
To:	Greg Romanick	From:	Janice Ball Dan Eusebi
	Waterloo		Waterloo ON Office
File:	161413217	Date:	November 18, 2021

Reference: Scoped Environmental Natural Heritage Report for the Stroh Lands in Wellesley, Ontario

Stantec ecosystem team was retained to complete a natural heritage assessment (NHA) with a focus on Species at Risk (SAR) for the property known as the Stroh Lands located on the west side of the Village of Wellesley, the subject lands fronting onto Gerber Road.

The work plan for the scoped natural heritage assessment is noted in the Record of Pre-Submission Consultation, Page 6 that states: *the applicant is advised that Species At Risk screening should be undertaken. The Region requests that any correspondence from the Ministry of the Environment, Conservation and Parks be shared with the Region.* Further to the Pre-submission direction, the scope of the NHA was discussed with Region of Waterloo on April 14, 2021 and based on the Subject Property land use, namely crops with some perimeter trees, the focus of the natural heritage studies was to survey for grassland avian SAR and SAR trees (e.g. Butternut).

The scope of the studies for this report include:

- Review Natural Heritage Information Centre (NHIC) database of rare and at-risk species element occurrences (information used to assess the potential of these species to occur on the site)
- Review of various wildlife atlases (e.g., Atlas of the Breeding Birds of Ontario, and Atlas of the Mammals of Ontario, eBird, etc.)
- Region has indicated in a recent call that they have no additional information for the Site.
- Air photo interpretation.
- One field visit to document Ecological land classification (ELC), in particular grassland conditions (for Bobolink and Meadowlark, species at risk), and potential Butternut trees on the edge of property.
- Preparation of Geo-referenced Figure showing the ELC for the site and surrounding 'Adjacent Lands' (120 m surrounding the site as required by standard natural heritage report standards).
- Letter report including a SAR Habitat Screening Assessment table and for all potential Species at Risk and rare species assessed based on potential NHIC occurrences from background review and on-site ELC and other features observed during field survey.

MECP contact would be undertaken only if SAR species or potential habitat were observed during a site reconnaissance. The survey of the Subject Property confirms the site conditions do not support potential or candidate Species at Risk habitat. As such, contact with the Ministry of the Environment, Conservation and Parks (MECP) is not recommended at this time.

BACKGROUND REVIEW

The Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) database on the Land Information Ontario website (MNR 2021a) was accessed on September 7, 2021, to identify occurrences of species at risk (SAR) and species of conservation concern (SOCC) in the Study Area. The Ontario Reptile and Amphibian Atlas (Ontario Nature 2019), Ontario Breeding Bird Atlas (Cadman et al 2007) and the Atlas of the Mammals of Ontario (Dobbyn 1994) were also accessed to identify SAR and SOCC with known ranges that overlap with the Study Area. A habitat assessment to determine the probability of the species occurring in

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the Study Area is attached in **Tables 1 and 2**. The probability of species occurrence was based on an assessment of potential habitat presence for the 9 SAR and 6 SOCC that were identified during the background review. There was a low probability of occurrence for all species except for Monarch which was determined to have a medium probability of occurring in hedgerows and roadside ditches in the Study Area.

SITE VISIT

Stantec Ecologist, Janice Ball, conducted a natural heritage assessment at the Stroh Lands (Subject Property) in Wellesley, Ontario on August 9, 2021, from 9:30am to 10:30am. The assessment consisted of a site visit to identify potential Species at Risk (SAR) habitat, significant wildlife habitat (SWH) and aquatic habitat on and adjacent to the Subject Property. A vegetation community assessment was also conducted for the Study Area according to the Ecological Land Classification (ELC) system for southern Ontario (Lee et al. 1998) and where appropriate, the updated ELC Catalogue (2008). The Study Area for the assessment extended up to 120m from the Subject Property Boundary.

