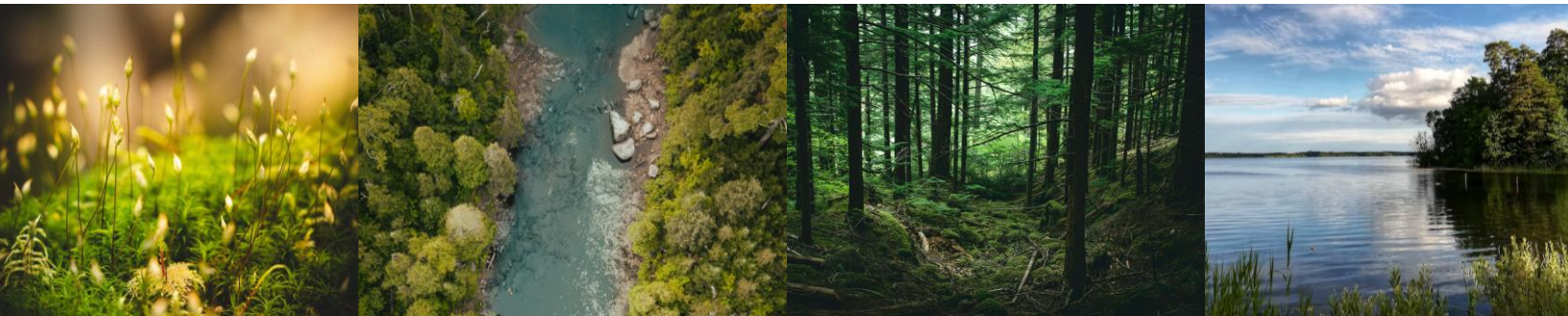
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**APPENDIX A**  
**AGENCY CORRESPONDENCE**



## Zachary Anderson

---

**From:** Adams, Tarryn (MECP) <Tarryn.Adams@ontario.ca>  
**Sent:** November 9, 2022 2:36 PM  
**To:** Zachary Anderson  
**Cc:** Tisha Doucette; Paul Mikoda  
**Subject:** RE: 226468 - MECP SAR Screening and Information Request - Thirty Road EA

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**[CAUTION EXTERNAL EMAIL]** Make Sure that it is legitimate before Replying or Clicking on any links

Hello Zachary,

I apologize for the delayed response. MECP is continuing to work through a back-log of requests.

Species at Risk Branch (SARB) has conducted a review of the subject property located at Regional Road 14 (Thirty Road) at Young Street, in the Township of West Lincoln.

The following additional species are within the vicinity of the site and are not listed in the submission:

- Bank Swallow
- Barn Swallow
- Butternut
- Chimney Swift
- Lilliput
- Mapleleaf Mussel
- White Wood Aster

A review of the Provincial database of species occurrences notes that the protected habitat of species at risk bats may also occur within the project site. Additional work may be required to confirm the presence of this habitat and other species at risk habitat which cannot be readily identified via this preliminary screening. More information on how each species protected habitat is defined can be found on our website here: [www.ontario.ca/page/species-risk](http://www.ontario.ca/page/species-risk).

While this review represents MECP's best currently available information, it is important to note that a lack of information for a location does not mean that SAR or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in areas not previously surveyed. On-site assessments will need to be conducted to better verify site conditions, identify and confirm presence of SAR and/or their habitats.

Should vegetation removal be required as part of the proposed project, MECP recommends that a qualified biologist with botany expertise be retained to survey for SAR plants and to conduct habitat studies for the remaining species.

It is the responsibility of the proponent and their consultant to ensure that SAR are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the undertaking of the proposed activities to be carried out on the site. If the proposed activities can not avoid impacting protected species and/or their habitats, then the proponent will need to apply for an authorization under the Endangered Species Act, 2007.

