**300051670 Snell's Hollow East Secondary Plan**
**Appendix H: Background Review of Potential Species at Risk and Species of Conservation Concern on the Subject Property and Adjacent Lands**

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| **Birds** | | | | | | | | |
| Bank Swallow (Source: OBBA, MNRF) | *Riparia riparia* | S4B | THR | THR | THR | 1 | Prefers open habitats including, farmland, lake/river shorelines, grasslands, and wetlands. Nests in exposed earthen banks along shorelines and in artificial sites such as gravel pits.[6] | No suitable breeding habitat present on subject property or adjacent lands. |
| Barn Swallow (Source: OBBA, MNRF) | *Hirundo rustica* | S4B | THR | THR | THR | 1 | Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. Nests inside or on exterior of buildings; under bridges and in road culverts; on rock faces, and in caves, etc.[7] | No suitable breeding habitat present on subject property (farm structures). Foraging habitat confirmed over the open areas of the subject property (i.e., agricultural fields and meadows).<br><br>Breeding habitat confirmed on adjacent lands. |
| Bobolink (Source: NHIC, OBBA, MNRF) | *Dolichonyx oryzivorus* | S4B | THR | THR | THR | 1 | Generally, prefers open grasslands and hay fields for nesting, typically featuring relatively tall vegetation. Sometimes uses large fields of winter wheat and rye in southwestern Ontario. Sensitive to vegetation structure and composition. Positively associated with high grass-to-forb ratios; moderate litter depth; tolerate wetter portions of fields compared to Eastern Meadowlark (EAME) and more likely to nest closer to field centres rather than field margins. Lower tolerance to presence of patches of bare ground. Appear to prefer larger fields than EAME.[8] | No breeding habitat confirmed on the subject property. Two males observed incidentally in meadow at west end of site (near Kennedy Rd) on May 13, 2020; assumed migrants. Not recorded during three targeted grassland breeding bird surveys.<br><br>High potential on adjacent lands. |
| Canada Warbler (Source: MNRF) | *Cardellina canadensis* | S4B | SC | THR | THR | 1 | Generally, prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest.[6] | Low potential on the subject property within the wetland complex. None were recorded during breeding bird surveys.<br><br>Low potential on adjacent lands in the Heart Lake Conservation Area.<br><br>None were recorded from the Heart Lake |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014).<br><br>None were recorded during the last Breeding Bird Atlas (2001-2005). |
| Cerulean Warbler (Source: MNRF) | *Setophaga cerulea* | S3B | THR | END | END | 1 | Generally found in mature deciduous forests with an open understorey; also nests in older, second-growth deciduous forests.[6] | No suitable breeding habitat present in the study area or adjacent lands.<br><br>None were recorded from the Heart Lake PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014).<br><br>None were recorded during the last Breeding Bird Atlas (2001-2005). |
| Chimney Swift (Source: OBBA, MNRF) | *Chaetura pelagica* | S4B, S4N | THR | THR | THR | 1 | Historically nested in large hollow trees, other tree cavities and cracks in cliffs. Currently, most are found in developed areas in large, uncapped chimneys. Proximity to lakes is also a preferred habitat feature as they will forage for flying insects close to water.[6] | No suitable breeding habitat present the subject property. . Chimneys are present but were surveyed and assessed to be capped/sealed.<br><br>Moderate potential on adjacent lands. |
| Eastern Meadowlark (Source: OBBA, MNRF) | *Sturnella magna* | S4B | THR | THR | THR | 1 | Generally, prefers grassy pastures, meadows and hay fields. Prefers moderately tall grass with abundant litter cover, a high proportion of grass cover, moderate forb density, low proportions of shrub and woody vegetation cover, and low percent of bare ground. Prefers to nest in drier sites and frequently nests around field margins.[8] | No breeding habitat confirmed on the subject property. Not recorded during three targeted grassland breeding bird surveys.<br><br>High potential on adjacent lands. |
| Eastern Wood-Pewee (Source: NHIC, OBBA, MNRF) | *Contopus virens* | S4B | SC | SC | SC | 1 | Prefers open space near the nest in the form of forest edges, clearings, roadways, and water. Does not require large areas of woods but occurs less frequently in woodlots surrounded by development than in those without.[6] | Confirmed on the subject property.<br><br>Eastern Wood-pewee was recorded during breeding bird surveys in marginal habitat - CUM1-1 ecosite (where scattered trees are present) and CVR_4 (central) ecosite where trees are planted around property |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | and abuts the small FOM ecosite (0.37 ha).<br><br>Confirmed on adjacent lands in the Heart Lake Conservation Area where higher quality habitat is present. Numerous records on eBird during the breeding season. |
| Grasshopper Sparrow (Source: OBBA, MNRF) | *Ammodramus savannarum* | S4B | SC | SC | SC | 1 | Prefers drier, sparsely vegetated grasslands, particularly rough or unimproved pastures with scattered forb and shrub growth, at least 30 ha in size. It will occasionally also use cultivated hayfields and cereal crops.[6] | No breeding habitat confirmed on the subject property. Not recorded during three breeding bird surveys.<br><br>Low potential on adjacent lands.<br><br>None were recorded from the Heart Lake PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014). |
| Least Bittern (Source: OBBA, MNRF) | *Ixobrychus exilis* | S4B | THR | THR | THR | 1 | Most frequently found in marshes of at least 5 ha, although much smaller marshes, including sites such as cattail stands along creeks and farm ponds partially filled with cattail, may be used occasionally. Breeding sites typically dominated by cattail, but also sometimes bulrush, grasses, horsetail, and willow. Nests usually close to edge of a stand of vegetation or near openings such as muskrat trails, although may be as far as 45 m from open water.[6] | No breeding habitat confirmed on the subject property. Not recorded during three marsh bird breeding surveys.<br><br>Low potential on adjacent lands.<br><br>None were recorded from the Heart Lake PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014). |
| Wood Thrush (Source: NHIC, OBBA, MNRF) | *Hylocichla mustelina* | S4B | SC | THR | THR | 1 | Inhabits and breeds in woodlands ranging from small (3 ha) and isolated to large and contiguous. The presence of tall trees and a thick understorey are usually prerequisites for site occupancy.[6] | No breeding habitat confirmed on the subject property. Not recorded during three breeding bird surveys. There is only one small woodland community – FOM (0.37 ha) that is not suitable for Wood Thrush.<br><br>Low to Moderate potential on adjacent lands – the treed communities within 120 m appear to be wetland ecosites but some |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | eBird records exist for the Heart Lake Conservation Area. |
| **Insects** | | | | | | | | |
| Monarch<br>(Source: RJB, MNRF) | *Danaus plexippus* | S2N, S4B | SC | END | SC | 1 | Throughout their life cycle, Monarchs use three different types of habitat. Only the caterpillars (larvae) feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers. Monarchs spend the winter in Oyamel Fir forests found in central Mexico. The largest threat to Ontario Monarchs is habitat loss and fragmentation at overwintering sites in central Mexico where forests are being logged and converted into agricultural fields and pastures. Widespread pesticide and herbicide use throughout the Monarch's range may also limit recovery.[9] | Confirmed on the subject property. Butterflies observed during field surveys in ecosite CUM1-1. Larvae feeding on milkweed host plants were also observed in this habitat.<br><br>High potential on adjacent lands. |
| **Mammals** | | | | | | | | |
| Eastern Small-footed Myotis<br>(Source: MNRF) | *Myotis leibii* | S2S3 | END | END | - | - | Overwintering habitat: Caves and abandoned mines.<br><br>According to the Recovery Strategy for the Eastern Small-footed Myotis in Ontario, summer / roosting habitats used by the species in Ontario are poorly understood, but elsewhere in its range it primarily roosts in open, sunny rocky habitats, and, occasionally, in buildings. Summer roosts for this species are believed to be located in close proximity to their hibernacula (i.e., less than 100 m). The species' preference for rocky habitats in summer may limit an individual's home range to those rocky areas which also contain hibernacula (i.e., karst areas and Canadian Shield areas containing abandoned mines with adits).[12] | No suitable overwintering habitat present on subject property or adjacent lands.<br><br>No suitable roosting habitat present on subject property or adjacent lands. |
| Little Brown Myotis<br>(Source: RJB, MNRF) | *Myotis lucifugus* | S4 | END | END | END | 1 | Overwintering habitat: Caves and mines that | No suitable overwintering habitat present |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | remain above 0 degrees Celsius.<br><br>Maternal Roosts: Often associated with buildings (attics, barns etc.). Occasionally found in trees (25-44 cm dbh).[11] | on subject property or adjacent lands.<br><br>None recorded during acoustic surveys at Structure 1 in 2020.<br><br>Candidate habitat identified within the treed communities present on the subject lands (development limits) based on leaf-off / leaf-on surveys in 2020. High potential in the NHS within the PSW complex.<br><br>Future acoustic surveys will be required at candidate treed habitats during detailed design once impacts are better understood.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| Northern Myotis<br>(Source: RJB, MNRF) | *Myotis septentrionalis* | S3 | END | END | END | 1 | Overwintering habitat: Caves and mines that remain above 0 degrees Celsius.<br><br>Maternal Roosts: Often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns etc.)[11] | No suitable overwintering habitat present on subject property or adjacent lands.<br><br>None recorded during acoustic surveys at Structure 1 in 2020.<br><br>Candidate habitat identified within the treed communities present on the subject lands (development limits) based on leaf-off / leaf-on surveys in 2020. High potential in the NHS within the PSW complex.<br><br>Future acoustic surveys will be required at candidate treed habitats during detailed design once impacts are better understood.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| Tri-colored Bat<br>(Source: RJB, MNRF) | *Perimyotis subflavus* | S3? | END | END | END | 1 | Overwintering habitat: Deepest parts of caves and mines where temperature is the least variable. | No suitable overwintering habitat present on subject property or adjacent lands. |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Maternal Roosts: Less is known about roosts of Tri-colored Bats. Most roost sites found within forested habitats. May roost in clumps of dead foliage and lichens. In more anthropogenically modified landscapes, maternity roosts may be barns or similar human-made structures.[11] | None recorded during acoustic surveys at Structure 1 in 2020.<br><br>Candidate habitat identified within the treed communities present on the subject lands (development limits) based on leaf-off / leaf-on surveys in 2020. High potential in the NHS within the PSW complex.<br><br>Future acoustic surveys will be required at candidate treed habitats during detailed design once impacts are better understood.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| **Plants** | | | | | | | | |
| Butternut<br>(Source: NHIC, MNRF, RJB) | *Juglans cinerea* | S2? | END | END | END | 1 | Butternut grows best in rich, moist and well-drained soils or limestone gravel sites. They are less commonly found in dry, rocky and sterile soils. They generally grow alone or in small groups in deciduous forests that are commonly comprised of Basswood, Black Cherry, Beed, Black Walnut, Elm, Hemlock, Hickory, Oak, Red Maple, Sugar Maple, Poplar, White Ash and Yellow Birch. In Ontario, they can be found throughout southern Ontario, south of the Canadian Shield.[9] | Confirmed on the subject property. Three specimens are present.<br><br>High potential on adjacent lands. |
| Narrow-leaved Beard Moss<br>(Source: NHIC) | *Elodium paludosum* | S2 | - | - | - | - | On soil or rotting logs or bark of tree bases in swampy woods, fields or brush.[14] | Low potential on the subject property. This NHIC record is historical (from 1939). None have been recorded during site investigations by Burnside staff. Additionally, none were recorded from the Heart Lake PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – “Kennedy-Highway 410” NAI #10730, 11676, 11677 (Volume 3, April 2014).<br><br>Low potential on adjacent lands. |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| **Reptiles and Amphibians** | | | | | | | | |
| Blanding's Turtle (Source: MNRF) | *Emydoidea blandingii* | S3 | THR | END | THR | 1 | Generally, occur in freshwater lakes, permanent or temporary pools, slow-flowing streams, marshes and swamps. They prefer shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae. They dig their nest in a variety of loose substrates, including sand, organic soil, gravel and cobblestone. Overwintering occurs in permanent pools that average about one metre in depth, or in slow-flowing streams.[13] | No potential on the subject lands or adjacent lands. None recorded during targeted basking and nesting turtle surveys or during any other field investigations in 2019 and 2020.<br><br>Additionally, none have been recorded in the Heart Lake PSW Complex (i.e., a recent turtle population study in the Heart Lake wetland complex (Dupuis-Désormeaux et al., 2019); Heart Lake PSW Evaluation (MNRF, 2019); Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014); no records from the ORAA. |
| Eastern Milksnake (Source: ORAA, MNRF) | *Lampropeltis triangulum* | S4 | - | SC | SC | 1 | Habitat generalist. Found in wide variety of habitats, from open woodlands, bogs, swamps, woodland edges, marshes, lakeshores, old fields, pastures, farmyards, parks, gardens. Often in or near farm outbuildings, barns, and sheds, and are attracted to piles of rocks, logs, firewood, or building materials, or any place that offers shelter to snakes and their prey (rodents).[10] | High potential on the subject lands based on the presence of old barn and heritage house foundation. Habitat may also be present in the Heart Lake wetland complex.<br><br>Confirmed on adjacent lands (Heart Lake PSW Evaluation (MNRF, 2019); records from the ORAA. |
| Eastern Musk Turtle (Source: Dupuis-Désormeaux et al, 2019) | *Sternotherus odoratus* | S3 | SC | SC | SC | 1 | Inhabit a wide variety of permanent waters, including ponds, lakes, marshes, sloughs, and rivers. Most common in clear lakes or ponds with marl, sand, or gravel bottoms and a moderate growth of aquatic plants. Prefer slow current. Highly aquatic and rarely wander far from water. Typically nests within 45 m of water.[15] | Moderate potential on the subject property in the Heart Lake wetland complex, however none recorded during targeted basking and nesting turtle surveys or during any other field investigations in 2019 and 2020. This species is small and often difficult to detect.<br><br>Confirmed on adjacent lands. A study done by Dupuis-Désormeaux et al., 2019 in the Heart Lake wetland complex found a single |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | individual in Heart Lake (Wetland #3 south of the subject property). |
| Midland Painted Turtle (Source: ORAA, MNRF, Dupuis-Désormeaux et al, 2019, RJB) | *Chrysemys picta marginata* | S4 | - | SC | SC | 1 | Generally, prefers waterbodies such as ponds, marshes, lakes and slow-moving creeks that have a soft bottom and provide abundant basking sites and aquatic vegetation.[10] | Confirmed overwintering and nesting habitat on the subject lands.<br><br>Confirmed on adjacent lands in the Heart Lake PSW Complex (i.e., a recent turtle population study in the Heart Lake wetland complex (Dupuis-Désormeaux et al., 2019); Heart Lake PSW Evaluation (MNRF, 2019); records from the ORAA. |
| Northern Map Turtle (Source: Dupuis-Désormeaux et al, 2019) | *Graptemys geographica* | S3 | SC | SC | SC | 1 | Highly aquatic. Inhabit slow moving water in larger lakes, rivers, reservoirs, oxbow sloughs, and open marshes, including some of the bays and inlets of the Great Lakes themselves with soft mud to sand, gravel, or marl bottom substrates. Less common in smaller lakes and streams; juveniles may reside in small ponds. Require high-quality water that supports the female's mollusc prey.[15] | Low potential on the subject property in the Heart Lake wetland complex. This species often basks out of water; none recorded during targeted basking and nesting turtle surveys or during any other field investigations in 2019 and 2020.<br><br>One female confirmed nesting on adjacent lands (beyond 120 m) in the Heart Lake PSW Complex (i.e., a recent turtle population study in the Heart Lake wetland complex (Dupuis-Désormeaux et al., 2019). |
| Snapping Turtle (Source: ORAA, MNRF, Dupuis-Désormeaux et al, 2019) | *Chelydra serpentina* | S3 | SC | SC | SC | 1 | Generally, inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.[9] | Confirmed overwintering and nesting habitat on the subject lands.<br><br>Confirmed on adjacent lands in the Heart Lake PSW Complex (i.e., a recent turtle population study in the Heart Lake wetland complex (Dupuis-Désormeaux et al., 2019); Heart Lake PSW Evaluation (MNRF, 2019); records from the ORAA. |
| Western Chorus Frog (Source: ORAA, MNRF) | *Pseudacris maculata* | S3 | - | THR | THR | 1 | Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps, and temporary ponds in open country, or even urban areas. Breeds in almost any fishless pond with at least 10 cm of water, including | No potential on the subject lands. None were recorded in 2019 and 2020 during amphibian breeding call surveys and none have been recorded during other early spring daytime surveys (i.e., turtle basking). |