The SAR assessment involved screening for SAR grassland bird habitat (Eastern Meadowlark and Bobolink), a search for butternuts, a search for suitable nesting habitat for Bank Swallow and Barn Swallow and an assessment of suitability of trees for bat maternity roosts.

The SWH assessment involved screening for candidate and confirmed SWH as described by the *Significant Wildlife Habitat Technical Guide* (MNR 2000) and *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF 2015).

The aquatic habitat assessment involved observations of site drainage on the southern boundary of the Subject Property.

RESULTS

The attached figure (Figure 1) shows the approximate Subject Property Boundary and the results of the ELC vegetation community assessment. The majority of the Subject Property is comprised of a planted corn field (OAGM1), which is not suitable breeding habitat for Eastern Meadowlark or Bobolink. Other open lands adjacent to the Subject Property are also planted in agricultural crops (soya beans and alfalfa; OAGM1), which are also not suitable for SAR grassland birds.

There is a sparse hedgerow (HR) of trees on the west boundary of the Subject Property comprised of young white cedar, young white pine and mid-aged silver maple. The southern boundary of the Subject Property directly adjacent to Gerber Road is comprised of a roadside ditch dominated by cultural meadow species. There is also a mid-aged sugar maple and occasional young saplings in the roadside ditch. There is a rural residential property west of the Subject Property, agricultural crops and a planted hedgerow of sugar maples along Gerber Road. There is a residential subdivision immediately east of the Subject Property (CVR) with planted trees in the rear yards comprised of Norway spruce, Norway maple and silver maple. The northern boundary of the Subject Property is located within the corn field (OAGM1).

There were no butternuts or suitable bat maternity roost habitat observed on the Subject Property. There was also no suitable Bank Swallow or Barn Swallow habitat identified on the Subject Property.

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A SWH habitat assessment was conducted based on the results of the site visit (refer to Table 3 attached). There was candidate foraging habitat for Monarch in the hedgerow and roadside ditches in the Study Area. No other significant wildlife habitat features were identified in the Study Area.

There is a Corrugated Steel Culvert approximately 1.2m in diameter that conveys flow in a southerly direction from the roadside ditch on the Subject Property to the opposite side of Gerber Road. A stormwater drain located immediately south of the culvert on the south side of Gerber Road captures the flow from the culvert. There is limited wetland vegetation in the roadside ditches on both sides of Gerber Road, and there was no standing water in either ditch at the time of survey. A tile drain extended from the edge of the corn field into the culvert, and the culvert appeared to be held up with wood supports. There was a very small amount of standing water in the culvert at the time of survey with a metallic sheen. There was also a small amount of water heard trickling from the tile drain into the culvert during the survey. The drainage associated with the Subject Property does not support fish habitat.

CONCLUSION

There is no suitable breeding habitat for Eastern Meadowlark or Bobolink on or adjacent to the Subject Property. The present row crops and site vegetation precludes the potential for these species at risk to be using the Subject Property regularly as part of their necessary life cycle processes. There are also no butternuts, no suitable bat maternity roost habitat, no suitable Bank Swallow and Barn Swallow habitat, and no rare ELC vegetation communities and no fish habitat on the Subject Property or on the adjacent lands within 120 m of site. There was candidate foraging habitat for Monarch in the hedgerows and roadside ditches in the Study Area; however, there is an abundance of this type of habitat across the landscape and this candidate habitat is not considered as a constraint to development. There were no other significant wildlife habitat features identified in the Study Area. In summary there no natural heritage constraints to development identified on the Subject Property.

Stantec Consulting Ltd.

