Technical Memorandum

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|---|---|---|---|
| **Project Name:** | 4325-4445 County Rd 42, Windsor Species at Risk Study | **MTE File No.:** | C62641_001 |
| **To:** | John Cervini, Epic Properties Limited Partnership | **Date:** | June 17, 2025 |
| **cc:** | Mark McCloskey, P.Eng., McCloskey Engineering Ltd. | **From:** | Heather Kime, B.Sc. (Hons) Senior Terrestrial Ecologist |

**RE: 4325-4445 County Rd 42, Windsor Zoning By-Law Amendment**

At the request of Epic Properties Limited Partnership (the Proponent), MTE has completed a Species at Risk (SAR) Study relating to the proposed construction of a new power generating building at 4445 County Road, Windsor (the Site), to ensure that the proposed project maintains compliance with the provisions of the *Endangered Species Act, 2007*, S.O. 2007, c. 6 (ESA).

MTE has reviewed existing secondary source data to determine whether any species protected under the ESA have the potential to be present within the vicinity of the Site. This information was cross-referenced with information about each species' habitat needs and the potential for suitable habitats to exist within or near the Site. In addition, MTE completed a Preliminary Habitat Assessment site visit, during which trees on Site were measured, identified, and checked for their suitability as habitat for SAR bats and birds. During the site visit, an MTE Ecologist also walked the Site and recorded any potential snake hibernacula and carried out a targeted search for SAR plants.

For the purposes of this assessment, Species at Risk (SAR) includes only species that are protected under the ESA. This assessment does not cover protections afforded to species under the *Species at Risk Act* (S.C. 2002, c. 29), *Migratory Birds Convention Act, 1994* (S.C. 1994, c. 22), *Fish and Wildlife Conservation Act, 1997*, S.O. 1997, c. 41, or any other policies or regulations that may be applicable to the proposed development.

## INFORMATION SOURCES

The following background secondary sources were compiled to generate a list of protected SAR with the potential to occur within 2 km of the Area of Work (**Figure 1**):

- Atlas of the Mammals of Ontario (AMO)
- Critical Habitat for Species at Risk National Dataset (CHA)
- NatureServe Canada
- Global Biodiversity information Facility (GBIF)
- Natural Heritage Information Centre (NHIC)
- Ontario Butterfly Atlas (OBA)
- Ontario Breeding Bird Atlas (OBBA)
- Ontario Reptile & Amphibian Atlas (ORAA)

Based on a preliminary desktop review of site conditions and general habitat availability, ten of 56 protected SAR that appeared within the above data sources were considered to have potential habitat within or adjacent to the Work Area. These species are listed in **Table 1**. Habitat assessments for all 56 species are summarized in **Attachment A**.

**Table 1: Candidate Species at Risk Habitat within the Work Area based on Background Review**

| Species | SARO Status | Candidate Habitat (based on Background Review) | Field Surveys Required |
|---|---|---|---|
| **Vascular Plants** | | | |
| **Willow-leaved Aster** *Symphyotrichum praealtum* | THR | Potential habitat within the herbaceous portion of the Work Area. | Targeted survey |
| **Eastern Flowering Dogwood** *Cornus florida* | END | Potentially suitable growing conditions within or near the Work Area. | Tree inventory |
| **Butternut** *Juglans cinerea* | END | Potentially suitable growing conditions within or near the Work Area. | Tree inventory |
| **White Colicroot** *Aletris farinosa* | END | Potential habitat within the herbaceous portion of the Work Area. | Targeted survey |
| **Reptiles** | | | |
| **Blue Racer** *Coluber constrictor foxii* | END | Potential habitat within work area if suitable hibernacula are present (e.g., rock piles). | Preliminary habitat assessment |
| **Butler's Gartersnake** *Thamnophis butleri* | END | Potential habitat within work area if suitable hibernacula are present (e.g., rock piles). | Preliminary habitat assessment |
| **Birds** | | | |
| **Chimney Swift** *Chaetura pelagica* | THR | Potential habitat if suitable trees or structures are present within or near the Work Area. | Preliminary habitat assessment |
| **Red-headed Woodpecker** *Melanerpes erythrocephalus* | END | Potential to be present within and near the Work Area if suitable habitat trees are present. | Preliminary habitat assessment |
| **Mammals** | | | |
| **Eastern Red Bat** *Lasiurus borealis* | END | Potential habitat within and near the Work Area if suitable habitat trees are present. | Preliminary habitat assessment |

## FIELD INVENTORIES

Based on the results of the Background Review (**Table 1**), a field visit was conducted on June 5, 2025, during which trees on Site were measured, identified, and checked for their suitability as habitat for SAR bats and birds. During the site visit, an MTE Ecologist walked the Site and recorded any potential snake hibernacula and carried out a targeted search for SAR plants.