| COMMON NAME **(Source) | SCIENTIFIC NAME | Provincial S-RANK[1] | Provincial SARO Status[2] | COSEWIC[3] | Federal SARA Status[3] | Federal SARA Schedule[4] | Habitat Description[5] | Habitat Present on the Subject Property or Adjacent Lands (within 120 m)? |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | quiet, shallow, temporary waterbodies with vegetation that is submerged or protrudes from the water, especially in rain-flooded meadows and ditches, and in temporary ponds on floodplains.[10] | No potential on adjacent lands. None have been recorded from the Heart Lake PSW Evaluation (MNRF, 2019). |
| **Crustaceans** | | | | | | | | |
| Chimney or Digger ('Terrestrial') Crayfish | *Fallicambarus fodiens* | S3 | - | - | - | - | Usually associated with marshy fields, drainage ditches, marshes and ponds. The burrows are usually constructed in clay soil which may contain varying proportions of sand or coarse gravel. May occur in woodland ponds and temporary streams. Can often be found far from water. Semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.[16] | Confirmed on the subject property. Multiple terrestrial crayfish burrows were observed incidentally along the muddy edges of SAS1-1 and surrounding MAS2-1.<br><br>Confirmed on adjacent lands according to the Heart Lake PSW Evaluation (MNRF, 2019). |

** Sources: Natural Heritage Information Centre (NHIC) database of records searched on January 17, 2019 (1- 1x1 km$^2$ Squares: 17NJ9544, 17NJ9545, 17NJ9644); Ontario Breeding Bird Atlas (2001-2005) searched on January 17, 2019 (Square 17NJ94); Ontario Reptile and Amphibian Atlas (ORAA) searched on January 17, 2019 (Square 17NJ94); MNRF SAR List for Town of Caledon, provided on January 21, 2019 (MNRF Aurora District); MNRF Aurora District, Provincially Significant Heart Lake Wetland Complex, November 2000; Dupuis-Désormeaux et al (2019), *A turtle population study in an isolated urban wetland complex in Ontario reveals a few surprises*; R.J. Burnside & Associates (RJB) observations in 2019 and 2020.

**[1]S-Ranks (provincial)**
Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario (Please refer to: http://explorer.natureserve.org/nsranks.htm)

**SX — Presumed Extirpated** - Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
**SH — Possibly Extirpated (Historical)** - Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20–40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
**S1 — Critically Imperiled** - Critically imperiled in the province or state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.
**S2 — Imperiled** - Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.
**S3 — Vulnerable** - Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
**S4 — Apparently Secure** - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
**S5 — Secure** - Common, widespread, and abundant in the province.
**SNR — Unranked** - Province conservation status not yet assessed.
**SU — Unrankable** - Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
**SNA — Not Applicable** - A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
**S#S# — Range Rank** - A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
**S#? – Inexact or Uncertain** - Denotes inexact or uncertain numeric rank.

**Breeding Status Qualifiers**
B – Breeding Conservation status refers to the breeding population of the species in the nation or state/province.
N – Nonbreeding Conservation status refers to the non-breeding population of the species in the province.
M – Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

**[2]SARO *Endangered Species Act, 2007***
(provincial status from http://www.ontario.ca/environment-and-energy/how-species-risk-are-listed#section-3)
The provincial review process is implemented by the MNRF's Committee on the Status of Species at Risk in Ontario (COSSARO).

**Extinct -** A species that no longer exists anywhere.
**Extirpated (EXT) -** Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
**Endangered (END)** - Lives in the wild in Ontario but is facing imminent extinction or extirpation.
**Threatened (THR)** - Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

**Special concern (SC)** - Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
**Not at Risk (NAR)** - A species that has been evaluated and found to be not at risk.
**Data Deficient (DD)** - A species for which there is insufficient information for a provincial status recommendation.

[3]**SARA (Federal *Species at Risk Act*) Status and Schedule (includes COSEWIC Status)**
The Act establishes Schedule 1, as the official list of wildlife species at risk. It classifies those species as being either Extirpated, Endangered, Threatened, or Special Concern. Once listed, the measures to protect and recover a listed wildlife species are implemented.

**Extinct** - A wildlife species that no longer exists.
**Extirpated (EXT)** - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.
**Endangered (END)** - A wildlife species facing imminent extirpation or extinction.
**Threatened (THR)** - A wildlife species that is likely to become an endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
**Special Concern (SC)** - A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
**Data Deficient (DD)** - A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
**Not At Risk (NAR)** - A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

[4]**SARA Schedule**
**Schedule 1:** is the official list of species that are classified as extirpated, endangered, threatened, and of special concern.
**Schedule 2:** species listed in Schedule 2 are species that had been designated as endangered or threatened and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.
**Schedule 3:** species listed in Schedule 3 are species that had been designated as special concern and have yet to be re-assessed by COSEWIC using revised criteria. Once these species have been re-assessed, they may be considered for inclusion in Schedule 1.

The Act establishes Schedule 1 as the official list of wildlife species at risk. However, please note that while Schedule 1 lists species that are extirpated, endangered, threatened and of special concern, the prohibitions do not apply to species of special concern.

Species that were designated at risk by COSEWIC prior to October 1999 (Schedule 2 & 3) must be reassessed using revised criteria before they can be considered for addition to Schedule 1 of SARA. After they have been assessed, the Governor in Council may on the recommendation of the Minister, decide on whether or not they should be added to the List of Wildlife Species at Risk.

[5]**Sources:**

[6]Cadman, M.D., et al. (eds). 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto, xxii + 706 pp
[7]Species at Risk Public Registry http://www.sararegistry.gc.ca
[8]McCracken, J.D. et al. 2013. Recovery Strategy for the Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, viii + 88 pp.
[9]MNRF SARO List Species Descriptions (http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CSSR_SARO_LST_EN.html)
[10]Ontario Nature Reptile and Amphibian Atlas (https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/species/)
[11]Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. Ix + 110 pp.
[12]Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 76 pp.
[13]MNRF. 2018. City of Niagara Falls Species at Risk Table. Guelph District.
[14]McKnight, K.B. et al. 2013. Common Mosses of the Northeast and Appalachians. Princeton University Press. Princeton, New Jersey.
[15]Harding, J.H., 1997. Amphibians and Reptiles of the Great Lakes Region. The University of Michigan Press. Ann Arbor, Michigan.
[16]Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide (SWHTG) & Appendices. 151 pp.

## Appendix H: Significant Wildlife Habitat Screening on the Subject Property and Adjacent Lands – Ecoregion 6E Criteria (2015)

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **Table 1.1: Seasonal Concentration Areas of Animals** | | | | | | |
| **Waterfowl Stopover & Staging Areas (Terrestrial)**<br><br>**<u>Rationale</u>**: Habitat important to migrating waterfowl. | CUM1<br>CUT1 - Plus evidence of annual spring flooding from melt water or run-off on these ecosites. | Fields with sheet water during Spring (mid-March to May).<br>• Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.<br>• Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. | Low potential.<br><br>Although CUM1 ecosites are present on the subject property, there is no evidence of spring flooding. | American Black Duck<br>Wood Duck<br>Green-winged Teal<br>Blue-winged Teal<br>Mallard<br>Northern Pintail<br>Northern Shoveler<br>American Wigeon<br>Gadwall | Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects.<br>• Any mixed species aggregations of 100 or more individuals required.<br>• The flooded field ecosite habitat plus a 100-300 m radius area, dependent on local site conditions and adjacent land use is the SWH.<br>• Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).<br>• **SWHMiST Index #7** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present.<br><br>The Heart Lake PSW Complex Evaluation did not identify the wetlands in this location as functioning as waterfowl stopover or staging areas (MNRF, 2009). |
| **Waterfowl Stopover & Staging Areas (Aquatic)**<br><br>**<u>Rationale:</u>** | MAS1<br>MAS2<br>MAS3<br>SAS1<br>SAM1<br>SAF1<br>SWD1<br>SWD2<br>SWD3<br>SWD4<br>SWD5 | • Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and SWM ponds do not qualify as a SWH, however a reservoir managed as a large wetland | Low potential.<br><br>SAS1, MAS2, MAS3 and SWD6 ecosites are present on the subject property. | Canada Goose<br>Cackling Goose<br>Snow Goose<br>American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>American Wigeon<br>Gadwall<br>Green-winged Teal<br>Blue-winged Teal<br>Hooded Merganser | **Studies carried out & verified presence of:**<br><br>• Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days.<br>• Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH.<br>• The combined area of the Ecological Land Classification | No potential on the subject property or adjacent lands.<br><br>SAS1, MAS2, MAS3 and SWD6 ecosites are present on the subject property, however this site is highly disturbed with intensive agriculture and surrounding busy roads. No large aggregations of waterfowl were observed during any of the field |

## Appendix H: Significant Wildlife Habitat Screening on the Subject Property and Adjacent Lands – Ecoregion 6E Criteria (2015)