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Attachment: Figure 1: Site Conditions - Ecological Land Classification
Table 1: Species at Risk Habitat Assessment
Table 2: Species of Conservation Concern Habitat Assessment
Table 3: Significant Wildlife Habitat Assessment

Design with community in mind

Reference: Scoped Environmental Natural Heritage Report for the Stroh Lands in Wellesley, Ontario

REFERENCES

- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, A.R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. (eds) Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of natural resources, and Ontario Nature, Toronto, xxii +706pp. Data available online: <http://www.birdsontario.org/atlas/squareinfo.jsp?lang=en>
- Dobbyn, J. 1994. Atlas of the mammals of Ontario. Don Mills, Ontario. Federation of Ontario Field Naturalists.
- Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, S. McMurray. September 1998. Ecological Land Classification for Southern Ontario. North Bay, Ontario. Ontario Ministry of Natural Resources and Forestry.
- (MNR) Ontario Ministry of Natural Resources. 2000. Significant wildlife habitat technical guide. 151p
- (MNRF) Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. January, 2015. Ontario Ministry of Natural Resources and Forestry Regional Operations Division, Peterborough, Ontario. 40 pp.
- (MNRF) Ontario Ministry of Natural Resources and Forestry. 2021a. Natural Heritage Information Centre (NHIC) Data on the Land Information Ontario mapping website. Ontario Ministry of Natural Resources and Forestry. Available Online: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
- (MNRF) Ontario Ministry of Natural Resources and Forestry. 2021b. Ontario Plant Community and Vascular Plant Lists. Natural Heritage Information Centre, Ontario Ministry of Natural Resources and Forestry, Peterborough. Available Online: <https://www.ontario.ca/page/get-natural-heritage-information>
- Ontario Nature. 2019. Reptiles and Amphibians of Ontario. Ontario Reptile and Amphibian Atlas. Available Online: <https://ontarionature.org/oraa/maps/>

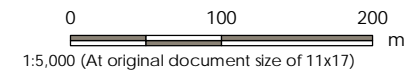
ATTACHMENT A:

Figure 1: Site Conditions - Ecological Land Classification

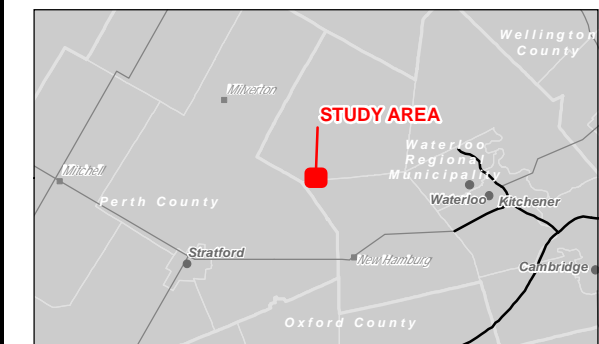


- Legend
- Site Boundary
 - ELC Boundary

- ELC Legend
- CVR: Residential
 - HR: Hedgerow
 - OAGM1: Annual Row Crops



- Notes
- Coordinate System: NAD 1983 UTM Zone 17N
 - Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2021.
 - Orthoimagery © First Base Solutions, 2021. Imagery Date, 2020.



Project Location: Township of Wellesley
Prepared by CMC on 2021-09-07
Technical Review by BCC on 2021-02-03

Client/Project: STROHVEST ONTARIO INC.
STROH LANDS, WELLESLEY, ONTARIO

Figure No.: 1
Title: Site Conditions - Ecological Land Classification

ATTACHMENT B:

Tables

Table 1: Species at Risk Habitat Assessment

Group	Common Name	Scientific Name	COSSARO	COSEWIC	S-Rank	Source(s)	Habitat Description	Probability of Occurrence in the Study Area (Low, Medium or High)
Birds	Bank Swallow	<i>Riparia riparia</i>	THR	THR	S4B	Cadman et. al. 2007	The Bank Swallow breeds on a variety of sites with vertical banks, including riverbanks, bluffs, aggregate pits and stock piles of sand and soil. Sand-silt substrates are preferred. Nesting sites are often near open habitats used for aerial foraging . Large wetlands are used as communal roosts during post-breeding, migration, and wintering periods (COSEWIC 2013).	Low - There were no eroding banks suitable for Bank Swallow observed in the Study Area.
Birds	Barn Swallow	<i>Hirundo rustica</i>	THR	THR	S4B	Cadman et. al. 2007	The Barn Swallow commonly nests on walls or ledges of barns, bridges, culverts or other man-made structures (Cadman et al. 2007). Where suitable nesting structures occur, Barn Swallow often form small colonies, sometimes mixed with other swallow species. The Barn Swallow feeds on aerial insects while foraging over a variety of open habitats such as pastures, lawns, meadows and fields (COSEWIC 2011). It will also frequently forage in woodland clearings, over wetland habitats or open water where insect prey are abundant (Cadman et al. 2007).	Low - There were no suitable nesting structures for Barn Swallow observed in the Study Area.
Birds	Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	S4B	MNRF 2021a, Cadman et. al. 2007	Bobolink nest primarily in forage crops with a mixture of grasses and broad-leaved forbs, predominantly hayfields and pastures. Preferred ground cover species include grasses such as Timothy and Kentucky bluegrass and forbs such as clover and dandelion. Bobolink is an area-sensitive species, with reported lower reproductive success in small habitat fragments (COSEWIC 2010).	Low - There were no meadows or hayfields in the Study Area to support Bobolink.
Birds	Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	S4B	Cadman et. al. 2007	Meadowlarks are ground nesting birds (Harrison, 1975), which are often associated with human-modified habitats where they sing from prominent perches such as roadside wires, trees, and fenceposts. As a grassland species the Eastern Meadowlark typically occurs in meadows, hayfields and pastures. However, it will utilize a wider range of habitat than most grassland species, including mown lawn (e.g. golf course, parks), wooded city ravines, young conifer plantations and orchards (Peck and James 1983). The Eastern Meadowlark is generally tolerant of habitat with early succession of trees or shrubs.	Low - There were no meadows or hayfields in the Study Area to support Eastern Meadowlark.
Mammals	Eastern Small-footed Myotis	<i>Myotis leibii</i>	END	Not listed	S2S3	MNRF 2016	Overwintering habitat: Caves and mines that remain above 0 degrees Celsius; Maternal Roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses and under tree bark.	Low - There were no woodland communities in the Study Area to support Eastern Small-footed Bat. Hedgerows in the Study Area did not provide suitable habitat for bat maternity roosts.
Mammals	Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	S4	Mammal Atlas	This species up until recently was considered the most common bat species in Ontario, and most frequently found bat species in North America. The recent change in status is due to significant declines in recent years attributed to a condition referred to as White-nose Syndrome (WNS). A widespread species, the Little Brown Bat is commonly found in warm sites such as buildings, attics, roof crevices, under bridges or in cavities of canopy trees in the forest (COSEWIC, 2013).	Low - There were no woodland communities in the Study Area to support Little Brown Myotis. Hedgerows in the Study Area did not provide suitable habitat for bat maternity roosts.
Mammals	Northern Myotis	<i>Myotis septentrionalis</i>	END	END	S3?	Mammal Atlas	The Northern Myotis (formerly Northern Long-eared Bat; <i>Myotis septentrionalis</i>) is a resident bat of upland forests of eastern North America, typically foraging for aerial insects in the forest understory. Maternity roosts are typically located under the bark of large trees and are rarely found in human-made structures. Hibernating colonies typically reside in cave crevices (COSEWIC, 2013). The precipitous population decline of this species in recent years is attributed to a condition referred to as White-nose Syndrome (WNS).	Low - There were no woodland communities in the Study Area to support Northern Myotis. Hedgerows in the Study Area did not provide suitable habitat for bat maternity roosts.
Mammals	Tri-colored Bat	<i>Perimyotis subflavus</i>	END	END-END	S3?	Dobbyn 1994	The Tri-coloured Bat roosts in colonies in tree cavities in a wide variety of deciduous and coniferous forest stands. It is strongly associated with forest watercourses and streamside vegetation (COSEWIC 2013).	Low - There were no woodland communities in the Study Area to support Tri-coloured Bat. Hedgerows in the Study Area did not provide suitable habitat for bat maternity roosts.
Plants	Butternut	<i>Juglans cinerea</i>	END	END	S3?	NHIC1,2,3	Butternut is commonly found in a variety of habitats throughout Southern Ontario, including woodlands and hedgerows ideal habitat includes rich, moist, and well-drained soils often found along streams, but may also be found on well-drained gravel sites, particularly those made of limestone (COSEWIC, 2003). Butternut is intolerant of shade and occurs singly or in small groups with a variety of associates (Farrar, 1995).	Low - Butternut was not observed in the Study Area during field observations.