Thank you,

*Tarryn Adams*

A/Management Biologist, Permissions Section  
Species at Risk Branch  
Ministry of the Environment, Conservation and Parks (MECP)  
Peterborough, ON K9J 3C7

Please let me know if you have any accommodation needs or require communication supports or alternate formats.

---

**From:** Zachary Anderson <zanderson@rvanderson.com>  
**Sent:** September 7, 2022 10:57 AM  
**To:** Species at Risk (MECP) <SAROntario@ontario.ca>  
**Cc:** Tisha Doucette <TDoucette@rvanderson.com>; Paul Mikoda <pmikoda@rvanderson.com>  
**Subject:** 226468 - MECP SAR Screening and Information Request - Thirty Road EA

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Hello,

RVA has been retained by the Region of Niagara to complete a natural heritage assessment to support a Schedule C Environmental Assessment, in the Township of West Lincoln, Ontario. As part of this assessment, RVA has completed an initial species at risk screening, which is summarized in the attached information request letter.

Please feel free to contact me if you have any questions or concerns with this request. A response to acknowledge your receipt of this email would be greatly appreciated.

Best regards,



**Zachary Anderson, B.Sc.** (he/him)  
TERRESTRIAL ECOLOGIST

📞 519 681 9916 ext. 5045 |

📍 557 Southdale Road East, Suite 200, London, ON N6E 1A2



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EXTENDED SUMMER HOURS: RVA celebrates the summer season from June 3rd to September 30th. Our offices will be closed each Friday.

We will remain available to address any urgent or project related matters. For these matters, please contact mobile where provided.

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## Zachary Anderson

---

**From:** ESA Guelph (MNRF) <ESAGUELPH@ontario.ca>  
**Sent:** September 9, 2022 10:23 AM  
**To:** Zachary Anderson  
**Subject:** RE: 226468 - NDMNRF Screening and Information Request - Thirty Road EA

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

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Hello Zachary,

I have reviewed our records and note that we don't have any additional natural heritage information available for the identified study area besides what's currently available in LIO.

Restricted activity timing windows are applied to protect fish from impacts of undertakings in and around water during critical life cycle stages. The recommended timing restrictions for this tributary of Twenty Mile Creek is March 1st to June 30<sup>th</sup> (Note: dates represent when work should be avoided).

The Ministry of Environment, Conservation and Parks (MECP) has now assumed responsibility for the Endangered Species Act (ESA), including species at risk (SAR) in Ontario. If you haven't already done so, I would suggest contacting MECP staff directly at the following email address – [SAROntario@ontario.ca](mailto:SAROntario@ontario.ca) to see if they can assist you with any matter related to Species at Risk or the ESA.

If you have any questions, please don't hesitate to contact me.

Regards,

David

**David Denyes**

Management Biologist  
Ministry of Natural Resources and Forestry  
Vineland Field Office  
4890 Victoria Avenue North  
Vineland Station ON, L0R 2E0  
Tel: (289) 241-6872  
[david.denyas@ontario.ca](mailto:david.denyas@ontario.ca)

---

**From:** Zachary Anderson <[zanderson@rvanderson.com](mailto:zanderson@rvanderson.com)>  
**Sent:** September 7, 2022 11:17 AM  
**To:** Thompson, Melinda (MECP) <[Melinda.Thompson@ontario.ca](mailto:Melinda.Thompson@ontario.ca)>  
**Cc:** Tisha Doucette <[TDoucette@rvanderson.com](mailto:TDoucette@rvanderson.com)>; Paul Mikoda <[pmikoda@rvanderson.com](mailto:pmikoda@rvanderson.com)>  
**Subject:** 226468 - NDMNRF Screening and Information Request - Thirty Road EA

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good Morning Melinda,

RVA has been retained by the Region of Niagara to complete a natural heritage assessment to support a Schedule C Environmental Assessment, in the Township of West Lincoln, Ontario. As part of this assessment, RVA has completed an initial species at risk screening, which is summarized in the attached information request letter.