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district. | SWD6<br>SWD7 | or pond/lake does qualify.<br>• These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). | | Common Merganser<br>Lesser Scaup<br>Greater Scaup<br>Long-tailed Duck<br>Surf Scoter<br>White-winged Scoter<br>Black Scoter<br>Ring-necked duck<br>Common Goldeneye<br>Bufflehead<br>Redhead<br>Ruddy Duck<br>Red-breasted Merganser<br>Brant<br>Canvasback<br>Ruddy Duck | (ELC) ecosites and a 100 m radius area is the SWH.<br>• Wetland area and shorelines associated with sites identified on the SWHTG Appendix K are SWH.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).<br>• **SWHMiST Index #7** provides development effects and mitigation measures. | investigations that occurred in early spring.<br><br>The Heart Lake PSW Complex Evaluation did not identify the wetlands in this location as functioning as significant waterfowl stopover or staging areas (MNRF, 2009). Likely some of the wetlands beyond 120 m may be suitable. |
| **Shorebird Migratory Stopover Area**<br><br>**<u>Rationale</u>**:<br>High quality shorebird stopover habitat is extremely rare and typically has a long history of use. | BBO1<br>BBO2<br>BBS1<br>BBS2<br>BBT1<br>BBT2<br>SDO1<br>SDS2<br>SDT1<br>MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5 | • Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.<br>• 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.<br>• Sewage treatment ponds and storm water ponds do not qualify as a SWH. | No potential.<br><br>There is no shoreline habitat of lakes and rivers on the subject property. Wetlands are present however the site lacks beach areas, bars and seasonally flooded, muddy and unvegetated shoreline habitats. | Greater Yellowlegs<br>Lesser Yellowlegs<br>Marbled Godwit<br>Hudsonian Godwit<br>Black-bellied Plover<br>American Golden-Plover<br>Semipalmated Plover<br>Solitary Sandpiper<br>Spotted Sandpiper<br>Semipalmated Sandpiper<br>Pectoral Sandpiper<br>White-rumped Sandpiper<br>Baird's Sandpiper<br>Least Sandpiper<br>Purple Sandpiper<br>Stilt Sandpiper<br>Short-billed Dowitcher<br>Red-necked Phalarope<br>Whimbrel<br>Ruddy Turnstone<br>Sanderling<br>Dunlin | **Studies confirming:**<br><br>• Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period).<br>• Whimbrel stop briefly (<24 hrs.) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant.<br>• The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100 m radius area.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present.<br><br>The Heart Lake PSW Complex Evaluation did not identify the wetlands in this location as functioning as significant shorebird stopover areas (MNRF, 2009). |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | | | | • **SWHMiST Index #8** provides development effects and mitigation measures. | |
| **Raptor Wintering Area**<br><br>**<u>Rationale</u>**:<br>Sites used by multiple species, a high number of individuals and used annually are most significant. | <u>Hawks/Owls:</u><br>Combination of ELC Community Series; need to have present one Community Series from each land class;<br><br><u>Forest:</u><br>FOD,<br>FOM,<br>FOC.<br><br><u>Upland</u>:<br>CUM;<br>CUT;<br>CUS;<br>CUW.<br><br><u>Bald Eagle:</u><br>Forest community Series:<br>FOD,<br>FOM,<br>FOC,<br>SWD,<br>SWM or<br>SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area). | • The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.<br>• Raptor wintering sites (hawk/owl) need to be **>** 20 ha, with a combination of forest and upland.<br>• Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands.<br>• Field area of the habitat is to be wind swept with limited snow depth or accumulation.<br>• Eagle sites have open water, large trees and snags available for roosting. | No potential.<br><br>Although CUM and SWD ecosites are present on the subject property, these sites are small (less than 20 ha). The FOM community is the only forested ecosite on the subject property and is only 0.37 ha in size. In general, the site lacks the mosaic of upland and forest habitats required for significant raptor wintering areas. | Rough-legged Hawk<br>Red-tailed Hawk<br>Northern Harrier<br>American Kestrel<br>Snowy Owl<br><br>**<u>Special Concern:</u>**<br>Short-eared Owl<br>Bald Eagle | **Studies confirm the use of these habitats by:**<br><br>• One or more Short-eared Owls or; One or more Bald Eagle or; At least 10 individuals and two of the listed hawk/owl species.<br>• To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds.<br>• The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects."<br>• **SWHMiST Index #10 and #11** provides development effects and mitigation measures. | No potential on the subject property.<br><br>Although CUM and SWD ecosites are present on the subject property, these sites are small (less than 20 ha). The FOM community is the only forested ecosite on the subject property and is only 0.37 ha in size. In general, the site lacks the mosaic of upland and forest habitats required for significant raptor wintering areas. The site also lacks large rivers and lakes with open water for Bald Eagle.<br><br>Moderate potential on adjacent lands in the Heart Lake Conservation Area. |
| **Bat Hibernacula** | **Bat Hibernacula may be found in these ecosites:** | • Hibernacula may be found in caves, mine shafts, underground | No potential. | Big Brown Bat<br>Tri-coloured Bat | • All sites with confirmed hibernating bats are SWH. | No potential on the subject property or adjacent lands. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **<u>Rationale</u>:**<br>Bat hibernacula are rare habitats in all Ontario landscapes. | CCR1<br>CCR2<br>CCA1<br>CCA2<br><br>(Note: buildings are not considered to be SWH) | foundations and Karsts.<br>• Active mine sites should not be considered as SWH.<br>• The locations of bat hibernacula are relatively poorly known. | The ecosites listed are not found on the subject property. No candidate habitat is present. | | • The habitat area includes a 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms.<br>• Studies are to be conducted during the peak swarming period (August to September). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #1** provides development effects and mitigation measures. | The habitat criteria for Significant Wildlife Habitat is not present on the subject property or adjacent lands. |
| **Bat Maternity Colonies**<br><br>**<u>Rationale:</u>**<br>Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes. | Maternity colonies considered SWH are found in forested ecosites.<br><br>**All ELC ecosites in ELC Community Series:**<br><br>FOD<br>FOM<br>SWD<br>SWM | • Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).<br>• Maternity roosts are not found in caves and mines in Ontario.<br>• Maternity colonies located in Mature deciduous or mixed forest stands with >10 ha large diameter (>25 cm dbh) wildlife trees.<br>• Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.<br>• Silver-haired Bats prefer older mixed or deciduous forest and form maternity | Low potential.<br><br>A small FOM ecosite (0.37 ha) is present and is the only forested community on the subject property; two SWD ecosites are present on the subject property on the PSW. Mature forest stands are not present on the subject property. | Big Brown Bat<br>Silver-haired Bat | • Maternity Colonies with confirmed use by:<br>– >10 Big Brown Bats<br>– >5 Adult Female Silver-haired Bats<br>• The area of the habitat includes the entire woodland, or a forest stand ELC ecosite or an ecoelement containing the maternity colonies.<br>• Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #12** provides development effects and mitigation measures. | Low potential on the subject property.<br><br>No acoustic monitoring was completed on the treed / wetland communities to assess the presence of Big Brown Bats or Silver-haired Bats.<br><br>Trees present in ecosite communities on the development limits (outside of the PSW) were surveyed for SAR bat habitat (leaf-on / leaf-off surveys). Candidate habitat was identified for SAR bats on the subject property, but not for Big Brown Bat and Silver-haired Bat.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. | | | | |
| **Turtle Wintering Areas**<br><br>**<u>Rationale:</u>**<br>Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | Snapping and Midland Painted Turtles.<br><br>**ELC Community Classes:**<br><br>SW,<br>MA,<br>OA and<br>SA<br><br>**ELC Community Series:**<br><br>FEO and BOO<br><br>For Northern Map Turtle:<br>Open water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat. | • For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates.<br>• Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.<br>• Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. | Moderate potential.<br><br>MA, SW and SA community classes are present on the subject property. In particular, a pond is present that likely has a depth of 1 m and a soft substrate that could provide turtle wintering habitat. | Midland Painted Turtle<br><br>**<u>Special Concern:</u>**<br>Northern Map Turtle<br>Snapping Turtle | • Presence of 5 over-wintering Midland Painted Turtles is significant.<br>• One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant.<br>• The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.<br>• Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (September–October) or spring (March–May).<br>• Congregation of turtles is more common where wintering areas are limited and therefore significant.<br>• **SWHMiST Index #28** provides development effects and mitigation measures for turtle wintering habitat. | Confirmed on the subject property.<br><br>Eighteen Midland Painted Turtles were observed basking on April 27, 2020 during targeted turtle basking surveys on the natural pond (SAS1-1) towards the northeast end of the subject property. One Snapping Turtle was also observed incidentally during other surveys shallow basking in SAS1-1.<br><br>Confirmed on adjacent lands through various studies on the Heart Lake PSW Complex (i.e., MNRF, 2009; Dupuis-Désormeaux, M. , et al, 2019). |
| **Reptile Hibernaculum**<br><br>**<u>Rationale</u>**:<br>Generally, sites are the only known sites in the area. Sites | For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, | • For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized | Moderate potential.<br><br>Some potential exists on the subject property where there may be animal burrows, or micro features on the landscape that go below the frost line, such as rock piles or slopes, rotting | **<u>Snakes</u>**:<br>Eastern Gartersnake<br>Northern Watersnake<br>Northern Red-bellied Snake<br>Northern Brownsnake<br>Smooth Green Snake<br>Northern Ring-necked Snake | **Studies confirming:**<br><br>• Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. | Moderate potential on the subject property.<br><br>Targeted surveys were not carried out to verify the defining criteria; while no incidental observations of the listed reptile species were made during field surveys, the foundation of one heritage |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| with the highest number of individuals are most significant. | and Alvar sites may be directly related to these habitats.<br><br>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.<br><br>For Five-lined Skink, ELC Community Series of FOD and FOM and ecosites: FOC1 and FOC3. | locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.<br>• Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line.<br>• 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 groundcover.<br>• Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. | logs and the foundations of old buildings. The foundation of one heritage house and the foundation of an old barn are present that may be suitable for reptile hibernacula. | **<u>Special Concern</u>**:<br>Milksnake<br>Eastern Ribbonsnake<br><br>**<u>Lizard: Special Concern:</u>**<br>(Southern Shield population): Five-lined Skink | • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g., foundation or rocky slope) on sunny warm days in Spring (April/May) and Fall (September/October).<br>• **Note**: If there are Special Concern Species present, then site is SWH.<br>• **Note:** Sites for hibernation possess specific habitat parameters (e.g., temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e., strong hibernation site fidelity). Other critical life processes (e.g., mating) often take place near hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH.<br>• **SWHMiST Index #13** provides development effects and mitigation measures for snake hibernacula.<br>• Presence of any active hibernaculum for Skink is significant.<br>• SWHMiST Index #37 provides development effects and mitigation measures for five-lined Skink wintering habitat. | house and the foundation of an old barn are present that may be suitable for reptile hibernacula.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| **Colonially - Nesting Bird Breeding** | Eroding banks, sandy hills, borrow pits, steep slopes, | • Any site or areas with exposed soil banks, undisturbed or naturally eroding | No potential.<br><br>Natural features providing exposed bank or cliff habitat are | Cliff Swallow<br>Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) | **Studies confirming:**<br><br>• Presence of 1 or more nesting sites with 8 or more cliff swallow | No potential on the subject property and adjacent lands. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **Habitat (Bank & Cliff)**<br><br>**<u>Rationale</u>:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario. | and sand piles. Cliff faces, bridge abutments, silos, barns.<br><br>**Habitat found in the following ecosites:**<br><br>CUM1<br>CUT1<br>CUS1<br>BLO1<br>BLS1<br>BLT1<br>CLO1<br>CLS1<br>CLT1 | that is not a licensed permitted aggregate area.<br>• Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.<br>• Does not include a licensed/permitted Mineral Aggregate Operation. | not present on the subject property. | | pairs and/or rough-winged swallow pairs during the breeding season.<br>• A colony identified as SWH will include a 50 m radius habitat area from the peripheral nests.<br>• Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #4** provides development effects and mitigation measures. | The habitat criteria for Significant Wildlife Habitat is not present. |
| **Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)**<br><br>**<u>Rationale:</u>** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually. | SWM2<br>SWM3<br>SWM5<br>SWM6<br>SWD1<br>SWD2<br>SWD3<br>SWD4<br>SWD5<br>SWD6<br>SWD7<br>FET1 | • Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.<br>• Most nests in trees are 11 to 15 m from ground, near the top of the tree. | Moderate potential.<br><br>The SWD6 ecosite is present on the subject property and natural features providing standing trees, shrubs and emergent vegetation are present in the wetlands on the subject property. | Great Blue Heron<br>Black-crowned Night-Heron<br>Great Egret<br>Green Heron | **Studies confirming:**<br><br>• Presence of 2 or more active nests of Great Blue Heron or other listed species.<br>• The habitat extends from the edge of the colony and a minimum 300 m radius or extent of the Forest ecosite containing the colony or any island <15.0 ha with a colony is the SWH.<br>• Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.<br>• **SWHMiST Index #5** provides development effects and mitigation measures. | Moderate potential for Green Heron on the subject property.<br><br>One Green Heron was observed during breeding bird surveys displaying possible breeding evidence. An additional three individuals were observed flying over the site. Due to the cryptic nature of these species, and the density of the vegation present, it is possible that additional breeding pairs are present on the wetland complex.<br><br>No potential on adjacent lands within 120 m. Twenty-one Great Blue Heron were observed flying over the subject property.<br><br>According to the Heart Lake PSW evaluation, a large Great Blue Heron heronry is known from the Heart Lake PSW Complex in Wetland #3 south of the subject property (greater than 120 m). No Great Blue Heron heronries |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | | | | | were observed by Burnside during field surveys on the wetlands located on the subject property (MNRF, 2009). |
| **Colonially - Nesting Bird Breeding Habitat (Ground)**<br><br>**<u>Rationale:</u>**<br>Colonies are important to local bird population, typically sites are only known colony in area and are used annually. | Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map).<br><br>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).<br><br>MAM1 – 6<br>MAS1 – 3<br>CUM<br>CUT<br>CUS | • Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.<br>• Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. | No potential.<br><br>No islands or peninsulas associated with open water or marshy areas is present on the subject property.<br><br>Breeding records for Brewer's Blackbird are mainly restricted to the north shore of Lake Huron and Georgian Bay, as well as Sudbury/Manitoulin Island and NW Ontario; no breeding records currently exist for Southern and Eastern Ontario. | Herring Gull<br>Great Black-backed Gull<br>Little Gull<br>Ring-billed Gull<br>Common Tern<br>Caspian Tern<br>Brewer's Blackbird | **Studies confirming:**<br><br>• Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern.<br>• Presence of 5 or more pairs for Brewer's Blackbird.<br>• Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant.<br>• The edge of the colony and a minimum 150 m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0 ha with a colony is the SWH.<br>• Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #6** provides development effects and mitigation measures. | No potential on subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |
| **Migratory Butterfly Stopover Areas**<br><br>**<u>Rationale:</u>**<br>Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species | Combination of ELC Community Series; need to have present one Community Series from each land class.<br><br><u>Field</u>:<br>CUM<br>CUT<br>CUS | • A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Erie or Ontario.<br>• The habitat is typically a | No potential.<br><br>The subject property is greater than 5 km from Lake Ontario and the required field size is smaller than 10 ha in size. | Painted Lady<br>Red Admiral<br><br><u>Special Concern</u><br>Monarch | **Studies confirm:**<br><br>• The presence of Monarch Use Days (MUD) during fall migration (August/October). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| that migrate south for the winter. | <u>Forest</u>:<br>FOC<br>FOD<br>FOM<br>CUP<br><br>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed. | combination of field and forest and provides the butterflies with a location to rest prior to their long migration south.<br>• The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat.<br>• Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. | | | between years and multiple years of sampling should occur.<br>• Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD.<br>• MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.<br>• **SWHMiST Index #16** provides development effects and mitigation measures. | |
| **Landbird Migratory Stopover Areas**<br><br>**<u>Rationale:</u>**<br>Sites with a high diversity of species as well as high numbers are most significant. | **All ecosites associated with these ELC Community Series:**<br><br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD | • Woodlots >10 ha in size and within 5 km of Lake Ontario.<br>• If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat.<br>• If multiple woodlands are located along the shoreline those Woodlands <2 km from Lake Ontario are more significant. | No potential.<br><br>The subject property is greater than 5 km from Lake Ontario. | All migratory songbirds.<br><br>Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1<br><br>All migrant raptors species:<br><br>*Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997.* Schedule 7: Specially Protected Birds (Raptors) | **Studies confirm:**<br><br>• Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant.<br>• Studies should be completed during spring (April/May) and fall (August/October) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | • Sites have a variety of habitats; forest, grassland and wetland complexes.<br>• The largest sites are more significant.<br>• Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5 km of Lake Ontario are Candidate SWH. | | | Guidelines for Wind Power Projects".<br>• **SWHMiST Index #9** provides development effects and mitigation measures. | |
| **Deer Yarding Areas**<br><br>**<u>Rationale:</u>**<br>Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range. | **Note:** MNRF to determine this habitat.<br><br>**ELC Community Series** providing a thermal cover component for a deer yard would include:<br><br>FOM<br>FOC<br>SWM<br>SWC<br><br>**Or these ELC ecosites:**<br><br>CUP2<br>CUP3<br>FOD3<br>CUT | • Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these | No potential.<br><br>No deer yarding areas identified by the MNRF. | White-tailed Deer | **No Studies Required:**<br>• Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40 cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH.<br>• Deer Yards are mapped by MNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by MNRF will be available at local MNRF offices or via Land Information Ontario (LIO).<br>• Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter.<br>• The Core of a deer yard (Stratum I) is located on the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%.<br>• MNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual".<br>• Woodlots with high densities of deer due to artificial feeding are not significant. | | | • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.<br>• SWHMiST Index #2 provides development effects and mitigation measures. | |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **Deer Winter Congregation Areas**<br><br>**<u>Rationale:</u>**<br>Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions. | **All Forested ecosites with these ELC Community Series:**<br><br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD<br><br>Conifer plantations much smaller than 50 ha may also be used. | • Woodlots will typically be >100 ha in size. Woodlots <100 ha may be considered as significant based on MNRF studies or assessment.<br>• Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands.<br>• If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule.<br>• Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha.<br>• Woodlots with high densities of deer due to artificial feeding are not significant. | No potential.<br><br>No deer winter congregation areas identified by the MNRF. | White-tailed Deer | **Studies confirm:**<br><br>• Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF.<br>• Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF.<br>• Studies should be completed during winter (January/February) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.<br>• If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area, then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.<br>• **SWHMiST Index #2** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |
| **Table 1.2.1: Rare Vegetation Communities** | | | | | | |
| **Cliffs and Talus Slopes**<br><br>**<u>Rationale:</u>** | **Any ELC ecosite within Community Series:** | • A Cliff is vertical to near vertical bedrock >3 m in height. | No potential. | | • Most cliff and talus slopes occur along the Niagara Escarpment.<br>• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. | No potential on the subject property or adjacent lands. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| Cliffs and Talus Slopes are extremely rare habitats in Ontario. | TAO<br>CLO<br>TAS<br>CLS<br>TAT<br>CLT | • A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. | | | • **SWHMiST Index #21** provides development effects and mitigation measures. | The habitat criteria for Significant Wildlife Habitat is not present. The Niagara Escarpment is not present. |
| **Sand Barren**<br><br>**<u>Rationale;</u>**<br>Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry. | **ELC ecosites:**<br><br>SBO1<br>SBS1<br>SBT1<br><br>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%. | • Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%. | No potential. | | • A sand barren area >0.5 ha in size.<br>• Confirm any ELC Vegetation Type for Sand Barrens.<br>• Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.).<br>• **SWHMiST Index #20** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |
| **Alvar**<br><br>**<u>Rationale;</u>**<br>Alvars are extremely rare habitats in Ecoregion 6E. | ALO1<br>ALS1<br>ALT1<br>FOC1<br>FOC2<br>CUM2<br>CUS2<br>CUT2-1<br>CUW2<br><br>**Five Alvar Indicator Species:**<br><br>*Carex crawei*<br>*Panicum philadelphicum*<br>*Eleocharis compressa* | • An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and | No potential. | | **Field studies that identify:**<br><br>• An Alvar site > 0.5 ha in size.<br>• Four of the five Alvar Indicator Species at a Candidate Alvar site is Significant.<br>• Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.).<br>• The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.<br>• **SWHMiST Index #17** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | *Scutellaria parvula*<br>*Trichostema brachiatum*<br><br>These indicator species are very specific to Alvars within Ecoregion 6E. | shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.<br>• Alvar is particularly rare in Ecoregion 6E where the only known sites are found in the western islands of Lake Erie. | | | | |
| **Old Growth Forest**<br><br>**<u>Rationale;</u>**<br>Due to historic logging practices and land clearance for agriculture, old growth forest is rare in the Ecoregion 6E. | **Forest Community Series:**<br><br>FOD<br>FOC<br>FOM<br>SWD<br>SWC<br>SWM | • Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris. | No potential. | | **Field Studies will determine:**<br><br>• If dominant trees species are >140 years old, then the area containing these trees is SWH.<br>• The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present).<br>• The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH.<br>• Determine ELC vegetation types for the forest area containing the old growth characteristics.<br>• **SWHMiST Index #23** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not presen.. |