References

Cadman, M. D., D.A. Sutherland, G.G. Beck, D. Lepage, A.R. Couturier. 2007. *Atlas of the Breeding Birds of Ontario, 2001-2005*. (eds) Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario . Ministry of natural resources, and Ontario Nature, Toronto

COSEWIC 2003. COSEWIC assessment and status report on the butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp. (www.sararegistry.gc.ca/status/status_e.cfm) COSEWIC. 2010. COSEWIC assessment and status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis *Myotis lucifugus*, Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subflavus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).

Farrar, J.L. 1995. *Trees in Canada*. Fitzhenry & Whiteside Limited and the Canadian Forest Service. Canada. 198 pp.

Gibbs, J. P., F. A. Reid, and S. M. Melvin. 1992. Least Bittern. In *The Birds of North America*, No. 17 (A. Poole, P. Stettenheim, and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, DC: The American Ornithologists' Union.

Harrison, H.H. 1975. *A Field Guide to Birds' Nests*. Houghton Mifflin Company, New York, New York. 257 pp.

Peck, G. K. and R. D. James. 1983. *Breeding Birds of Ontario: Nidiology and Distribution. Volume 1: Nonpasserines*. Royal Ontario Museum, Toronto, Ontario.

Table 2: Species of Conservation Concern Habitat Assessment

Group	Common Name	Scientific Name	COSSARO	COSEWIC	S-Rank	Source(s)	Habitat Description	Probability of Occurrence in the Study Area (Low, Medium or High)
Invertebrates	Monarch	<i>Danaus plexippus</i>	SC	SC	S4B, S2N	Toronto Entomologist's Association 2018	In southern Ontario the Monarch is found primarily wherever milkweed and wildflowers (including goldenrods, asters and purple loosestrife) exist (COSEWIC, 2010). The Larvae occur only where milkweed exists; adults are more generalized, feeding on a variety of wildflower nectar (MNR, 2014). This includes abandoned farmland, along roadsides, and other open spaces where these plants grow (COSEWIC, 2010).	Medium - Hedgerows and roadside ditches in the Study Area have the potential to support Monarch.
Invertebrates	Transverse Lady Beetle	<i>Coccinella transversoguttata</i>	NAR	SC	S1	MNRF 2021a	The Transverse Lady Beetle is a habitat generalist and known to occur within agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows, and riparian areas (COSEWIC, 2016)	Low - Habitat for the Transverse Lady Beetle occurs throughout vegetated areas in the Study Area; however, this is likely a historical record since the species has not been observed in Ontario in the past 30 years (MNRF 2021c).
Reptiles	Midland Painted Turtle	<i>Chrysemys picta marginata</i>	NAR	SC	S4	MNRF 2021a, Ontario Nature 2019	Painted turtles inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies.	Low - There were no wetlands or waterbodies in the Study Area to support Midland Painted Turtle.
Reptile	Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	S3	MNRF 2021a, Ontario Nature 2019	Snapping Turtles inhabit ponds, sloughs, streams, rivers, and shallow bays that are characterized by slow moving water, aquatic vegetation, and soft bottoms. Females show strong nest site fidelity and nest in sand or gravel banks at waterway edges in late May or early June (COSEWIC, 2008).	Low - There were no wetlands or waterbodies in the Study Area to support Snapping Turtle.
Birds	Eastern Wood-Pewee	<i>Contopus virens</i>	SC	SC	S4B	Cadman et. al. 2007	The Eastern Wood-Pewee is a forest bird of deciduous and mixed woods. Nest-site selection favors open space near the nest, typically provided by clearings, roadways, water, and forest edges. Nests are cryptic as they are covered with lichens, typically appearing like a knot on top of a branch and little is known about nesting behavior (Cadman et al, 2007).	Low - There were no woodland communities in the Study Area to support Eastern Wood-Pewee.
Birds	Wood Thrush	<i>Hylocichla ustelina</i>	SC	THR	S4B	Cadman et. al. 2007	Wood Thrush prefer deciduous and mixed forests in southern Ontario, ranging from small and isolated to large and contiguous woodlots. The presence of tall trees and a thick understory are preferred (Cadman et al., 2007).	Low - There were no woodland communities in the Study Area to support Wood Thrush.