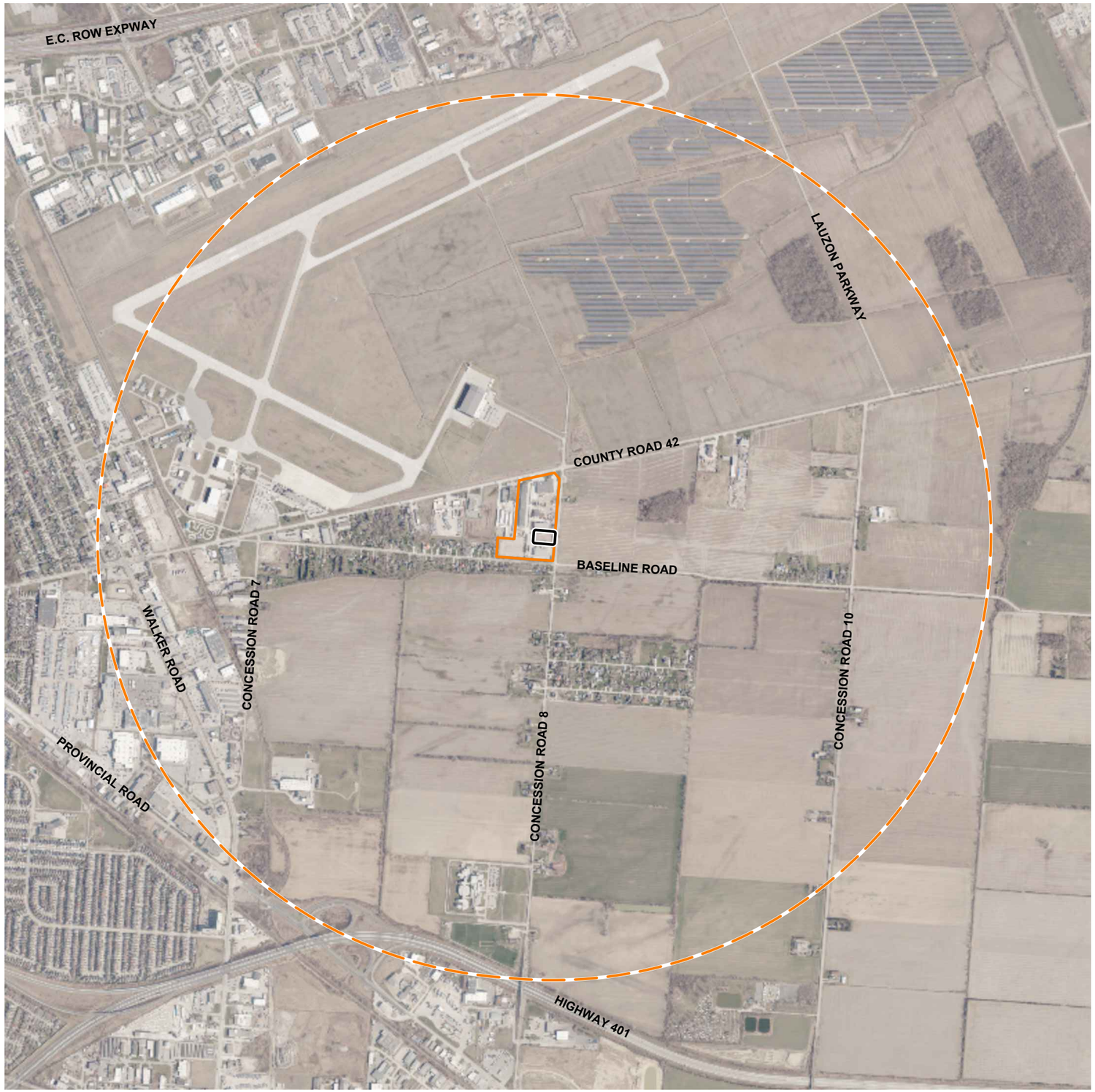
The Area of Work contains a ~0.3-ha undeveloped gravel lot, which is populated mostly by introduced (non-native) and invasive species. No protected SAR or suitable habitats for any SAR were observed during the site visit. No trees of appropriate species or size to be habitat for SAR bats or Red-headed Woodpecker were present. No rock piles or crevices reaching below the frost line (potential snake hibernacula) were observed. No structures that could provide any suitable Chimney Swift nesting habitat were observed.

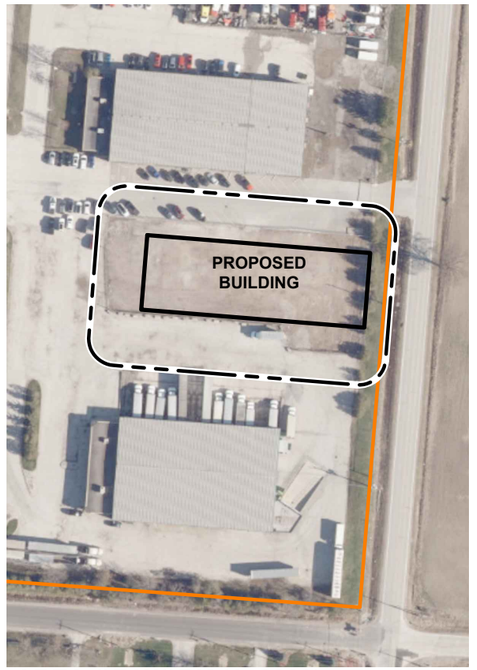
## CONCLUSION

No Species at Risk (SAR) or potential SAR habitat are expected to be present within or near the Area of Work (**Figure 1**). Therefore, it is not expected that the proposed development will have any negative impact on any SAR or SAR habitat or otherwise be in contravention of the *Endangered Species Act, 2007* so long as work is contained to the specified Area of Work.