## Appendix H: Significant Wildlife Habitat Screening on the Subject Property and Adjacent Lands – Ecoregion 6E Criteria (2015)

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **Savannah**<br><br>**<u>Rationale:</u>**<br>Savannahs are extremely rare habitats in Ontario. | TPS1<br>TPS2<br>TPW1<br>TPW2<br>CUS2 | • A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%. | No potential. | | **Field studies confirm:**<br><br>• No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.<br>• One or more of the Savannah indicator species listed in Appendix N should be present. **Note**: Savannah plant spp. list from Ecoregion 6E should be used.<br>• Area of the ELC ecosite is the SWH.<br>• Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.).<br>• **SWHMiST Index #18** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |
| **Tallgrass Prairie**<br><br>**<u>Rationale:</u>**<br>Tallgrass Prairies are extremely rare habitats in Ontario. | TPO1<br>TPO2 | • No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway Right of Ways (ROW) are not considered to be SWH.<br>• A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. | No potential. | | **Field studies confirm:**<br><br>• One or more of the Prairie indicator species listed in Appendix N should be present. **Note:** Prairie plant spp. list from Ecoregion 6E should be used.<br>• Area of the ELC ecosite is the SWH.<br>• Site must not be dominated by exotic or introduced species (<50% vegetative cover is exotic sp.).<br>• **SWHMiST Index #19** provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |
| **Other Rare Vegetation Communities** | • Provincially Rare S1, S2 and S3 vegetation | • Rare Vegetation Communities may include beaches, fens, forest, marsh, | Low potential. | | • ELC ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. | No potential on the subject property. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **<u>Rationale:</u>**<br>Plant communities that often contain rare species which depend on the habitat for survival. | communities are listed in Appendix M of the SWHTG.<br>• Any ELC ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH. | barrens, dunes and swamps. | | | • The MNRF/Natural Heritage Information Centre (NHIC) will have up to date listing for rare vegetation communities.<br><br>**Field studies should confirm:**<br><br>• If an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG.<br>• Area of the ELC Vegetation Type polygon is the SWH.<br>• **SWHMiST Index #37** provides development effects and mitigation measures. | No provincially rare vegetation communities were identified during ELC field surveys.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| **Table 1.2.2: Specialized Habitats for Wildlife considered Significant Wildlife Habitat** | | | | | | |
| **Waterfowl Nesting Area**<br><br>**<u>Rationale;</u>**<br>Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant. | **All upland habitats located adjacent to these wetland ELC ecosites are Candidate SWH:**<br><br>MAS1 MAS2<br>MAS3 SAS1<br>SAM1 SAF1<br>MAM1 MAM2<br>MAM3 MAM4<br>MAM5 MAM6<br>SWT1 SWT2<br>SWD1 SWD2<br>SWD3 SWD4<br><br>Note: includes adjacency to Provincially Significant Wetlands (PSW). | • A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.<br>• Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. | Moderate potential.<br><br>MAS3 is present on the subject property in addition to SWD and SWT ecosites. These ecosites are part of the Heart Lake Wetland PSW. Immediately adjacent to these ecosites are upland areas that are greater than 120 m wide. | American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>Gadwall<br>Blue-winged Teal<br>Green-winged Teal<br>Wood Duck<br>Hooded Merganser<br>Mallard | **Studies confirmed:**<br><br>• Presence of 3 or more nesting pairs for listed species excluding Mallards, or;<br>• Presence of 10 or more nesting pairs for listed species including Mallards.<br>• Any active nesting site of an American Black Duck is considered significant.<br>• Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the | No potential on the subject property or adjacent lands.<br><br>Mallard and Wood Duck were recorded during breeding bird surveys/incidentally during the breeding season.<br><br>According to the Heart Lake PSW evaluation, Mallard and Wood Duck breed in the Heart Lake Wetland PSW; however, the wetland evaluation does not identify Wetland #1 as sustaining signficant waterfowl breeding areas. Other wetlands on the complex (beyond 120 m) have been confirmed. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites. | | | wetland and will provide enough habitat for waterfowl to successfully nest.<br>• **SWHMiST Index #25** provides development effects and mitigation measures. | |
| **Bald Eagle & Osprey Nesting, Foraging & Perching Habitat**<br><br>**<u>Rationale:</u>**<br>Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat. | **ELC Forest Community Series:**<br><br>FOD<br>FOM<br>FOC<br>SWD<br>SWM and SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands. | • Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.<br>• Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch on the tree's canopy.<br>• Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms). | Low potential.<br><br>While FOM and SWD ecosites are present on the subject property, forested shorelines, islands and structures over water are not present on the subject property. In addition, this site is highly disturbed with intensive agriculture and surrounding busy roads. | Osprey<br><br>**Special Concern**<br>Bald Eagle | **Studies confirm the use of these nests by**:<br><br>• One or more active Osprey or Bald Eagle nests in an area.<br>• Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included on the area of the SWH.<br>• For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important.<br>• For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat.<br>• To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant.<br>• Observational studies to determine nest site use, perching sites and foraging | No potential on the subject property or adjacent lands.<br><br>While FOM and SWD ecosites are present on the subject property, forested shorelines, islands and structures over water are not present. In addition, this site and surrounding area is highly disturbed with intensive agriculture and surrounding busy roads.<br><br>Three Osprey were observed during breeding bird surveys, including a recently fledged juvenile. All were flyovers and did not forage or perch on the subject property. No nests were observed. It is likely Osprey habitat is located outside of the subject property (beyond 120 m) in the Heart Lake Conservation Area. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | | | | areas need to be done from mid-March to mid-August.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #26** provides development effects and mitigation measures. | |
| **Woodland Raptor Nesting Habitat**<br><br>**<u>Rationale:</u>**<br>Nests sites for these species are rarely identified; these are area sensitive habitats and are often used annually by these species. | May be found in all forested ELC ecosites.<br><br>**May also be found in:**<br>SWC<br>SWM<br>SWD and CUP3 | • All natural or conifer plantation woodland/forest stands >30 ha with >10ha of interior habitat. Interior habitat determined with a 200 m buffer.<br>• 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.<br>• In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. | No potential.<br><br>While FOM and SWD ecosite are present on the subject property, the habitat and size criteria listed are not found on the subject property. | Northern Goshawk<br>Cooper's Hawk<br>Sharp-shinned Hawk<br>Red-shouldered Hawk<br>Barred Owl<br>Broad-winged Hawk | **Studies confirm:**<br><br>• Presence of 1 or more active nests from species list is considered significant.<br>• Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest).<br>• Barred Owl – A 200 m radius around the nest is the SWH.<br>• Broad-winged Hawk and Coopers Hawk– A 100 m radius around the nest is the SWH.<br>• Sharp-Shinned Hawk – A 50 m radius around the nest is the SWH.<br>• Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.<br>• **SWHMiST Index #27** provides development effects and mitigation measures. | No potential on the subject property.<br><br>No raptors were recorded as possible, probable or confirmed breeders. One Cooper's Hawk was recorded as a flyover.<br><br>The habitat criteria for Significant Wildlife Habitat is not present.<br><br>High potential on adjacent lands in the Heart Lake Conservation Area. |
| **Turtle Nesting Areas** | **Exposed mineral soil** | • Best nesting habitat for turtles are close | Moderate potential. | Midland Painted Turtle | **Studies confirm:** | Confirmed on the subject property. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **<u>Rationale;</u>**<br>These habitats are rare and when identified will often be the only breeding site for local populations of turtles. | **(sand or gravel) areas adjacent (<100 m) or on the following ELC ecosites:**<br><br>MAS1<br>MAS2<br>MAS3<br>SAS1<br>SAM1<br>SAF1<br>BOO1<br>FEO1 | to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.<br>• 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 areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.<br>• Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. | MAS3 ecosites are present on the subject property. | <u>Special Concern Species:</u><br>Northern Map Turtle<br>Snapping Turtle | • Presence of 5 or more nesting Midland Painted Turtles.<br>• One or more Northern Map Turtle or Snapping Turtle nesting is a SWH.<br>• The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH.<br>• Travel routes from wetland to nesting area are to be considered on the SWH as part of the 30-100 m area of habitat.<br>• Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method.<br>• **SWHMiST Index #28** provides development effects and mitigation measures for turtle nesting habitat. | Four predated turtle nest were identified during targeted turtle nestingsurveys around the pond (SAS1-1). An additional nesting Midland Painted Turtle was observed laying eggs on the bank of the stormwater management pond.<br><br>Additional nesting sites are likely present for Midland Painted Turtle and Snapping Turtle.<br><br>Confirmed on adjacent lands (MNRF, 2009). |
| **Seeps and Springs**<br><br>**<u>Rationale</u>:**<br>Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams. | Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested ecosite on the headwater areas of a stream could have seeps/springs. | • Any forested area (with <25% meadow/field/ pasture) on the headwaters of a stream or river system.<br>• Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. | No potential.<br><br>The subject property is not located on the headwaters of a stream or river system. | Wild Turkey<br>Ruffed Grouse<br>Spruce Grouse<br>White-tailed Deer<br>Salamander spp. | **Field Studies confirm:**<br><br>• Presence of a site with 2 or more seeps/springs should be considered SWH.<br>• The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. | No potential on the subject property or adajcent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | | | | • **SWHMiST Index #30** provides development effects and mitigation measures. | |
| **Amphibian Breeding Habitat (Woodland)**<br><br>**<u>Rationale:</u>**<br>These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations. | All ecosites associated with these ELC Community Series:<br><br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD<br><br>Breeding pools on the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians. | • Presence of a wetland, pond or woodland pool (including vernal pools) >500 $m^2$ (about 25 m diameter) 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.<br>• Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. | Low potential.<br><br>There is only one small woodland community (FOM) that is 0.37 ha in size; SWD ecosites are present on the subject property, however the site is highly disturbed from the presence of non-native and invasive species and from recent past agricultural use. | Eastern Newt<br>Blue-spotted Salamander<br>Spotted Salamander<br>Gray Treefrog<br>Spring Peeper<br>Western Chorus Frog<br>Wood Frog | **Studies confirm:**<br><br>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3.<br>• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands.<br>• The habitat is the wetland area plus a 230 m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.<br>• **SWHMiST Index #14** provides development effects and mitigation measures. | No potential on the subject property.<br><br>Targeted amphibian breeding call surveys were conducted on the subject property. The following "woodland" frog species were recorded on the ecosites listed: Wood Frog.<br>Wood Frog was recorded calling at Call Level Code 3 (SWT/SWD), and one Gray Treefrog was recorded (SAS1-1), not on the ecosites listed. No Spring Peepers were recorded on the subject property in 2019 and 2020. The Heart Lake PSW Evaluation (MNRF, 2019) and Credit River Watershed and Region of Peel Natural Areas Inventory (NAI) – "Kennedy-Highway 410" NAI #10730, 11676, 11677 (Volume 3, April 2014) did not record Spring Peeper at this wetland.<br><br>High potential on the adjacent lands in the Heart Lake Conservation Area. |
| **Amphibian Breeding Habitat (Wetlands)**<br><br>**<u>Rationale;</u>**<br>Wetlands supporting breeding for these amphibian species are extremely important and | **ELC Community Classes:**<br><br>SW<br>MA<br>FE<br>BO<br>OA and<br>SA.<br><br>Typically, these wetland ecosites | • Wetlands >500 $m^2$ (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. | Low potential.<br><br>SW, MA and SA community classes and a pond >500 $m^2$ is present on the subject property, however the site is highly disturbed from the presence of non-native and invasive species and from recent past agricultural use. | Eastern Newt<br>American Toad<br>Spotted Salamander<br>Four-toed Salamander<br>Blue-spotted Salamander<br>Gray Treefrog<br>Western Chorus Frog<br>Northern Leopard Frog<br>Pickerel Frog<br>Green Frog<br>Mink Frog<br>Bullfrog | **Studies confirm:**<br><br>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant. | No potential on the subject property.<br><br>Targeted amphibian breeding call surveys were conducted on the subject property. The following "wetland" frog species were recorded on the ecosites listed (SAS1-1): American Toad, Gray Treefrog and Green Frog. However no species were recorded with Call Level Code 3. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| fairly rare within Central Ontario landscapes. | will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Bull Frog) may be adjacent to woodlands. | • 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.<br>• Bullfrogs require permanent water bodies with abundant emergent vegetation. | | | • The ELC ecosite wetland area and the shoreline are the SWH.<br>• A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.<br>• If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.<br>• **SWHMiST Index #15** provides development effects and mitigation measures. | None of the recorded species were noted with at least 20 individuals.<br><br>The habitat criteria for Significant Wildlife Habitat is not met on the subject property.<br><br>No potential on the adjacent lands. |