References

- Cadman, M. D., D.A. Sutherland, G.G. Beck, D. Lepage, A.R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. (eds) Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario . Ministry of natural resources, and Ontario Nature, Toronto
- COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
- COSEWIC. 2010. COSEWIC assessment and status report on the Monarch *Danaus plexippus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp
- COSEWIC. 2016. COSEWIC assessment and status report on the Transverse Lady Beetle (*Coccinella transversoguttata*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 57 pp.
- Ontario Ministry of Natural Resources (OMNR), 2014. Monarch (*Danaus plexippus*): Factsheet. <http://www.ontario.ca/environment-and-energy/monarch>

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Area (Terrestrial)	<p>Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (ME), Thicket (TH).</p> <p>Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless used by Tundra swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee Areas.</p>	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial).	Absent.
Waterfowl Stopover and Staging Area (Aquatic)	<p>The following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD).</p> <p>Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration.</p> <p>The combined area of the ELC ecosites and a 100 m radius area is the SWH.</p> <p>Sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify.</p>	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic).	Absent.
Shorebird Migratory Stopover Area	<p>Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.</p> <p>Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.</p> <p>Sewage treatment ponds and storm water ponds do not qualify as a significant wildlife habitat.</p> <p>The following community types: Meadow Marsh (MAM), shoreline (SH), or Sand Dune (SB).</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support migratory shorebirds.	Absent.
Raptor Wintering Area	At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (ME), Thicket (TH), Savannah (SV), Woodland (WOD) (<60% cover) that are >20 ha and provide roosting, foraging and resting habitats for wintering	ELC surveys and GIS analysis were used to assess features within the Study Area that may support wintering raptors.	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
	<p>raptors.</p> <p>Upland habitat (ME, TH, SV, WOD), must represent at least 15 ha of the 20 ha minimum size.</p>		
Bat Hibernacula	<p>Hibernacula may be found in caves, mine shafts, underground foundations and karsts.</p> <p>May be found in these Community Types: Crevice (CCR), Cave (CCA).</p>	ELC surveys were used to assess features within the Study Area that may support bat hibernacula.	Absent.
Bat Maternity Colonies	<p>Maternity colonies considered significant wildlife habitat are found in forested ecosites.</p> <p>Either of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Coniferous Forest (FOC), Deciduous Swamp (SWD), Mixed Forest (SWM) and Coniferous Forest (SWC) that have wildlife trees >10 cm diameter at breast height (dbh).</p> <p>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</p> <p>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.</p> <p>Northern Myotis prefer contiguous tracts of older forest cover for foraging and roosting in snags and trees.</p> <p>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.</p>	ELC surveys and bat acoustic surveys were used to assess features within the Study Area that may support bat maternity colonies.	Absent: There was no suitable bat maternity roost habitat identified in the Study Area.
Turtle Wintering Areas	<p>Snapping and Midland Painted turtles utilize ELC community classes: Swamp (SW), Marsh (MA) and Open Water (OA). Shallow water (SA), Open Fen (FEO) and Open Bog (BOO).</p> <p>Northern Map turtle- open water areas such as deeper rivers or streams and lakes can also be used as over-wintering habitat.</p> <p>Water has to be deep enough not to freeze and have soft mud substrate.</p> <p>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen.</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support areas of permanent standing water but not deep enough to freeze.	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