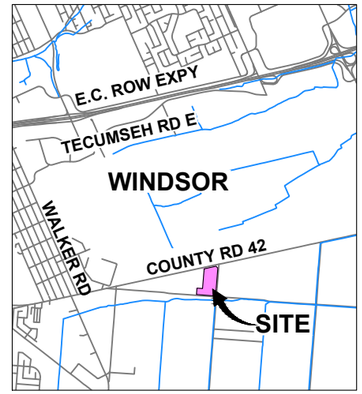
BGK/HAK:smk
Attach.
https://mte85.sharepoint.com/sites/62641_001/Shared Documents/03- Reports/62641_001_2025-06-17_memo_Species at Risk Study.docx

# Figure




**AREA OF WORK (1: 2000)**




**KEY PLAN** (nts)

## LEGEND

- AREA OF WORK
- SCREENING AREA (2Km from Area of Work)
- LEGAL PARCEL

## REFERENCES

ESSEX COUNTY INTERACTIVE MAP, 2024 AERIAL IMAGE;
D.C. McCLOSKEY ENGINEERING LTD., OVERALL SITE PLAN, PROJECT No. M23-259, DWG No. C1.2, OCTOBER 2023; AND
GEOSPATIAL ONTARIO, WATER NETWORK, © KING'S PRINTER FOR ONTARIO, 2024.

## NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

0 200 400 600 800 1,000m

MTE
Engineers, Scientists, Surveyors

PROJECT
**SPECIES AT RISK**
4325-4445 COUNTY ROAD 42
WINDSOR, ONTARIO

TITLE
**PROJECT LOCATION**

| Drawn | Scale | Figure |
|---|---|---|
| DCH | 1:20,000 | 1 |
| Checked | Project No. 62461_001 | |
| Date 2025-06-11 | Rev No. 0 | |