| **Woodland Area-Sensitive Bird Breeding Habitat**<br><br>**<u>Rationale</u>:**<br>Large, natural blocks of mature woodland habitat on the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds. | **All ecosites associated with these ELC Community Series:**<br><br>FOC<br>FOM<br>FOD<br>SWC<br>SWM<br>SWD | • Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30 ha.<br>• Interior forest habitat is at least 200 m from forest edge habitat. | No potential.<br><br>The FOM community is the only forested ecosite on the subject property and is only 0.37 ha in size. It does not meet the age and size criteria for significant. | Yellow-bellied Sapsucker<br>Red-breasted Nuthatch<br>Veery<br>Blue-headed Vireo<br>Northern Parula<br>Black-throated Green Warbler<br>Blackburnian Warbler<br>Black-throated Blue Warbler<br>Ovenbird Scarlet Tanager<br>Winter Wren<br><br>**Special Concern:**<br>Cerulean Warbler<br>Canada Warbler | **Studies confirm:**<br><br>• Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.<br>• **Note**: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.<br>• Conduct field investigations in spring and early summer when birds are singing and defending their territories.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #34** provides development effects and mitigation measures. | No potential on the subject property.<br><br>The habitat criteria for Significant Wildlife Habitat is not present on the subject property. Additionally, none of the species were detected during breeding bird surveys.<br><br>Confirmed on adjacent lands according to the Heart Lake PSW Evaluation (MNRF, 2019). |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **Table 1.3: Habitat for Species of Conservation Concern considered Significant Wildlife Habitat** | | | | | | |
| **Marsh Breeding Bird Habitat**<br><br>**<u>Rationale;</u>**<br>Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes. | MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5<br>MAM6<br>SAS1<br>SAM1<br>SAF1<br>FEO1<br>BOO1<br><br>**For Green Heron:**<br><br>All SW, MA and CUM1 sites | • Nesting occurs in wetlands.<br>• All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.<br>• For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. | Moderate potential.<br><br>While SAS1, SW, MA and CUM1 ecosites are present on the subject property, however the site is highly disturbed from the presence of non-native and invasive species and from recent past agricultural use. | American Bittern<br>Virginia Rail<br>Sora<br>Common Moorhen<br>American Coot<br>Pied-billed Grebe<br>Marsh Wren<br>Sedge Wren<br>Common Loon<br>Sandhill Crane<br>Green Heron<br>Trumpeter Swan<br><br>**Special Concern:**<br>Black Tern<br>Yellow Rail | **Studies confirm:**<br><br>• Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes breeding by any combination of 5 or more of the listed species.<br>• **Note**: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH.<br>• Area of the ELC ecosite is the SWH.<br>• Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #35** provides development effects and mitigation measures. | Confirmed on the subject property.<br><br>Three of the listed species, Virginia Rail, Sora, and Green Heron, were all observed displaying possible breeding behaviours. Due to the cryptic nature of these species, and the density of the vegation present, it is possible that additional breeding pairs are present on the wetland complex.<br><br>One Trumpeter Swan was observed in SAS1-1 on April 25 and May 13, 2020 but not recorded during breeding bird surveys. Presumed migrant.<br><br>Confirmed on adjacent lands according to the Heart Lake PSW Evaluation (MNRF, 2019). |
| **Open Country Bird Breeding Habitat**<br><br>**<u>Rationale;</u>**<br>This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined | CUM1<br>CUM2 | • Large grassland areas (includes natural and cultural fields and meadows) >30 ha.<br>• Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). | No potential.<br><br>While CUM1 ecosites are present on the subject property, the habitat size criteria listed is not found on the subject property. | Upland Sandpiper<br>Grasshopper Sparrow<br>Vesper Sparrow<br>Northern Harrier<br>Savannah Sparrow<br><br>**Special Concern**<br>Short-eared Owl | **Field Studies confirm:**<br><br>• Presence of nesting or breeding of 2 or more of the listed species.<br>• A field with 1 or more breeding Short-eared Owls is to be considered SWH.<br>• The area of SWH is the contiguous ELC ecosite field areas.<br>• Conduct field investigations of the most likely areas in spring and early summer when birds | No potential on the subject property or adjacent lands.<br><br>Eight Savannah Sparrow were observed during breeding bird surveys, however none of the other listed species were observed.<br><br>The habitat size criteria for Significant Wildlife Habitat is not present on the subject property. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| significantly the past 40 years based on CWS (2004) trend records. | | • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.<br>• The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. | | | are singing and defending their territories.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST Index #32** provides development effects and mitigation measures. | |
| **Shrub/Early Successional Bird Breeding Habitat**<br><br>**<u>Rationale;</u>**<br>This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records. | CUT1<br>CUT2<br>CUS1<br>CUS2<br>CUW1<br>CUW2<br><br>Patches of shrub ecosites can be complexed into a larger habitat for some bird species. | • Large field areas succeeding to shrub and thicket habitats >10 ha in size.<br>• Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or live-stock pasturing in the last 5 years).<br>• Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species.<br>• Shrub and thicket habitat sites considered significant should have a history of longevity, either | No potential.<br><br>The ecosites and habitat criteria listed for Significant Wildlife Habitat are not present on the subject property. | **Indicator Spp:**<br>Brown Thrasher<br>Clay-coloured Sparrow<br><br>**Common Spp.**<br>Field Sparrow<br>Black-billed Cuckoo<br>Eastern Towhee<br>Willow Flycatcher<br><br>**Special Concern:**<br>Yellow-breasted Chat<br>Golden-winged Warbler | **Field Studies confirm:**<br><br>• Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species.<br>• A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH.<br>• The area of the SWH is the contiguous ELC ecosite field/thicket area.<br>• Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".<br>• **SWHMiST cxlix Index #33** provides development effects and mitigation measures. | Moderate potential on the subject property. While none of the ecosites listed are present, there are CUM ecosites that are transitioning to CUW or CUT; the total area of meadow habitat is less than 10 ha.<br><br>Brown Thrasher (indicator species) was observed incidentally on April 24, 2020. While not recorded during breeding bird surveys, suitable habitat may be present. Field Sparrow, Black-billed Cuckoo, and Willow Flycatcher (common species) were all observed during the breeding bird surveys displaying probable breeding behaviour.<br><br>No potential on adjacent lands. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | abandoned fields or pasturelands. | | | | |
| **Terrestrial Crayfish**<br><br>**<u>Rationale:</u>**<br>Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare. | MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5<br>MAM6<br>MAS1<br>MAS2<br>MAS3<br>SWD<br>SWT<br>SWM<br><br>CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish. | • Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for Terrestrial Crayfish.<br>• Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water.<br>• Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. | Moderate potential.<br><br>MAS3, SWD, SWT and CUM1 ecosites are present on the subject property and the Terrestrial Crayfish was observed by the TRCA in the general area (as noted in the PSW evaluation). | Chimney or Digger Crayfish (*Fallicambarus fodiens*)<br><br>Devil Crayfish or Meadow Crayfish (*Cambarus diogenes*) | **Studies Confirm:**<br><br>• Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites.<br>• Area of ELC ecosite or an ecoelement area of meadow marsh or swamp on the larger ecosite area is the SWH.<br>• Surveys should be done April to August in temporary or permanent water. **Note** the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.<br>• **SWHMiST Index #36** provides development effects and mitigation measures. | Confirmed on the subject property.<br><br>Multiple terrestrial crayfish burrows were observed incidentally along the muddy edges of SAS1-1 and surrounding MAS2-1.<br><br>Confirmed on adjacent lands according to the Heart Lake PSW Evaluation (MNRF, 2019). |
| **Special Concern and Rare Wildlife Species**<br><br>**<u>Rationale:</u>**<br>These species are quite rare or have experienced significant population declines in Ontario. | All plant and animal Element Occurrences (EO) within a 1 or 10 km grid.<br><br>Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy. | When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC ecosites. | Moderate potential.<br><br>The Special Concern species Canada Warbler, Eastern Wood-pewee, Grasshopper Sparrow, Wood Thrush, Monarch and Snapping Turtle have been identified within a 10 km radius of the subject property through background review of databases for the subject property. Narrow-leaved Beard Moss (S2) and Western Chorus Frog (S3) were identified within a 10 km radius of the subject property when an | All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the NHIC. | **Studies Confirm:**<br><br>• Assessment/inventory of the site for the identified Special Concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.<br>• The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component | Confirmed on the subject property.<br><br>Monarch, a Special Concern species, was observed on the subject property during field investigations in 2019 and 2020 (larvae, butterfly).<br><br>Eastern Wood-pewee was recorded during breeding bird surveys in CUM1-1 ecosite (where scattered trees are present) and CVR_4 (central) ecosite where trees are planted around property and abuts FOM ecosite. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| | | | NHIC search and Ontario Reptile and Amphibian Atlas search were conducted for the area. | | for a species e.g., specific nesting habitat or foraging habitat.<br>• **SWHMiST Index #37** provides development effects and mitigation measures. | One Snapping Trutle was observed incidentally in SAS1-1 during nesting turtle surveys in 2020.<br><br>Confirmed on adjacent lands according to the Heart Lake PSW Evaluation (MNRF, 2019) and other background sources. |
| **Table 1.4.1: Animal Movement Corridors** | | | | | | |
| **Amphibian Movement Corridors**<br><br>**<u>Rationale;</u>**<br>Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations. | Corridors may be found in all ecosites associated with water.<br><br>Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1. | • Movement corridors between breeding habitat and summer habitat.<br>• Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat–Wetland) of this Schedule. | Low potential. | Eastern Newt<br>American Toad<br>Spotted Salamander<br>Four-toed Salamander<br>Blue-spotted Salamander<br>Gray Treefrog<br>Western Chorus Frog<br>Northern Leopard Frog<br>Pickerel Frog<br>Green Frog<br>Mink Frog<br>Bullfrog | • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites.<br>• Corridors should consist of native vegetation, with several layers of vegetation.<br>• Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant.<br>• Corridors should have at least 15 m of vegetation on both sides of waterway or be up to 200 m wide of woodland habitat and with gaps <20 m.<br>• Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.<br>• **SWHMiST Index #40** provides development effects and mitigation measures. | No potential on the subject property.<br><br>Since no confirmed significant Amphibian Breeding Habitat was identified as part of the field studies, no significant Amphibian Movement Corridors are considered present. The wetlands and upland habitat are somewhat contained on the central portion of the site and is bounded by roads on all sides.<br><br>High potential on the adjacent lands in the Heart Lake Conservation Area. |
| **Deer Movement Corridors**<br><br>**<u>Rationale:</u>**<br>Corridors important for all | Corridors may be found in all forested ecosites. | Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. | No potential.<br><br>Since deer wintering habitat was not identified by the MNRF, there are no deer movement corridors on the subject property. | White-tailed Deer | • Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas.<br>• Corridors that lead to a deer wintering habitat should be | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling. | A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors. | • A deer wintering habitat identified by the MNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion.<br>• Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). | | | unbroken by roads and residential areas.<br>• Corridors should be at least 200 m wide with gaps <20 m and if following riparian area with at least 15 m of vegetation on both sides of waterway.<br>• Shorter corridors are more significant than longer corridors, SWHMiST Index #39 provides development effects and mitigation measures. | |
| **Table 1.5.1: Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E** | | | | | | |
| **6E-14 Mast Producing Areas**<br><br>**<u>Rationale</u>:**<br>The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bear. | **All Forested habitat represented by ELC Community Series**:<br><br>FOM<br>FOD | • Woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech).<br>• Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species.<br>• Forested habitats need to be large enough to provide cover and protection for black bears. | No potential.<br><br>Black bears do not typically occur in this region. Additionally, the subject property lacks the woodland cover required to meet the criteria. | Black Bear | **All woodlands >30 ha with a 50% composition of these ELC Vegetation Types are considered significant:**<br><br>FOM1-1<br>FOM2-1<br>FOM3-1<br>FOD1-1<br>FOD1-2<br>FOD2-1<br>FOD2-2<br>FOD2-3<br>FOD2-4<br>FOD4-1<br>FOD5-2<br>FOD5-3<br>FOD5-7<br>FOD6-5<br><br>SWHMiST Index #3 provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