Snake Hibernacula	<p>Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</p> <p>Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1).</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support snake hibernacula.	Absent.
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	<p>Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (ME), Thicket (TH), Bluff (BL), Cliff (CL).</p> <p>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p> <p>Does not include a licensed/permitted Mineral Aggregate Operation.</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat.	Absent.
Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs)	<p>Identification of stick nests in any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Treed Fen (FET).</p> <p>The edge of the colony and a minimum 300 m area of habitat or extent of the Forest Ecosite containing the colony or any island <15.0 ha with a colony is the SWH.</p> <p>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs).	Absent.
Colonial-Nesting Bird Breeding Habitat (Ground)	<p>Any rocky island or peninsula within a lake or large river.</p> <p>For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (ME), Thicket (TH), Savannah (SV).</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Ground).	Absent.
Migratory Butterfly Stopover Areas	<p>Located within 5 km of Lake Ontario.</p> <p>A combination of ELC communities, one from each land class is</p>	ELC surveys and GIS analysis were used to assess features	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
	required: Field (ME, TH) and Forest (FOC, FOM, FOD). Minimum of 10 ha in size with a combination of field and forest habitat present.	within the Study Area that may support migratory butterfly stopover areas.	
Landbird Migratory Stopover Areas	The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD). Woodlots must be >10 ha in size and within 5 km of Lake Ontario – woodlands within 2 km of Lake Ontario are more significant.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support landbird migratory stopover areas.	Absent.
Deer Winter Congregation Areas	Woodlots typically >100 ha in size unless determined by the MNR as significant. (If large woodlots are rare in a planning area >50 ha). All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD. Conifer plantations much smaller than 50 ha may also be used.	No studies required as the MNRF delineates this habitat.	Absent.
Rare Vegetation Communities			
Cliffs and Talus Slopes	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT. Most cliff and talus slopes occur along the Niagara Escarpment.	ELC surveys were used to assess features within the Study Area that would be considered cliffs or talus slopes.	Absent.
Sand Barrens	Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion. Vegetation can vary from patchy and barren to tree covered but less than 60%. Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be sand barrens.	Absent.
Alvars	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin	ELC surveys were used to assess features within the Study	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
	<p>veneer of soil.</p> <p>Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant.</p> <p>Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species.</p> <p>Vegetation cover varies from patchy to barren with a less than 60% tree cover.</p> <p>Any of the following Community Types: ALO1(Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland).</p> <p>An Alvar site >0.5 ha in size.</p>	<p>Area that would be considered to be alvar communities.</p>	
Old-growth Forest	<p>Old-growth forests tend to be relatively undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species.</p> <p>No minimum size criteria t in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest).</p> <p>Forests greater than 120 years old and with no historical forestry management was the main criteria when surveying for old-growth forests.</p>	<p>ELC surveys were used to assess features within the Study Area that would be considered to be old-growth forest communities.</p>	<p>Absent.</p>