# Attachment A

## Species at Risk Screening

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Vascular Plants** | | | | | | | | | | | | | |
| **Dense Blazing-star** *Liatris spicata* | THR | Grows in moist prairies, grassland savannahs, wet areas between sand dunes, and abandoned fields. Historical habitat is open tallgrass prairies. Can grow in a range of moisture regimes from dry to very moist.<br><br>Range: Restricted to southwestern Ontario; 90% of native plants are found at Walpole Island First Nation (WIFN). Ten other extant populations exist, the largest being in Windsor. | | | | X | | | | | No | No | No moist prairies, grassland savannahs, or wet areas between sand dunes within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Willow-leaved Aster** *Symphyotrichum praealtum* | THR | Generally found in tallgrass pairies, oak savannahs, thickets, and meadows, where the habitat is open and unshaded. May occur on the edges of woods, woodland openings, or human-made habitat created from disturbance (e.g., railway embankments, roadsides, agricultural fields).<br><br>Range: Southwestern Ontario, in Lambton, Essex, and Middlesex Counties, and the Municipality of Chatham-Kent. | | | | X | | | | | **Yes** | No | Potential habitat within the herbaceous portion of the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Eastern Flowering Dogwood** *Cornus florida* | END | Understory tree or on edges of mid-age to mature deciduous or mixed forests, floodplains, slopes, bluffs, ravines, and sometimes along roadsides or fencerows. Often found clustered in the drier areas of its habitat.<br><br>Range: Only found in the Carolinian Zone of southern Ontario – specifically in Oakville, along the Niagara Escarpment through Halton to Hamilton, Niagara Region, and plentiful in Norfolk County. | | | | X | | | | | **Yes** | No | Potentially suitable growing conditions within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Spotted Wintergreen** *Chimaphila maculata* | THR | Found in dry, oak-pine mixed forests and other dry woodlands dominated by White Pine, Red Oak, Black Oak, and American Beech. Requires sparse groundcover, and partial shade. Often found in areas with moderating climate effects of the Great Lakes.<br><br>Range: Wainfleet (Perry Road Woodlot), Ojibway Park, Turkey Point Area, and Spooky Hollow ANSI. | | | | X | | | | | No | No | No woodlands within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Kentucky Coffee-tree** *Gymnocladus dioicus* | THR | Grows best on moist, rich soil, on floodplains and the edges of wetlands in proximity to Lakes Erie and Huron.<br><br>Range: Only found in southwestern Ontario. Only considered THR in Counties of Eglin, Essex, Lambton, Middlesex, Norfolk, Oxford, and Municipality of Chatham-Kent. | | | | X | X | | | | No | No | No floodplains or wetlands within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Slender Bush-clover** *Lespedeza virginica* | END | Grows in open and semi-open habitats like tallgrass prairies, dry old fields, woodland borders, and roadside.<br><br>Range: Limited to the Ojibway Prairie Complex. | | | | X | | | | | No | No | This species is not known to occur outside the Ojibway Prairie Complex.<br><br>No individuals or suitable habitat observed during field visit. |
| **American Chestnut** *Castanea dentata* | END | Typically, habitat is upland deciduous forests on moist to well drained, sandy acidic soils. Occasionally occurs on heavy soils.<br><br>Range: Restricted primarily to southwestern Ontario between Lakes Erie and Huron. | | | | X | | | | | No | No | No forests within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Butternut** *Juglans cinerea* | END | Usually found alone or in small groups in deciduous forests with moist, well-drained soils. Often occurs along streams. Butternut require sunny conditions and therefore are often found in canopy openings or near forest edges.<br><br>Range: Found throughout the southwest, north to the Bruce Peninsula, and south of the Canadian Shield. | | | | X | | | | | **Yes** | No | Potentially suitable growing conditions within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Pink Milkwort** *Polygala incarnata* | END | Found in open, mesic to dry mesic sand prairies. Commonly associated with Little Bluestem.<br><br>Range: Southern Ontario: Walpole Island First Nation to Ojibway Prairie Provincial Nature Reserve (Windsor). | | | | X | | | | | No | No | No sand priairies within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Black Ash** *Fraxinus nigra* | END | Predominantly a wetland species found in swamps, floodplains, seepage, basin and fens.<br><br>Range: Across most of Ontario, except far north. | | | | X | | | | | No | No | No wetlands within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Pumpkin Ash** *Fraxinus profunda* | END | Intermediate-mature deciduous swamps often dominated by Silver Maple; wet floodplain forests; occasionally in brackish coastal swamps (ECCC, 2023; MECP, 2024).<br><br>Range: Previously reported in the Counties of Elgin, Essex, Lambton, Norfolk, and Middlesex, the Municipality of Chatham-Kent, and the Regional Municipality of Niagara (ECCC, 2023; MECP, 2024). The remaining members of the species occur in the County of Norfolk (MECP, 2024). | | | | X | | | | | No | No | No swamps within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Smooth Yellow False Foxglove** *Aureolaria flava* | THR | Grows in dry upland woods often associated with the white oak group.<br><br>Range: 7 remaining subpopulations in southern Ontario – Essex County, Norfolk, Walpole Island First Nation, Hamilton, Waterloo, and Halton. | | | | X | | | | | No | No | No woods within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Red Mulberry** *Morus rubra* | END | Understory forest tree in moist forests with both sandy and limestone-based loamy soils.<br><br>Range: 18 locations in the province, all within the Carolinian Zone. Present on slopes and ravines of Niagara Escarpments, and sand splits and bottomlands near Lake Erie in Essex and Kent. | | | | X | | | | | No | No | No forests within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **White Colicroot** *Aletris farinosa* | END | Grows in open, moist, sandy soils associated with tallgrass prairies and damp sandy meadows.<br><br>Range: Currently found in prairie remnants, old fields, utility corridors, and woodland edges. Restricted to 4 geographic regions in southwestern Ontario: City of Windsor – Town LaSalle; Walpole Island; near Eagle – Municipality of West Elgin; presumed extirpated near Turkey Point – Haldimand-Norfolk County. | | | | X | X | | | | **Yes** | No | Potential habitat within the herbaceous portion of the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Purple Twayblade**<br>*Liparis liliifolia* | THR | Recorded in a variety of habitats included open oak woodlands/savannas, mixed deciduous forests, shrub thickets, shrub alvars, deciduous swamps, and conifer plantations. Depends on natural disturbances to keep habitats open.<br><br>Range: Southwest Ontario, as well as Regional Municipality of York, and Frontenac County near Kingston. | | | | X | | | | | No | No | No open woodlands, savannahs, forests, thickets, alvars, swamps, or conifer plantations within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Eastern Prairie Fringed Orchid**<br>*Platanthera leucophaea* | END | Found primarily in fens, tallgrass prairies, and moist old fields, with open conditions. Can also be found in ditches, railroad rights of way, wetlands, and swamps.<br><br>Range: 20 populations in Simcoe, Essex and Lambton counties, Bruce Peninsula, Ottawa area, and Chatham-Kent. | | X | | | | | | | No | No | No fens, tallgrass prairies, moist old fields, wetlands, or other suitable grassland-like conditions within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Fishes** | | | | | | | | | | | | | |
| **Lake Sturgeon (Great Lakes - Upper St. Lawrence River population)**<br>*Acipenser fulvescens pop. 3* | END | The distribution of this species spans four freshwater biogeographic zones and six terrestrial ecozones. Lake Sturgeon live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel. Spawning habitat is fast-moving water found at base of falls, rapids, or dams with gravel and boulders at bottom. They are usually found at depths of five to 20 metres.<br><br>Range: Great Lakes basin and their connecting waterways. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Shortjaw Cisco**<br>*Coregonus zenithicus* | THR | Most of the year this species is found in deep water (generally 55 to 183 m). Although, this species has been found in shallower water during spawning and within Lake Nipigon. Habitat preferences are not well known in smaller lakes.<br><br>Range: Found within Lakes Superior, Michigan, and Huron, Lake Nipigon, and smaller inland lakes scattered throughout northeastern Ontario. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Northern Madtom**<br>*Noturus stigmosus* | END | Prefers habitats ranging from large creeks to big rivers, with clear to slightly turbid water, and moderate to swift current, and a sand, gravel, or mud bottom.<br><br>Range: Only found in Ontario in the St. Clair River, Lake St. Clair, the Detroit River, and the Thames River. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Amphibians** | | | | | | | | | | | | | |
| **Small-mouthed Salamander**<br>*Ambystoma texanum* | END | Inhabits a mosaic of habitats including:<br><br>- Core breeding areas: shallow breeding ponds free of carnivorous fish and high pollutants, usually less than 1m deep, includes ponds, swamps and marshes. Typically require woody debris, submerged grass/reeds or other vegetation. Must be within 300m of terrestrial areas.<br><br>- Dispersal corridors: habitat that connect core breeding areas; Wetlands and mesic terrestrial habitats with soft soils, and suitable cover (logs, rocks, leaf litter), and terrestrial prey items (insects, earthworms, other invertebrates).<br><br>- Hibernation: woodlands, upland forests, swamps, successional areas, meadows, old fields, and other areas that extend below the frost line. May utilize deep rock fissures and rodent burrows.<br><br>Range: Only found on Pelee Island. | | | | X | | | | | No | No | This species is not known to occur outside of Pelee Island.<br><br>No individuals or suitable habitat observed during field visit. |
| **Reptiles** | | | | | | | | | | | | | |
| **Blue Racer**<br>*Coluber constrictor foxii* | END | Prefers open habitat with abundant cover – prairies, savanna, alvar, and open woodlands. Hibernates in rock cervices in large numbers with other species.<br><br>Range: Only found on Pelee Island in western Lake Erie. | | | | X | | | | | **Yes** | No | Potential habitat within work area if suitable hibernacula are present (e.g., rock piles).<br><br>No individuals or suitable habitat observed during field visit. |
| **Eastern Foxsnake (Carolinian population)**<br>*Pantherophis vulpinus pop. 2* | THR | Mainly unforested, early successional vegetation communities during active season. Eastern Foxsnakes in the Carolinian population are usually found in old fields, marshes, along hedgerows, drainage canals and shorelines. Females lay their eggs in rotting logs, manure or compost piles, which naturally incubate the eggs until they hatch. During the winter, Eastern Foxsnakes hibernate in groups in deep cracks in the bedrock and in some man-made structures.<br><br>Range: Restricted to two discrete regions in Essex-Kent and Haldimand-Norfolk. 70% of species range is in Ontario. | | X | | | | | | X | No | No | No early succesional vegetation communities, old fields, marshes, hedgerows, drainage canals, or shorelines within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Queensnake**<br>*Regina septemvittata* | END | Commonly associated with rocks streams and rivers, also marshes, ponds, and lakeshores. Seldom found more than a few metres from water.<br><br>Range: Only in southwest Ontario in Middlesex, Brant, Huron, and Essex, and on the Bruce Peninsula. | | | | X | | | | | No | No | No streams, rivers, marshes, ponds, or lakeshores within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