## Appendix H: Significant Wildlife Habitat Screening on the Subject Property and Adjacent Lands – Ecoregion 6E Criteria (2015)

| Habitat | CANDIDATE - Significant Wildlife Habitat | | | CONFIRMED - Significant Wildlife Habitat | | |
|---|---|---|---|---|---|---|
| | **Ecological Land Classification Ecosite Codes** | **Habitat Criteria** | **Presence of Candidate Habitat on the Subject Property and Adjacent Lands (within 120 m)** | **Wildlife Species** | **Defining Criteria** | **Presence of Confirmed Significant Wildlife Habitat on the Subject Property and Adjacent Lands (within 120 m)** |
| **6E- 17**<br>**Lek**<br><br>**<u>Rationale</u>:**<br>Sharp-tailed grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their population. | CUM<br>CUS<br>CUT | • The Lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography.<br>• Leks are typically a grassy field/meadow >15 ha with adjacent shrublands and >30 ha with adjacent deciduous woodland. Conifer trees within 500 m are not tolerated.<br>• Grasslands (field/meadow) are to be >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland.<br>• Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying).<br>• Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting. | No potential.<br><br>Sharp-tailed Grouse habitat is not present in this region. They only occur on Manitoulin Island in Ecoregion 6E. | Sharp-tailed Grouse | • Studies confirming Lek habitat are to be completed from late March to June.<br>• Any site confirmed with sharp-tailed grouse courtship activities is considered significant.<br>• The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the Lek habitat.<br>• SWHMiST cxlix Index #32 provides development effects and mitigation measures. | No potential on the subject property or adjacent lands.<br><br>The habitat criteria for Significant Wildlife Habitat is not present. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| **A. Seasonal Concentration Areas** | | | | | |
| A1. Deer Wintering Area | Yes, with threshold | Deer wintering areas in the Region of Peel and Town of Caledon will be assessed and mapped by OMNR staff. According to OMNR, mapping will not be based on the traditional assessment methodology. Instead, it will be based on a detailed assessment of historic and recent motor vehicle accident data for Caledon in association with local expert knowledge. | Yes (to be provided by OMNR) | Yes. | See Ecoregion 6E table. |
| A2. Colonial Bird Nesting Sites<br>(e.g., heronry, gull colony) | Yes, with threshold | It is recommended that thresholds be based on the Significant Wildlife Habitat Technical Guide (OMNR 2000) and ORMCP TP2 (Queen's Printer for Ontario 2007a) supplemented by information from:<br>• Atlas of the Breeding Birds of Ontario 2000-2005 (Cadman *eta.,* 2007)<br>• Breeding Birds of Ontario Vols. 1 & 2 (Peck and James 1983, 1987)<br>• Communications with OMNR and Conservation Authority staff.<br><br>Therefore, it is recommended that any nesting colonies of the following species be considered SWH in the Region of Peel and Town of Caledon:<br>Great Blue Heron, Great Egret, Black-crowned Night-Heron, and Black Tern.<br><br>In addition, it is recommended that habitats that support the following number of nests/pairs be considered SWH in the Region of Peel and Town of Caledon:<br><br>Green Heron, 2; Common Tern, 5; Northern Rough-winged Swallow, 5; Bank Swallow, 30; Cliff Swallow, 8; Barn Swallow, 3; Sedge Wren, 3; and Marsh Wren, 3.<br><br><u>Note 1</u>: Excluded areas include:<br><br>a) actively used portions of recreational areas (e.g., sports fields, golf courses) and parks, and<br>b) lands permanently transformed for human services or infrastructure (e.g., roads, buildings, piers, active pits and quarries).<br><u>Note 2</u>: If fewer than 5 naturally occurring Bank Swallow colonies exist in any of the jurisdictions within the Region of Peel (e.g., Town of Caledon), all colonies should be considered significant. | No | Yes. | See Ecoregion 6E table. |
| A3. Waterfowl Nesting Habitat | Yes, with threshold | The recommended threshold for Region of Peel and Town of Caledon are based on ORMCP TP2 (Queen's Printer for Ontario 2007a) but incorporate additions to the species list. Therefore, it is recommended that SWH be defined as waterfowl nesting areas that support:<br>a) Any combination of 3 or more nesting pairs of: Wood Duck, Gadwall, American Wigeon, American Black Duck, Blue-winged Teal, Northern Shoveler, Northern Pintail, Green-winged Teal, Redhead, Hooded Merganser, Common Merganser, and Ruddy Duck. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | b) Any combination of 10 or more nesting pairs of listed species above, including Mallard.<br><br>Note: Waterfowl nesting areas generally correspond with upland habitats adjacent to marsh, swamp and shallow water ELC community classes, and generally extend out as far as 120 from the wetland (> 0.5 ha) or a cluster of 3 or more smaller wetlands (< 0.5 ha) within 150 m of each other. | | | |
| A4i. Migratory Landbird Stopover Areas | Region of Peel – Yes, with threshold<br>Town of Caledon No, not applicable | It is recommended that all Natural Areas be identified as SWH within:<br>a) 2 km of Lake Ontario<br>b) River and creek valleys within 5 km of Lake Ontario, and<br>c) 500 m of a river valley, but within 5 km of Lake Ontario.<br><br>Successional Communities are also to be identified as SWH if they are:<br>• ≥5 ha in size and immediately on the lakeshore, or<br>• ≥10 ha in size and within any of the zones (a, b, c) identified above.<br><br>Natural Areas = all terrestrial and wetland communities as defined under the Ecological Classification (ELC) system (Lee *et al.* 1998), as well as cultural woodlands and plantations. Successional Areas = cultural savannahs, cultural thickets and cultural meadows.<br><br>Excluded areas include:<br>a) actively used portions of recreational areas (e.g., sports fields, golf courses) and parks, and<br>b) lands permanently transformed for human services or infrastructure (e.g., roads, buildings, piers, active pits and quarries).<br><br>Note 1: SWH designation is not intended to limit existing agricultural activities from continuing.<br>Note 2: It is suggested that the City of Mississauga consider reviewing their Tree Permit By Law Number 474-05 to regulate the cutting of trees within 2 km of the lakeshore more rigorously. | Yes (sampling mapping to be provided to the Region) | Yes. | See Ecoregion 6E table. |
| A4ii. Migratory Bat Stopover Areas | Yes, without threshold | There is insufficient information currently available to suggest a threshold. However, in the not too distant future the OMNR Wind Resource Atlas http://www.ontariowindatlas.ca/) will indicate areas considered important to bat migration. These areas should be considered candidate SWH in Region of Peel and the Town of Caledon. Further field studies will be required to confirm their significance. In meantime, the protection of significant migratory bat stopover areas is probably accomplished by criterion A4i, at least along Lake Ontario. | No | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area. |
| A4iii. Migratory Butterfly Stopover Areas | Region of Peel – Yes, without threshold<br>Town of Caledon No, not applicable | There is insufficient information currently available to suggest a threshold. It is therefore recommended that the Region of Peel and Town of Caledon defer to the Significant Wildlife Habitat Technical Guide (OMNR 2000) approach, or guidelines for Eco-region 7E (in preparation by OMNR), until more data is gathered/analyzed. These areas are likely covered by criterion A4i along Lake Ontario.<br><br>Note: According to CVC, migratory butterfly congregations have been observed along the Lake Ontario shoreline (e.g., Lakeside Park and Rattray Marsh) during the fall. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| A4iv. Migratory Waterfowl Stopover and/or Staging<br><br>(Terrestrial) | Yes, with threshold | ORMCP TP2 (Queen's Printer for Ontario 2007a) thresholds (but incorporating 4 additional species) are recommended for the Region of Peel and Town of Caledon:<br>• annual aggregations (observed on a single day) of 100 individuals or more in any combination of the listed species.<br><br><u>Listed species include:</u><br>Wood Duck, Gadwall, American Wigeon, American Black Duck, Blue-winged Teal, Northern Shoveler, Northern Pintail, Green-winged Teal, or Ring-necked Duck.<br><br>Note 1: Annual habitat use can be based on background information or field studies conducted over at least a two-year period.<br>Note 2:· SWH designation is not intended to limit existing agricultural activities from continuing, or preventing built infrastructure (e.g., sewage lagoons) from functioning as required. | No | Yes. | See Ecoregion 6E table. |
| A4v. Migratory Waterfowl Stopover and/or Staging<br><br>(Aquatic) | Yes, with threshold | ORMCP TP2 (Queen's Printer for Ontario 2007a) thresholds are recommended for mainland portions of the Region of Peel and Town of Caledon *(*i.e., annual aggregations of 100 or more individuals (observed during a single day), in any combination, included on the Mainland species list). Nearshore waters of Lake Ontario within the globally significant "The West End of Lake Ontario" Important Bird Area (IBA) should automatically be designated as SWH. However, for nearshore waters of Lake Ontario east of the IBA. It is recommended that areas that support annual aggregations of 250 or more individuals (observed during a single day), in any combination, included on the Nearshore species list be considered SWH.<br><br><u>Mainland Species List</u>:<br>Wood Duck, Gadwall, American Wigeon, American Black Duck, Blue-winged Teal, Northern Pintail, Northern Shoveler, Green-winged Teal, Ring-necked Duck, Lesser Scaup, Bufflehead, Common Goldeneye, Hooded Merganser, Common Jvierganser.<br><br><u>Nearshore Species List:</u><br>Brant, Canvasback, Redhead, Greater Scaup, Lesser Scaup, King Eider, Common Eider, Harlequin Duck, Surf Scoter, White-winged Scoter, Black Scoter, Long-tailed Duck, Bufflehead, Common Goldeneye, Common Merganser, Red-breasted Merganser, Ruddy Duck, Homed Grebe, Red-necked Grebe.<br><br><u>Note 1</u>: Annual habitat use can be based on background information or field studies conducted over at least a two-year period.<br><u>Note 2</u>: SWH designation is not intended to limit existing agricultural activities from continuing or preventing built infrastructure (e.g., sewage lagoons) from functioning as required.<br><u>Note 3</u>: The nearshore waters of Lake Ontario are part of conservation authority jurisdiction under the *Conservation Authority Act* and in an agreement with DFO for development planning review including municipal activities and approvals. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| A4vi. Migratory Shorebird Stopover Areas | Yes, with threshold | It is recommended that sites that support annual aggregations of ≥75 individuals (observed on a single day during migration), of any combination of species, be considered SWH:<br><br>Note 1: A site is defined as (a) a 100 m reach of shoreline (centered at any location), or (b) a habitat patch 0.2 ha in size (centered at any location). This is roughly equivalent to a circle with a 25 m radius or square with 45 m sides.<br>Note 2: The determination of annual habitat use can be based on background information or field studies conducted over at least a two-year period.<br>Note 3: These thresholds should be examined in the future and revised if necessary by consulting with local naturalist clubs and/or the Ontario Field Ornithologists.<br>Note 4: The designation of SWH is not intended to limit the ability of existing, normal agricultural uses from continuing, or preventing existing municipal infrastructure (e.g., sewage lagoons, piers, etc.) from functioning as required. | No | Yes. | See Ecoregion 6E table. |
| A5. Raptor Wintering Areas<br><br>(i.e., used for feeding and/or roosting) | Yes, with threshold | Until information specific to the Region of Peel and Town of Caledon becomes available, it is recommended that the provincial guidelines presented in the Significant Wildlife Habitat Technical Guide (OMNR 2000) be used in both jurisdictions.<br><br>Accordingly, it is recommended that open fields >20 ha in size adjacent to woodlands be considered candidate SWH. Open fields generally correspond with cultural meadows or abandoned agricultural lands. Smaller sites should also be considered if there is any evidence or reasonable possibility of regular winter raptor activity. Confirmed sites should be occupied at least 60% of winters (almost 2 out of every 3 years), and based on suggestions made by OMNR staff, include 2 or more species and at least 10 individuals of the following species:<br>Northern Harrier, Red-tailed Hawk, Rough-legged Hawk, or American Kestrel. Refer to Section 6.5.10 to see how occurrence data can be collected.<br><br>Note 1: Any wintering sites used by Short-eared Owl (designated Special Concern in Ontario and Canada) should also be designated SVVH.<br>Note 2: SWH designation is not intended to limit the ability of existing, normal agricultural uses from continuing. | No | Yes. | See Ecoregion 6E table. |
| A6. Snake Hibernacula | Yes, with threshold | It is recommended that sites that support the following conditions should be considered SWH in the Region of Peel and Town of Caledon. Thresholds are based on ORMCP TP2 (Queen's Printer for Ontario 2007a) and supplemented by Ontario Herpetofaunal Atlas data.<br><br>• 10 or more Eastern Gartersnakes, or<br>• 5 or more or DeKay's Brownsnakes, or<br>• 2 or more of the following species: Ring-necked Snake, Smooth Greensnake, Northern Watersnake, and Red-bellied Snake, or<br>• 2 or more of the above species.<br><br>Note 1: Foundations of buildings in active use should be exempt. Any significant hibemacula associated with buildings/structures should however be considered for protection through some type stewardship or mitigation measures. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | Note 2: Significant snake hibemacula associated with existing municipal infrastructure should be managed in such a way that maintains the function of the facility but reduces its potential impact. | | | |
| A7. Bat Maternal Roosts and Hibernacula | Yes, with threshold | Until information specific to the Region of Peel and Town of Caledon becomes available, it is recommended that the provincial guidelines presented in the Significant Wildlife Habitat Technical Guide (OMNR 2000) be used in both jurisdictions. Therefore, the following numbers of bats should be considered significant at maternity colonies and winter roosts, respectively:<br>Big Brown Bat, 30, 30; Little Brown Bat 100, 50; Eastern Pipistrelle, I0, 20; Silver-haired Bat, I0, NIA; Long-eared Bat, I0, 20; Small-footed Bat, 10, all sites.<br><br>However, with the discovery of White Nose Syndrome in neighbouring New York State in 2007, OMNR staff must be contacted to see if more restrictive thresholds are warranted. If so, these should supersede those in the Significant Wildlife Habitat Technical Guide (OMNR 2000).<br><br>Note: The Natural Heritage Information Centre (OMNR) will be providing hibemacula habitat mapping in the future. However, due to its sensitive nature, specific location information will not be available. It is possible that larger patches will be shown on the MNR Wind Resource Atlas representing candidate SWH. It must also be understood that many hibemacula have not been found, therefore any known cave or crevice ecosites or old mine shafts should be considered candidate SWH and evaluated as such. | No | Yes. | See Ecoregion 6E table. |
| A8. Bullfrog Concentration Areas | Yes, but will be covered by criterion B8ii | The thresholds recommended for the ORM (OMNR, 2007) will be incorporated in criterion B8ii (Amphibian breeding habitat-non-forested sites). That is, any sites supporting breeding Bullfrogs in the Region of Peel and Town of Caledon should be considered SWH. | Yes, but will be part of criterion B8ii | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area. In addition, amphibian call surveys were conducted at the project site and no Bullfrogs were heard calling. |
| A9. Wild Turkey Winter Range | No, see text in Section 6.5.14 | No threshold will be recommended. Wild Turkey is no longer of conservation concern in Ontario, the Region of Peel or Town of Caledon. | Not required | No. | There is no recommended threshold for this criterion due to the Wild Turkey no longer being a species of conservation concern, therefore it does not need to be assessed for Significant Wildlife Habitat. |
| A10. Turkey Vulture Summer Roosting Areas | Yes, without threshold | None. Insufficient information currently available to suggest a threshold. | No | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | | | | (see Section 6.5.15 for details on habitat criteria). |
| **B. Rare Vegetation Communities or Specialized Habitats for Wildlife** | | | | | |
| B1. Rare Vegetation Communities | Yes, with threshold | • All communities ranked as S1, S2 or S3 by NHIC (as per Bakowsky 1996)<br>• Targeted vegetation communities ranked S3S4, S4 or S5 in Ecodistricts 6E-7 and 7E-4 in the Great Lakes Conservation Blueprint (Henson and Brodribb 2005), or identified as rare on the ORM in the ORMCP TP2 (Queen's Printer for Ontario 2007a):<br>• Dry-Fresh White Pine-Red Pine Coniferous Forest Type (FOCl-2)<br>• Dry-Fresh White Pine-Sugar Maple Forest Ecosite (FOM 2-2)<br>• Dry-Fresh White Pine-Oak Mixed Forest Type (FOM2-1)<br>• Moist-Fresh Hemlock-Sugar Maple Mixed Forest Type (FOM 6-1)<br>• Dry-Fresh Red Oak Deciduous Forest Type (FODl-1)<br>• Dry-Fresh White Oak Deciduous Forest Type (FODI-2)<br>• Dry-Fresh Mixed Oak Deciduous Forest Type (FOD 1-4)<br>• Dry-Fresh Oak-Hickory Deciduous Forest Type (FOD 2-2)<br>• Dry-Fresh Hickory Deciduous Forest Type (FOD 2-3)<br>• Fresh Sugar Maple-Black: Maple Deciduous Forest (FOD 6-2)<br>• Broad-leaved Sedge Organic Meadow Marsh Type (MAM3-6)<br>• White Cedar-Conifer Organic Swamp Type (SWC3-2)<br>• Willow Organic Thicket Swamp Type (SWT3-2)<br><br>• All bog and fen wetland communities (considered rare in the Region of Peel and Town of Caledon).<br><br>Note 1: The S3S4, S4 and S5 ranked woodland ELC Vegetation communities listed above are also captured by the significant woodlands criteria for significant communities (see Section 5.1.15).<br>Note 2: The minimum size for rare vegetation communities is 0.5 ha. | No (available mapping from NHIC and conservation authorities incomplete) | Yes. | See Ecoregion 6E table. |
| B2. Forests Providing a High Diversity of Habitats | Yes, but will be covered by significant woodlands | It is assumed that all forests providing a high diversity of habitats (as described in the Significant Wildlife Habitat Technical Guide (OMNR 2000) will be captured by the suite of significant woodlands criteria (e.g., size/interior, proximity to a watercourse, and presence of significant habitats and/or species) even though the diversity criterion itself has not been recommended.<br><br>Note: See Sections 5.3 and 6.5.17 of this report for more details. | Possible at coarse ELC Community series level. | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area. |
| B3. Old-Growth or Mature Forest Stands | Yes, but will be covered by significant woodlands | It is assumed that all old-growth and mature forests will be captured by the significant woodlands criteria for old-growth and size.<br><br>Note: See Sections 5.3.3.5 and 6.5.18 of this report for more details. | No | Yes. | See Ecoregion 6E table. |
| B4. Foraging Areas with Abundant Mast | Yes, with threshold | It has been assumed that most forests providing foraging areas with abundant mast *(*i.e., nuts like acorns and fruit bearing shrubs) will be captured by the significant woodlands criterion for size/interior, as well as the criterion for old growth (see Section 5.3.1 - 5.3.3). | Potentially once ELC Ecosite mapping is completed for the Region of Peel | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | To capture some areas that may not be captured as significant woodlands, we are also recommending any ELC community that is:<br>• FOD I (Dry-Fresh Oak Deciduous Forest Ecosite),<br>• FOD 2 (Dry-Fresh Oak-Maple-Hickory Deciduous Forest Ecosite) or<br>• FOD 9 (Fresh-Moist Oak-Maple-Hickory Deciduous Forest Ecosite) also be considered SWH under this criterion.<br><br>Note: See Sections 5.3 and 6.5.19 of this report for a more comprehensive rationale. | | | |