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
Savannahs	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p> <p>In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p> <p>Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite).</p>	ELC surveys were used to assess features within the Study Area that would be considered to be savannah communities.	Absent.
Tall-grass Prairies	<p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has <25% tree cover.</p> <p>In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p> <p>Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite).</p>	ELC surveys were used to assess features within the Study Area that would be considered to be tall-grass communities.	Absent.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	ELC surveys were used to assess features within the Study Area that would be considered to be other rare vegetation communities.	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
Specialized Habitat for Wildlife			
Waterfowl Nesting Area	<p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4.</p> <p>Note: includes adjacency to Provincially Significant Wetlands.</p>	<p>ELC surveys were used to assess features within the Study Area that may support nesting waterfowl.</p> <p>Habitats adjacent to wetlands without standing water were not considered candidate SWH.</p>	Absent
Bald Eagle and Osprey nesting, Foraging, and Perching Habitat	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <p>Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).</p> <p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.</p>	<p>ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors.</p>	Absent.
Woodland Raptor Nesting Habitat	<p>All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer.</p> <p>Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands.</p> <p>May be found in all forested ELC Ecosites.</p> <p>May also be found in SWC, SWM, SWD and CUP3.</p>	<p>ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors.</p>	Absent.
Turtle Nesting Areas	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1.</p> <p>Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.</p> <p>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny</p>	<p>ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support turtle nesting areas.</p>	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
	<p>areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</p> <p>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.</p>		
Seeps and Springs	<p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p> <p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.</p>	ELC surveys were used to assess features within the Study Area that may support seeps/springs.	Absent.
Amphibian Breeding Habitat (Woodland)	<p>All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD.</p> <p>Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.</p> <p>Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.</p>	ELC surveys were used to assess features within the Study Area that may support woodland breeding amphibians.	Absent.
Amphibian Breeding Habitat (Wetland)	<p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Wetland areas >120 m from woodland habitats.</p> <p>Wetlands and pools (including vernal pools) >500 m² (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats.</p> <p>Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.</p> <p>Bullfrogs require permanent water bodies with abundant emergent vegetation.</p>	ELC surveys were used to assess features within the Study Area that may support wetland breeding amphibians.	Absent.

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
Species of Conservation Concern			
Marsh Bird Breeding Habitat	All wetland habitats with shallow water and emergent aquatic vegetation. May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (ME) Community Types.	ELC surveys were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds.	Absent.
Woodland Area-sensitive Bird Breeding Habitat	Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically >60 years old. These include any of the following Community Types: Forest (FO), Treed Swamp (SW).	ELC surveys and GIS analysis were used to determine whether woodlots that occurred within the Study Area that were >30 ha with interior habitat present (>200 m from edge).	Absent.
Open Country Bird Breeding Habitat	Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (ME).	ELC surveys and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds.	Absent.
Shrub/Early Successional Bird Breeding Habitat	Old field areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (TH), Savannas or Woodlands (WOD).	ELC surveys and GIS analysis were used to identify large communities that may support shrub/early successional breeding birds.	Absent.
Terrestrial Crayfish	Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3. Construct burrows in marshes, mudflats, meadows. Can be found far from water.	ELC surveys and wildlife habitat assessments were used to identify shallow marsh and meadow marsh communities that may support Terrestrial Crayfish within the Study Area.	Absent.
Special Concern and Rare Wildlife Species	All special concern and provincially rare (S1-S3, SH) plant and animal species (SOCC) within potential to occur in the Study Area.	ELC surveys were used to identify suitable habitat for each potential SOCC identified as	Candidate Habitat. There is candidate habitat for Monarch in

Table 3: Significant Wildlife Habitat Assessment for the Study Area

Candidate Wildlife Habitat	Criteria	Methods	Confirmed or Candidate Habitat Present in the Study Area?
		potentially overlapping with the Study Area.	the Study Area.
Animal Movement Corridors			
Amphibian Movement Corridor	Corridors may be found in all ecosites associated with water. Determined based on identifying significant amphibian breeding habitat (wetland).	Identified after Amphibian Breeding Habitat is confirmed. Movement corridors should be considered when amphibian breeding habitat is confirmed as SWH from Amphibian Breeding Habitat.	Absent.