**Species at Risk Screening**

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Butler's Gartersnake**<br>*Thamnophis butleri* | END | Prefers open habitats, like dense grasslands, old fields, thicket, woodland edge, with small wetlands and cover. Requires access to water or moist habitats for life processes and hibernates in crayfish burrows. Can persist in highly disturbed habitats, but habitat is fragmented by roads.<br><br>Range: Concentrated in two areas within 10km of the Detroit River, Lake St. Clair, and Lake Huron from Amherst Point to Errol, in Essex and Lambton counties; also Luther Marsh in Dufferin and Wellington counties. | | | | X | X | | | X | **Yes** | No | Potential habitat within work area if suitable hibernacula are present (e.g., rock piles).<br><br>No individuals or suitable habitat observed during field visit. |
| **Common Five-lined Skink (Carolinian population)**<br>*Plestiodon fasciatus pop. 1* | END | Found under woody debris or artificial objects, in clearings with sand dunes, open forests, and wetlands. Canopy cover of <50%.<br><br>Range: Near shores of Lakes Erie, St. Clair, and Huron. Most commonly, Rondeau and Pinery Provincial Parks, and Point Pelee National Park. | | X | | X | | | | X | No | No | No suitable combination of habitat types within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Massasauga (Carolinian population)**<br>*Sistrurus catenatus pop. 2* | END | Many habitats including tall grass prairies, bogs, marshes, shorelines, forests, and alvars. Require open areas. Hibernate underground in crevices in bedrock, sphagnum swamps, tree root cavities, and animal burrows above the water table.<br><br>Range: Two small populations in the Wainfleet Bog on the northeast shore of Lake Erie and near Windsor. | | | | X | | | | X | No | No | No suitable prairie, wetland, alvar, shoreline, or forest habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Spotted Turtle**<br>*Clemmys guttata* | END | Prefers unpolluted, shallow, slow-moving ponds, marshes, bogs, ditches, vernal pools, and sedge meadows with an abundant supply of aquatic vegetation.<br><br>Range: Along the north shore of Lake Erie, Georgian Bay, and scattered areas in southern and eastern Ontario. | | X | | | | | | | No | No | No unpolluted, shallow, slow-moving ponds, marshes, bogs, ditches, vernal pools, and sedge meadows with an abundant supply of aquatic vegetation within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Blanding's Turtle**<br>*Emydoidea blandingii* | THR | Lives in shallow water, usually large wetlands, and shallow lakes with lots of water vegetation – darkly coloured water with high productivity, but also observed in clear waters. Sometimes hundreds of meters from water when finding a new nesting site or mate. Nestings sites are open habitats with low vegetation cover and high sun exposure, with sand, organic soil, gravel, cobblestone substrates. Overwinters in substrate beneath standing permanent or temporary water bodies, can overwinter in relatively shallow water (7 cm).Can make long-distance overland movements between wetlands.<br><br>Range: Great Lakes/St. Lawrence population primarily in southern Ontario. | | X | | X | | | | X | No | No | No shallow lake or wetlands within or near the Work Area. The adjacent roadside ditch is inundated with European Common Reed, making it unsuitable as a migration corridor.<br><br>No individuals or suitable habitat observed during field visit. |