| B5. Highly Diverse Areas | Yes, with threshold | The top 5% most diverse habitat patches in the Region of Peel (a) in the Rural System (i.e., the Town of Caledon) and (b) in the Urban System (i.e., the Cities of Brampton and Mississauga). Diversity was determined by the number of ELC community types (at the Community Series level) per habitat patch. Habitat patches were defined as continuous natural areas (i.e., all woodland - FOD, FOC, FOM; wetland - MA, SW, FE; and successional community polygon types - CUT, CUS, CUP, CUW) not separated by arterial or collector roads or built-up areas by more than 20 m gaps.<br><br>Note: Cultural meadows (CUM) were excluded because of the difficulty in distinguishing them from active agricultural areas in air photo interpretation. All agricultural areas (AGR) were excluded as well. | Yes (sample mapping provided to the Region of Peel) | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area. |
| B6. Cliffs and Caves | Yes, with threshold | Any cliff, talus, crevice or cave community (per ELC, Lee *et. al.*, 1998) ranked as S1, S2 or S3 by NHIC.<br><br>Note 1: No minimum size threshold is recommended.<br>Note 2: Areas where quarry licenses are active are excluded. | No (existing mapping from NHIC is incomplete) | Yes. | See Ecoregion 6E table. |
| B7. Seeps and Springs | Yes, with threshold | Site specific confirmation of presence through any of the following:<br>• Visual confirmation of surface discharge or springs<br>• Groundwater investigations or detailed vegetation assessments *(e.g.,* confirmed presence of plant species known to be associated with seepage areas in southern Ontario such as *Carex scabrata).*<br>• Areas with red or rust coloured stains on the soil surface (these are usually precipitates of iron hydroxides indicating areas of groundwater discharge).<br>• Locating patches of ground that are free of ice and snow in winter and where there is evidence of seepage or springs, or where there are previously confirmed records for seeps or springs.<br>• Presence of marl *(i.e.,* precipitates of carbonates in solution where groundwater pathways go through areas of concentrated dissolved solids and come to the surface)<br><br>The above site analysis needs to be completed in conjunction with evidence collected through background or current site-specific studies that concludes the seep or spring provides habitat for or otherwise supports other SWH criteria (as identified in this study).<br>• e.g., Deer Wintering Areas, Wild Turkey Winter Range, Rare Vegetation Communities (mostly indirectly), Highly Diverse Areas, Amphibian Breeding Habitat (indirectly), and Habitat for Species of Conservation Concern. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | Note: In addition to protection of the specific seep or spring zone, there needs to be consideration for protection of the hydrologic dynamics within the groundwater catchment area in the Official Plan policies and/or supporting guidelines. | | | |
| B8i. Amphibian Breeding Habitat<br><br>Forested Sites (e.g., vernal pools) | Yes, with threshold | Based mostly on standards developed for the ORM (OMNR, 2007), it is recommended that sites that support the following conditions be considered SWH in the Region of Peel and Town of Caledon.<br><br>• Breeding populations of 2 or more listed species in Group A with a combined total of at least 40 individuals present.<br>• A combined total of at least 30 individuals from any species listed in Group B (i.e., species that tend to behave more like vernal pool obligates, at least in Peel Region).<br>• All breeding populations of Four-toed Salamander regardless of number of individuals<br><br>Group A: Red-spotted Newt, Blue-spotted Salamander, Jefferson Salamander complex 'hybrids' (where the Blue-spotted Salamander genome dominates), Spotted Salamander, unidentified members of the *Ambystoma* salamander genus, Gray Treefrog, Spring Peeper, and Wood Frog.<br>Group B: Blue-spotted Salamander, unidentified members of the Jefferson Salamander complex or 'hybrids' where the Blue-spotted Salamander genome dominates, and Wood Frog.<br><br>In addition, management recommendations in "Conserving Pool-breeding Amphibians ... " (Calhoun and Klemens 2002) should be followed (e.g., protect and maintain pool hydrology and water quality).<br><br>Note 1: It is assumed that for every male frog heard calling a female frog is also present. That is, if 5 male frogs are heard calling, it is assumed 10 individuals are present.<br>Note 2: In order to be sure how many individuals are present, field surveys must be conducted in a seasonally appropriate manner. Timing is critical. Refer to Section 6.5.23 for more information.<br>Note 3: Larvae/egg masses numbers cannot reliably reveal how many individuals are present at a site. Documenting adults at the right time of year, under the right weather conditions, and using the right methodology should be the priority. Refer to Section 6.5.23 for more information.<br>Note 4: The Great Lakes-St. Lawrence/Canadian Shield population of the Western Chorus Frog, whose geographic range includes the Region of Peel, was designated Threatened by COSEWIC in April 2008. It is addressed under Criterion C1. | No | Yes. | See Ecoregion 6E table. |
| B8ii. Amphibian Breeding Habitat<br><br>Non-Forested Sites (e.g., marshes) | Yes, with threshold | Based mostly on standards developed for the ORM (OMNR, 2007), it is recommended that sites that support the following conditions be considered SWH in the Region of Peel and Town of Caledon.<br><br>• Breeding populations of 2 or more listed species in Group A with a combined total of at least 40 individuals present. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | • A combined total of at least 30 individuals from any species listed in Group B (i.e., species that tends to behave more like vernal pool obligates, at least in Peel Region).<br>• All breeding populations of Bullfrog regardless of number of individuals<br>• All breeding populations of Mudpuppy regardless of number of individuals<br><br>In addition, wetland hydrology and water quality must be maintained. Protection must also be extended to adjacent upland habitats to appropriately accommodate the terrestrial portion of their life cycles. The size of the area protected must reflect the habitat requirements of the listed species present.<br><br>Group A: Red-spotted Newt, Blue-spotted Salamander, Jefferson Salamander complex 'hybrids' (where the Blue-spotted Salamander genome dominates), Spotted Salamander, unidentified members of the *Ambystoma* salamander genus, American Toad, Gray Treefrog, Spring Peeper, Green Frog, Pickerel Frog, Northern Leopard Frog, Mink Frog and Wood Frog.<br>Group B: Blue-spotted Salamander, unidentified members of the Jefferson Salamander complex or 'hybrids' where the Blue-spotted Salamander genome dominates, and Wood Frog.<br><br>Note 1: It is assumed that for every male frog or toad heard calling a female frog is also present. That is, if 5 male frogs or toads are heard calling, it is assumed 10 individuals are present.<br>Note 2: In order to be sure how many individuals are present, field surveys must be conducted in a seasonally appropriate manner. Timing is critical. Refer to Section 6.5.24 for more information.<br>Note 3: Larvae/egg masses numbers cannot reliably reveal how many individuals are present at a site. Documenting adults at the right time of year, under the right weather conditions, and using the right methodology should be the priority. Refer to Section 6.5.24 for more information.<br>Note 4: The Great Lakes-St. Lawrence/Canadian Shield population of the Western Chorus Frog, whose geographic range includes the Region of Peel, was designated Threatened by COSEWIC in April 2008. It is addressed under Criterion C1. | | | |
| B 9. Turtle Nesting Habitat and Turtle Overwintering Areas | Yes, with threshold | It is recommended that the thresholds developed for the ORM (OMNR, 2007), i.e., breeding or overwintering presence of 5 or more pairs/individuals of Snapping Turtle or Midland Painted Turtle, apply to the Region of Peel and Town of Caledon.<br><br>It is also recommended that the documentation required be expanded to include turtle nests, not just pairs.<br><br>Note: Snapping Turtle was designated Special Concern nationally in December 2008. It's may receive similar SAR status in Ontario in 2009. Northern Map Turtle was removed from the list since it is designated Special Concern in Ontario and is therefore included under criterion C2. | No | Yes. | See Ecoregion 6E table. |
| B10. Habitat for Area-Sensitive Forest Interior Breeding Bird Species | Yes, with threshold | The recommended threshold is based on:<br>1. an analysis of the habitat requirements of area-sensitive forest interior species occurring in Peel, as well as forest interior patch size, and | Yes, forest interior patch size information is available, | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | 2. the presence of species listed in the ORMCP TP2 (Queen's Printer for Ontario 2007a).<br><br>Therefore, it is recommended that mature forests (i.e., greater than 60 years of age) with interior patch size ≥4 ha be considered SWH in the Region of Peel and Town of Caledon. In addition, habitats in either jurisdiction (including plantations) that support 3 or more listed species with probable or confirmed breeding evidence should be considered significant.<br><br>Listed Species include:<br>Hairy Woodpecker, Pileated Woodpecker, Red-breasted Nuthatch, Brown Creeper, Winter Wren, Veery, Northern Parula, Black-throated Blue Warbler, Black-throated Green Warbler, Blackburnian Warbler, Black-and-white Warbler, Ovenbird, and Scarlet Tanager.<br><br>Note 1: Whip-poor-will, Yellow-bellied Sapsucker, and Blue-headed Vireo were removed from the list since they also occur along forest edges and openings. Hairy Woodpecker, Pileated Woodpecker, Brown Creeper, Winter Wren, and Black-throated Blue Warbler were added to the list.<br>Note 2: Small inclusions of younger forest should not be excluded when analyzing forest interior patch size. | but age may need confirmation.<br><br>Also, site-specific survey work required to confirm whether smaller forest fragments exceed species thresholds. | | |
| B11. Habitat for Open Country and Early Successional Breeding Bird Species | Yes, with threshold | Open country habitats ≥10 ha, not actively farmed for ≥ 5 years and with confirmed habitat utilization by:<br>• at least 4 area-sensitive species from Group A, or<br>• 3 area-sensitive species from Group A and 4 or more species from Group B.<br><br>Group A: Bobolink, Eastern Meadowlark, Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Upland Sandpiper, Western Meadowlark.<br>Group B: American Kestrel, Brown Thrasher, Clay-colored Sparrow, Eastern Bluebird, Eastern Kingbird, Field Sparrow, Horned Lark, Sedge Wren, Vesper Sparrow, Willow Flycatcher. | No | Yes. | See Ecoregion 6E table. |
| B12. Habitat for Wetland Breeding Bird Species | Yes, with threshold | ORMCP TP2 (Queen's Printer for Ontario 2007a) thresholds are recommended for the Region of Peel and Town of Caledon: 5 nesting pairs of any combination of species from Group A, or 4 nesting pairs of any combination of species from Group B.<br><br>Group A: Common Loon, Pied-billed Grebe, American Bittern, Virginia Rail, Common Moorhem, Sora, American Coot, Sandhill Crane, Wilson's Snipe, Wilson's Phalarope, Black Tern, Marsh Wren, and Sedge Wren.<br>Group B: Black Tern, Marsh Wren, and Sedge Wren. | No | Yes. | See Ecoregion 6E table. |
| B13i Raptor Nesting Habitat<br><br>(Raptors associated with wetlands, ponds, and rivers) | Yes, with threshold | ORMCP TP2 (Queen's Printer for Ontario 2007a) thresholds are recommended for the Region of Peel and Town of Caledon: the presence of one or more active nests of Northern Harrier or Osprey.<br><br>Note: Short-eared Owl was removed from the list of species considered since it is designated Special Concern in Ontario and Canada. It is included under criterion C2 and C3. | No | Yes. | See Ecoregion 6E table. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| B13ii Raptor Nesting Habitat<br><br>(Raptors associated with woodands habitats) | Yes, with threshold | ORMCP TP2 (Queen's Printer for Ontario 2007a) thresholds are recommended for the Region of Peel and Town of Caledon, (i.e., the presence of one or more active nests from listed species).<br><br>Listed species include:<br>Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Red-shouldered Hawk, Broad-winged Hawk, Northern Saw-whet Owl, and Long-eared Owl.<br><br>Note: Eastern Screech-Owl was left off the list because of its common status. | No | Yes. | See Ecoregion 6E table. |
| B14. Mink, River Otter, Marten, and Fisher Denning Sites | Yes, with threshold | Based on available distribution and occurrence data, it is recommended that the following supporting habitats be considered SWH:<br>• All River Otter, Marten and Fisher den sites (i.e., a min. 10 x 10 m area around the den site);<br>• Mink den sites in natural areas with low levels of disturbance (i.e., a min. 10 x 10 m area around the den site)<br><br>With respect to Mink and River Otter, it is also recommended that as much wetland and undeveloped, undisturbed shoreline is protected as possible by establishing a 30 m no-development buffer from the shoreline for a distance of up to 500 m in either direction upstream and downstream for Mink and 2 km in either direction upstream and downstream for River Otter.<br><br>For Fisher, it is recommended that as many large blocks of contiguous mid-aged to mature forest as possible surrounding the den site is protected.<br><br>Note: Marten is not found in the planning area. | No | No. | No potential.<br><br>According to the Ontario Fur Managers Federation, Mink prefer den sites dominated by coniferous trees such as Spruce, Balsam and Cedar. This habitat is not found within the study area. According to the Atlas of the Mammals of Ontario (Dobbyn, 1994), River Otter, Marten and Fisher species ranges are found north of Lake Simcoe and are therefore not present within the study area. |
| B15. Mineral Licks | No, not applicable | No thresholds are suggested as this criterion is primarily meant for Moose and not considered applicable to the Region of Peel or Town of Caledon. | No | No. | No potential.<br><br>The recommended thresholds for Significant Wildlife Habitat are not present in the study area. |
| **C. Habitat for Species of Conservation Concern Criteria** | | | | | |
| C1. Species Identified as Nationally Endangered or Threatened by COSEWIC which are not listed as Endangered or Threatened under Ontario's Endangered Species Act. | Yes, with threshold | The habitat for any species identified to be nationally Endangered or Threatened by COSEWIC that is not identified as an Endangered or Threatened species on the Species at Risk in Ontario (SARO) List under Ontario's *Endangered Species Act* should be designated as SWH. As of April 2009, species in this category that occur or have occurred within the Region of Peel or Town of Caledon include:<br>Rapids Clubtail, Western Chorus Frog, Common Nighthawk, Chimney Swift, Red-headed Woodpecker, Olive-sided Flycatcher, Golden-winged Warbler, Canada Warbler, and Lake Sturgeon.<br><br>Requirements for habitat protection to be determined on a case-by-case basis in consultation with OMNR. | Specific point locations cannot be mapped due to data sensitivity; generalized 1 km squares can be mapped. | No. | No potential.<br><br>Although the Western Chorus Frog has the potential to occur in the study area, it was not observed during amphibian call surveys at this site. No other species that meet this criterion have the potential to occur in the study area. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | Note: Does not include species that have been designated Threatened or Endangered by OMNR. These species are protected under Ontario's *Endangered Species Act* and Section 2.1.3 (significant habitat of endangered and threatened species) of the Provincial Policy Statement (2005). | | | |
| C2. Species Identified as Special Concern based on Species at Risk in Ontario List that is Periodically updated by OMNR. | Yes, with threshold | Per the Significant Wildlife Habitat Technical Guide (OMNR 2000), the habitat for any species designated Special Concern according to the Species at Risk in Ontario List should be identified and protected as SWH.<br><br>Habitat requirements would need to be determined on a case-by-case basis.<br><br>Note: Species of conservation concern do not include species that have been designated Threatened or Endangered by OMNR. These species are protected under Ontario's *Endangered Species Act* and Section 2.1.3 (significant habitat of endangered and threatened species) of the Provincial Policy Statement (2005). | Specific point locations cannot be mapped due to data sensitivity; generalized 1 km squares can.<br><br>In addition, some species (e.g., snakes) cannot be named to protect the location of their habitat. | Yes. | See Ecoregion 6E table. |
| C3. Species that are listed as Rare (S1-S3) or Historical in Ontario based on records kept by the NHIC. | Yes, with threshold | Per the Significant Wildlife Habitat Technical Guide (OMNR 2000), habitat for any species listed as S1, S2 and S3 (based on the records kept by the NHIC), should be I identified and protected as SWH.<br><br>Habitat requirements would need to be determined on a case-by-case basis. | Specific point locations cannot be mapped due to data sensitivity; generalized 1 km squares can be mapped. | Yes. | See Ecoregion 6E table. |
| C4. Species whose populations appear to be experiencing substantial declines in Ontario. | Yes, without threshold | It is recommended that "substantial declines" be defined as significant declines at the p <0.10 (90%) confidence level.<br><br>Breeding Birds<br>Upon careful review of existing information sources such as the Breeding Bird Survey (BBS), Forest Bird Monitoring Program (FBMP), Marsh Monitoring Program (MMP), and the recently completed Atlas of the Breeding Birds of Ontario, the consultant team did not feel comfortable putting forward a threshold. Each had deficiencies or biases.<br><br>Other Wildlife Groups<br>Calling frog and toad population trend data gathered as part of the Marsh Monitoring Program, Frogwatch Ontario, Amphibian Road Call Count, and Backyard Frog Survey, could be utilized if deemed suitable. There is no Ontario-wide population trend data available for other wildlife groups in Ontario. | No | No. | No potential.<br><br>Although there is an NHIC record for Narrow-leaved Beardmoss (S2) in the study area, this is a historical record from 1939 and there has been no record of this species since then. |
| C5. Species that have a high percentage of their global population in Ontario and are Rare or Uncommon in the Regional Municipality of Peel/Town of Caledon. | Yes, without threshold | An adequate analysis of what species should be considered needs to be undertaken before a threshold can be recommended for the Region of Peel or Town of Caledon. | No | No. | Confirmed.<br><br>According to the TRCA fauna list (2019), the Wood Frog (L2) is a regionally rare species and was heard calling during amphibian surveys within the study area. The American Woodcock (L3) is also a regionally rare species and was heard calling within the study area during amphibian surveys. Midland Painted |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| | | | | | Turtle (L3) is also a regionally rare species and was observed during field investigations in the SAS1-1 pond.<br>Regionally rare plants (rare in the Region of Peel) observed in the study area include the Foxglove Beardtongue (*Penstemon digitalis*) and Red Pine (*Pinus resinosa*). |
| C6. Species that are Rare within the Regional Municipality of Peel/Town of Caledon, even though they may not be Provincially Rare. | Plants - Yes, with threshold<br>Wildlife - Yes, without threshold | Plants: It is recommended that Varga *et. al.,* 2005 be used to determine what species are rare in the Region of Peel and Town of Caledon.<br><br>Wildlife: It is recommended that a composite TRCA/CVC list be prepared. However, CVC only has a list of species of conservation concern for birds, and that list is dated.<br><br>Note: In addition, the significant species lists in Appendix A of the ORMCP TP6 should apply to areas on the ORM and should be considered during development of a wildlife list. | No | No. | Plants: Confirmed. According to Varga et al (2000), the Foxglove Beardtongue and Red Pine are rare within the Region of Peel.<br>Wildlife: Confirmed. According to the TRCA fauna list (2019), the Wood Frog (L2) is a regionally rare species and was heard calling during amphibian surveys within the Study Area. The American Woodcock (L3) is also a regionally rare species and was heard calling within the study area during amphibian surveys. Midland Painted Turtle (L3) is also a regionally rare species and was observed during field investigations in the SAS1-1 pond. |