I was not certain to whom within the Guelph office this request should be directed to. To that end, if it needs to be directed to someone else could this information request email along to the proper staff? I would greatly appreciate this.

Please feel free to contact me if you have any questions or concerns with this request. A response to acknowledge your receipt of this email would be greatly appreciated.

Best regards,

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12 September 2022

**RE: Natural Heritage Information Request for a Schedule C Environmental Assessment along Thirty Road in the Township of West Lincoln, Ontario RVA 226468**

Thank you for reaching out. Below is the information NPCA has on file for the area you are working in:

1. ELC and wetland boundaries can be accessed at the following link: <https://gis-npca-camaps.opendata.arcgis.com/> [[gis-npca-camaps.opendata.arcgis.com](https://gis-npca-camaps.opendata.arcgis.com/)]
2. Surface Water Quality Monitoring Stations can be accessed at the following link: <https://gis-npca-camaps.opendata.arcgis.com/datasets/surface-water-quality-stations-1>
3. MNDMNRF fisheries data indicates Fish Creek as Type II Important Fish Habitat. Information on Fisheries Database Sites is available, and data can be requested from MNDMNRF office in Vineland.
4. Land Information Ontario mapping shows Provincially Significant Wetland, Lower Twenty Mile Creek Wetland Complex within 500 m of the Study Area.
5. NPCA mapping identifies Flood Plain Hazard within the Study Area.
6. NPCA mapping identifies Karst Hazard within the Study Area.
7. Please see the list below of SAR documented within 500 m of the Study Area. SAR data is disseminated by the MNDMNRF, and NPCA staff are not able to provide UTM coordinates for the occurrences of the species identified below.

Bobolink, *Dolichonyx oryzivorus*  
Barn Swallow, *Hirundo rustica*  
Cucumber Tree, *Magnolia acuminata*  
Eastern Meadowlark *Sturnella magna*  
Perfoliate Bellwort, *Uvularia perfoliate*  
Jefferson Salamander, *Ambystoma jeffersonianum*

- For further available information on SAR see link below:  
NHIC Species at Risk List Records:  
[https://www.lioapplications.lrc.gov.on.ca/Natural\\_Heritage/index.html?viewer=Natural\\_Heritage.Natural\\_Heritage&locale=en-CA.](https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA)

8. The following report(s) may provide additional background information on the general study area, and these files can be requested from MNDMNRF office in Vineland:



- Lower Twenty Mile Creek Wetland Complex (September 26, 2005)
9. The following reports may provide additional background information on the general study area:
- NPCA (2012) Watershed Report Card: <https://npca.ca/images/uploads/common/NPCA-2012-WatershedReportCard-Introduction.pdf>
  - NPCA (2006) Twenty Mile Creek Watershed Plan: <https://npca.ca/images/uploads/common/NPCA-Watershed-Plan-20Mile-Creek.pdf>
  - NPCA Natural Areas Inventory 2006-2009 Volume 1: [https://npca.ca/images/uploads/board\\_files/NAI-Vol-1.pdf](https://npca.ca/images/uploads/board_files/NAI-Vol-1.pdf)
  - NPCA Natural Areas Inventory 2006-2009 Volume 2: <https://npca.ca/images/uploads/common/NAI-Vol-2.pdf>
  -