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Spiny Softshell**<br>*Apalone spinifera* | END | Highly aquatic, rarely traveling far from water. Primarily in rivers and lakes but also creeks, ditches, and ponds near rivers. Require open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and food availability.<br><br>Range: Lake St. Clair, Lake Erie, western Lake Ontario watersheds. Majority in the Thames and Sydenham rivers and two sites in Lake Erie. | | X | | X | | | | | No | No | No suitable aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Birds** | | | | | | | | | | | | | |
| **Least Bittern**<br>*Botaurus exilis* | THR | Found in large marshes (> 5ha) or marshy borders of lakes, ponds, streams, ditches with dense emergent vegetation of cattails, bulrush, and sedges. Nests in primarily in cattails, 10m from open water.<br><br>Range: Majority of the 1500 Canadian pairs found south of the Canadian Shield in central, eastern, and southern Ontario. | | | | | | | X | | No | No | No marshy habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Chimney Swift**<br>*Chaetura pelagica* | THR | Found in urban and rural areas near buildings. Nest and roosts in hollow trees, crevices of rock cliffs and, most commonly, in unlined chimneys. Suitable sites are reused annually.<br><br>Range: Estimated 7500 breeding individuals in Ontario; most widely distributed in the Carolinian south and southwest. | | | X | | | | X | | **Yes** | No | Potential habitat if suitable trees or structures are present within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Lesser Yellowlegs**<br>*Tringa flavipes* | THR | Nests on dry ground near peatlands, marshes, ponds, and wetlands, in the boreal forest and taiga. Migrate in the winter frequenting coastal salt marshes, estuaries, ponds, lakes, and wetlands.<br><br>Range: Breeding range covers the Taiga Shield and Hudson Plains (NWT, Ontario, Quebec), Boreal Taiga Plains (BC, Alberta, SASK, and Northern Interior Forest (Yukon and BC), passing through all provinces during migration. | | | X | | | | | | No | No | No wetland or aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Short-eared Owl**<br>*Asio flammeus* | THR | Lives in open areas like grasslands, marshes, and tundra. Nests on ground.<br><br>Range: Scattered distribution in Ontario; James and Hudson Bay coastlines, Ottawa River, Rainy River District, and other areas of southern Ontario. | | | | X | X | | | | No | No | No suitable grassland or mash-like habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Red-headed Woodpecker**<br>*Melanerpes erythrocephalus* | END | Breeding habitat consists of mature lowland and upland deciduous woodlands typically characterized by low canopy cover, open understories, and large, tall trees, especially beech or oak species. Ideal habitat in Ontario is oak savannah; however, it can be found in other sparsely treed habitats such as orchards, groves of dead and dying trees, municipal parks, golf courses, river bottomlands, and agricultural landscapes. Higher densities of decadent trees are associated with higher habitat quality. It is occasionally encountered in mixed woodlots but rarely in urbanized areas. The species typically occupies woodlots with less canopy cover, more coarse woody debris, and greater dead limb lengths compared to unoccupied woodlots.<br><br>Range: Across southern Ontario; widespread but rare. | | X | | | X | | X | | **Yes** | No | Potential to be present within and near the Work Area if suitable habitat trees are present.<br><br>No individuals or suitable habitat observed during field visit. |