| Significant Wildlife Habitat (SWH) Criteria | Recommended for Peel and/or Caledon? | Recommended Thresholds (where applicable) | Can it be mapped on a jurisdictional-wide level with existing information? | Ecoregion 6E Criteria? (Y/N) | Presence of Candidate/Confirmed Habitat on the Subject Property and Adjacent Lands (within 120 m) |
|---|---|---|---|---|---|
| C7. Species that are subjects of Recovery Programs | Yes | This criterion applies to species that are designated as Threatened, Endangered or Extirpated by COSEWIC but not Special Concern, Threatened or Endangered in Ontario. In the Region of Peel or Town of Caledon as of April 2009, this applies to:<br>Rapids Clubtail, the Great Lakes/St. Lawrence- Canadian Shield population of Western Chorus Frog, Common Nighthawk, Whip-poor-will, Chimney Swift, Olive-sided Flycatcher, and Canada Warbler.<br><br>Habitats that support any of these species in the Region or Town should be considered SWH. In addition, if any other species are subject to other recovery programs (such as Black Duck), habitats for these species should also be considered SWH.<br><br>Note: COSEWIC and OMNR websites should be checked regularly to ensure that the list of species that qualify for protection under criterion C7 is up-to-date. | No | No. | No potential.<br><br>Although the Western Chorus Frog has the potential to occur in the study area, it was not observed during amphibian call surveys at this site. No other species that meet this criterion have the potential to occur in the study area. |
| C8. Species considered important to the Region of Peel/Town of Caledon, based on recommendations from a Local Conservation Advisory Committee. | Yes | No list of species is being recommended since no Conservation Advisory Committee currently exists in Peel or Caledon. However, this criterion is recommended should a list of species ever be developed for the Region or Town.<br><br>Note: The term 'Conservation Advisory Committee' was taken verbatim from the Significant Habitat Technical Guide (OMNR 2000). It generically describes a committee with membership of knowledgeable naturalists familiar with conditions and biota in the jurisdiction. Some Environmental Advisory Committees possibly fall into this category although typically their role is to review planning submissions and they may not have the necessary field knowledge, or mandate to develop such specific lists. It is expected that a Conservation Advisory Committee would be aware of and consult status lists prepared by local conservation authorities but would have the knowledge base to refine the use of such lists. | No | No. | There has not been a list of species developed yet therefore the Significant Wildlife Habitat for this criterion cannot be determined. |
| **D. Animal Movement Corridors** | | | | | |
| Includes amphibian and White-tailed Deer movement corridors as well as more general animal and plant movement corridors. | Yes | Thresholds for this criterion need to be developed in accordance with the Region's Greenlands System framework for both the Region of Peel and Town of Caledon and should incorporate three scales of corridors, as follows:<br>• Primary (e.g., Niagara Escarpment)<br>• Secondary (e.g., major river valleys)<br>• Tertiary corridors (e.g., hedgerows)<br><br>Note: While primary and secondary corridors can likely be identified and mapped at the municipal wide scale, tertiary corridors will likely need to be identified through site-specific studies, although guidelines for their identification could be addressed in policy. | Yes, but without thresholds | Yes. | See Ecoregion 6E table. |
| ACRONYMS USED IN TABLE: COSEWIC ~Committee on the Status of Endangered Wildlife in Canada; COSSARO ~Committee on the Status of Species at Risk in Ontario; CVC ~Credit Valley Conservation; NHIC ~Natural Heritage Information Centre; ORM ~Oak Ridges Moraine; O.MNR ~Ontario Ministry of Natural Resources; ORMCP TP2 ~Oak Ridges Moraine Conservation Plan Technical Paper 2- Significant Wildlife Habitat (Queen's Printer for Ontario 2007a); ORMCP TP6 ~ Oak Ridges Moraine Conservation Plan Technical Paper 6- Identification of Significant Portions of Habitat for Endangered, Rare and Threatened Species (Queen's Printer for Ontario 2007b) | | | | | |