### **Permit**

10. A work permit is required for all works occurring within NPCA regulated limits.

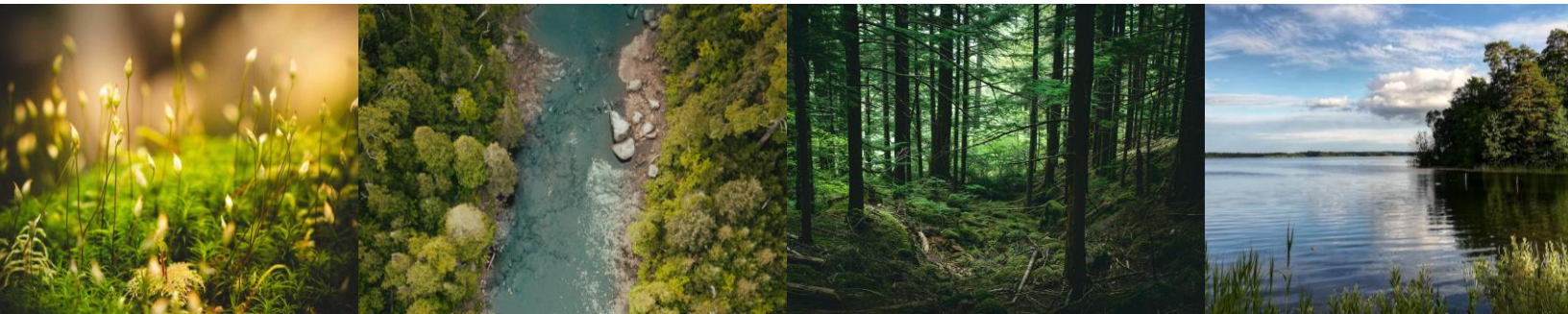
*Please let the NPCA know if you have any questions, NPCA staff would be more than happy to discuss.*

Respectfully,

*Theresa Bukovics*

Theresa Bukovics, MSc.  
Planning Ecologist | Planning & Regulations  
Niagara Peninsula Conservation Authority (NPCA)  
Phone: [\(905\) 788-3135](tel:9057883135) ext. 282  
[tbukovics@npca.ca](mailto:tbukovics@npca.ca)  
[www.npca.ca](http://www.npca.ca)

**APPENDIX B**  
**SPECIES AT RISK BACKGROUND REVIEW**



**Table 1:** Rare and At-Risk Species Potentially Present in the Vicinity of the Study Area

Common Name	Scientific Name	S-Rank	ESA/SARA Status	Source*	Last Observed (Year)
<b>FLORA</b>					
Cucumber Tree	<i>Magnolia acuminata</i>	S2	END	NHIC	-
<b>FUNGI AND LICHENS</b>					
-	-	-	-	-	-
<b>MAMMALS</b>					
Little Brown Myotis	<i>Myotis lucifugus</i>	S3/ G3	END	AMO	N/A
<b>BIRDS</b>					
Bobolink	<i>Dolichonyx oryzivorus</i>	S4B/G5	THR/ THR		2005
Eastern Meadowlark	<i>Sturnella magna</i>	S4B/G5	THR/THR		2005
Eastern Wood-pewee	<i>Contopus virens</i>	S4B/G5	SC/ SC	OBBA	2005
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B/G5	SC/ -	OBBA	2005
Tufted Titmouse	<i>Baeolophus bicolor</i>	S3/G5	-/ -	OBBA	2005
<b>REPTILES AND AMPHIBIANS</b>					
Unisexual Ambystoma (Jefferson Salamander dependent population)	<i>Ambystoma hybrid pop. 1</i>	S2	END/END	NHIC	-
Snapping Turtle	<i>Chelydra serpentina</i>	S4/G5	SC/ SC	ORAA; iNat	2014; 2021
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	S4/G5T5	-/-	ORAA	2008
<b>INVERTEBRATES (excludes mussels)</b>					
Monarch	<i>Danaus plexippus</i>	S2N,S4B/ G4	SC/ SC	OBA	1991

\*Source Abbreviations:

INAT – iNaturalist.ca (filtered for Research Grade and Threatened)

NHIC – Natural Heritage Information Center

ORAA – Ontario Reptile and Amphibian Atlas (Ontario Nature)

OBA – Ontario Butterfly Atlas (Toronto Entomological Society)

OMA – Ontario Moth Atlas (Toronto Entomological Society)

OBBA – Ontario Breeding Bird Atlas (Birds Canada)