**Species at Risk Screening**

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Acadian Flycatcher** *Empidonax virescens* | END | Typically found in mature, interior forest habitat within shady forest ravines with American Beech or Eastern Hemlock. Nest placement near the tip of a lower limb on a tree, often over water. Nest often looks messy and scraggly.<br><br>Range: Nests only in southwestern Ontario, mostly in large forest and forested ravines near the shore of Lake Erie. | | | | | | | X | | No | No | No interior forest habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Bank Swallow** *Riparia riparia* | THR | Nests in natural and disturbed settings where there are vertical faces in silt and sand deposits. Many found along rivers and lakes, but also in active sand and gravel pits.<br><br>Range: Found across southern Ontario, sparse in northern Ontario. Largest populations found along Lake Erie and Lake Ontario shorelines, and along the Saugeen River. | | | | | | | X | | No | No | No vertical faces in silt or sand deposits within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Henslow's Sparrow** *Centronyx henslowii* | END | Nests only in moist to wet multi-year fallow fields of primarily tall grasses interspersed with tall herbaceous plants or shrubs. Distribution is extremely low and unpredictable in most of southern Ontario; no confirmed breeding was documented in the second Ontario Breeding Bird Atlas (2001-2005; Cadman et al. 2008). Adults infrequently observed as they remain below thatch.<br><br>Range: Breeds in southern Ontario. | | | | X | | | | | No | No | No suitable grassland-like habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Bobolink** *Dolichonyx oryzivorus* | THR | Found in large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields, marshes. Grasslands size requirements have been reported to range from 5 ha to 50 ha depending on the study (MECP, 2021).<br><br>Range: Widely distributed throughout most of the province south of the boreal forest. May be found in the north where suitable habitat exists. | | | X | | | | X | | No | No | No large expansive grasslands within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Eastern Meadowlark** *Sturnella magna* | THR | Breeds mostly in moderately tall grasslands (native prairies and savannahs), also pastures, hayfields, herbaceous fencerows, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Eastern Meadowlarks may not be strongly area-sensitive (McCracken et al., 2013), however large tracts of grasslands (5 ha or greater) are preferred over smaller fragments (Herkert, 1991; Vickery et al., 1994).<br><br>Range: Primarily found south of the Canadian Shield, but also inhabits Lake Nipissing, Timiskaming, and Lake of Woods areas. | | | X | X | X | | X | | No | No | No suitable grassland-like habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Mammals** | | | | | | | | | | | | | |
| **Gray Fox** *Urocyon cinereoargenteus* | THR | Lives in deciduous forests and marshes. Dens close to water source, but sometimes rocky areas, hollow trees, and underground burrows.<br><br>Range: Range has been reduced to west of Lake Superior in the Rainy River District and on Pelee Island. Occasional sightings in Niagara near the USA border, Thousand Islands, and Windsor areas. | X | | | | | | | | No | No | No deciduous forests or marshes within the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Eastern Red Bat**<br>*Lasiurus borealis* | END | Roosts in foliage of coniferous and deciduous trees and shrubs typically prefer tall trees at least the height of the canopy; however, will use shrubs and trees greater than 5 m. Foraging habitat includes both forested and unforested habitat (COSEWIC, 2023). | X | | | | | | | | **Yes** | No | Potential habitat within and near the Work Area if suitable habitat trees are present.<br><br>No individuals or suitable habitat observed during field visit. |
| **Molluscs** | | | | | | | | | | | | | |
| **Snuffbox**<br>*Epioblasma triquetra* | END | Found in small to medium-sized rivers in shallow riffle areas. Prefer clean, clear, swift-flowing water and firm rocky, gravel, or sand river bottoms free of silt. Host fish: Logperch<br><br>Range: Only found in the East Sydenham River and the Ausable River. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Wavy-rayed Lampmussel**<br>*Lampsilis fasciola* | THR | Inhabits clear rivers and streams of various sizes with stable substrate and steady flow. Most abundant in small to medium-sized streams at sites that support a great diversity of other mussel species. Typically found in gravel or sand substrates, stabilized with cobble or boulders, in/near riffle areas up to 1 m depth. Host fishes: Smallmouth and Largemouth bass.<br><br>Range: In Ontario, only found in the Grand, Upper Thames, Maitland, Ausable, and the Lake St. Clair delta within the territory of the Walpole Island First Nation. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Threehorn Wartyback**<br>*Obliquaria reflexa* | THR | Prefer large rivers with moderate current and shallow embayments and rservoirs with little current. Prefers sand and gravel substrate, but has been observed in a variety of other substrates (clay, detritus, silt, rubble, and boulder). Host Fish: Unidentified.<br><br>Range: Only found in the Sydenham, Thames, and Grand rivers in southwestern Ontario. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Hickorynut**<br>*Obovaria olivaria* | END | Found in sandy beds in large rivers with a moderate to strong current, at depths usually exceeding 2 to 3 m. Host Fish: Lake Sturgeon.<br><br>Range: Found within the Great Lakes – St. Lawrence basin in the Mississagi River and the Ottawa River | | | | X | | | | | No | No | No aquatic habitat within the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Round Hickorynut**<br>*Obovaria subrotunda* | END | Found mainly in medium to large-sized rivers. In Ontario, typically found in murky, low-gradient rivers with clay/sand or clay/gravel substrate. Host Fish: Unknown, but potentially eastern sand darter and/or greenside darter.<br><br>Range: Found within the St. Clair River delta in Lake St. Clair, the Sydenham River, and Lake Erie. Occupies shallow (<1 m) nearshore areas with firm sandy substrate in Lake St. Clair. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Kidneyshell**<br>*Ptychobranchus fasciolaris* | END | Most often in small to medium-sized rivers and streams. Prefers shallow areas with clear, swift-flowing water and substrates of firmly packed coarse gravel and sand. Host Fishes: Greenside darter, fantail darter, and/or johnny darter.<br><br>Range: Limited to Lake St. Clair and the Sydenham and Ausable rivers in southern Ontario. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

**Species at Risk Screening**

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Salamander Mussel**<br>*Simpsonaias ambigua* | END | Often found in waterbodies with a swift current and burrowed in silt or sand under large, flat rocks in shallow areas, gravel bars, or mud. Only found in streams that support Mudpuppy populations. Host: Mudpuppy<br><br>Range: Found in the East Sydenham River and one location in the Thames River. It may still be found in the St. Clair River delta in Lake St. Clair. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Lilliput**<br>*Toxolasma parvum* | THR | Found in a variety of soft river bottoms, such as mud, sand, and silt. Burrow in soft materials – very sensitive to changes in water quality. Host Fishes: Potentially Johnny Darter, Green Sunfish, White Crappie, and Bluegill, Warmouth, and Orange-spotted Sunfish (host fish identified in the United States).<br><br>Range: Small number of rivers flowing into Lake St. Clair, Lake Erie, and Lake Ontario, and two wetlands near the western end of Lake Ontario. Documented in Sydenham River, Lower Thames River, Ruscom River, Belle River, Grand River, Welland Rive, 20 Mile Creek, and Hamilton Harbour. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Rayed Bean**<br>*Villosa fabalis* | END | Found buried in sand or gravel in shallow, clear headwaters and riffle areas of small tributaries. Most abundant in areas characterized by wadable water with high flow (> 0.5 m/s). Host Fish: Most likely Greenside Darter, however rainbow darter, mottled sculpin, and largemouth bass were determined as host fish in a laboratory setting.<br><br>Range: Only in southern Ontario, in the Sydenham River and a small section of the North Thames River near Plover Mills and upstream of Fanshawe Lake. | | | | X | | | | | No | No | No aquatic habitat within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Banded Tigersnail**<br>*Anguispira kochi* | END | Inhabits moist old hardwood or mixed-wood forests. In Ontario, it has been found in Chinquapin Oak-Nodding Onion treed alvar, dry-fresh Hackberry deciduous forest, dry-fresh Sugar Maple-White Ash deciduous forest, and dry Black Oak woodland. These habitats are described as having either limestone bedrock with vegetative cover or sandy soil with a leaf litter layer.<br><br>Range: Pelee Island and Middle Island. It was also historically found on Middle Sister Island, East Sister Island and North Harbour Island but now appears to be extirpated from these locations. It is unknown if this species still exists on Hen Island. | | | | X | | | | | No | No | No forests within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Proud Globelet**<br>*Patera pennsylvanica* | END | Typically found in wooded hillsides or in ravines. Located in sandy oak forests and industrial area.<br><br>Range: Southwestern Ontario | | | | X | | | | | No | No | No wooded hillsides or ravines within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |
| **Striped Whitelip**<br>*Webbhelix multilineata* | END | Inhabits low, wet places, in marshes, floodplains, meadows, margins of lakes and ponds.<br><br>Range: Essex County and Lambton County (Walpole Island, Point Pelee and Pelee Island, Bickford Oak Woods CR) | | | | X | | | | | No | No | No low, wet places within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

| Species | SARO Status | Habitat Requirements and Range | Background Source | | | | | | | | Habitat | | Rationale and Field Observations |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AMO | CHA | GBIF | NatureServe | NHIC | OBA | OBBA | ORAA | Potential | Confirmed | |
| **Insects** | | | | | | | | | | | | | |
| **Northern Oak Hairstreak**<br>*Satyrium favonius ontario* | THR | Oak woodlands and forests with a > 60% canopy cover. White Oak (Quercus alba) is suspected to be the preferred larval food plant, but habitat may also include Hickory (Carya), Sugar Maple (Acer saccharum), White Pine (Pinus strobus), and Black Walnut (Juglans nigra). Early instar larvae feed on pollen from buds and flowers but switch to chewing on young leaves as it develops through its five instars. Adults visit forest openings or meadows close to oak forest edges for nectar, preferably Hemp Dogbane and Daisy Fleabane, but may also nectar on Milkweeds (Sclepias), New Jersey Tea (Ceanothus americanus), Thistles (Cirsium), Common Yarrow (Achillea millefolium), and Grey Dogwood (Cornus racemosa). Adults also feed on aphid honeydew and on pip gall honeydew secretions created by small cynipid wasps that are parasitic on oak acorns (ECCC, 2023; MECP, 2024)<br><br>Range: Currently known to occur in southwestern Ontario in Windsor and in the Counties of Lambton, Essex, and Middlesex. Unconfirmed population on Walpole Island. One vagrant individual was recorded from Point Pelee. Occurred historically in Port Stanley and Grimsby (ECCC, 2023; MECP, 2024). | | | | X | | X | | | No | No | No woodlands or forests within or near the Work Area.<br><br>No individuals or suitable habitat observed during field visit. |

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