

Appendix C
Wildlife Habitat Assessment Tables

Table C- 1: Significant Wildlife Habitat Assessment for Seasonal Concentration Areas of Animals

SEASONAL CONCENTRATION AREAS OF ANIMALS								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck; Wood Duck; Green-winged Teal; Blue-winged Teal; Mallard; Northern Pintail; Northern Shoveler; American Wigeon; Gadwall	<u>Cultural Meadow</u> – CUM1 <u>Cultural Thicket</u> – CUT1 or THD Plus, evidence of annual spring flooding from melt water or run-off within these ecosites	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Fields with sheet water during Spring (mid-March to May). Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH. <u>Confirmed SWH Criteria</u> <ul style="list-style-type: none"> 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.” Any mixed species aggregations of 100 or more individuals required. The area of the flooded field ecosite habitat plus a 100-300 m radius buffer dependent on local site conditions and adjacent land use is the significant wildlife habitat. 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). 	The Project does not provide suitable terrestrial habitat for waterfowl stopover and staging areas. The Project footprint and Study Area is situated within an industrial area within limited meadow and thicket communities which would be too small to support large aggregations of waterfowl. This habitat type is considered not present.	N	N	N	N
Waterfowl Stopover and Staging Areas (Aquatic)	Canada Goose; Cackling Goose; Snow Goose; American Black Duck; Northern Pintail; Northern Shoveler; American Wigeon; Gadwall; Green-winged Teal; Blue-winged Teal; Hooded Merganser; Common Merganser; Lesser Scaup; Greater Scaup; Long-tailed Duck; Surf Scoter; White-winged Scoter; Black Scoter; Ring-necked Duck; Common Goldeneye; Bufflehead; Redhead; Red-breasted Merganser; Brant; Canvasback; Ruddy Duck	<u>Shallow Marsh</u> – MAS1, MAS2, MAS3 <u>Shallow Water</u> – SAS1, SAM1, SAF1 <u>Swamp</u> – SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and stormwater ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) <u>Confirmed SWH Criteria</u> <p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> Aggregations of 100 or more individuals of listed species for 7 days, results in >700 waterfowl use days. Areas with annual staging of Ruddy Ducks, Canvasbacks, and Redheads are SWH The combined area of the ELC ecosites and a 100-m radius area is the SWH Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” 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). 	Field studies completed for the Project identified shallow marsh and water communities upstream of the existing Trenton Lock 1 Dam. None of the indicator species considered for this habitat type were documented within the wetland communities during any of the field studies completed for the Project. Canada Geese were observed flying overhead during most surveys, but were not using the area as a stopover or staging area. This habitat type is considered not present.	N	N	N	N

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Shorebird Migratory Stopover Area	Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Purple Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy, Turnstone, Sanderling, Dunlin	<u>Beach/Bar</u> – BB01, BB02, BBS1, BBS2, BBT1, BBT2 <u>Sand Dune</u> – SD01, SDS2, SDT1 <u>Meadow Marsh</u> – MAM1, MAM2, MAM3, MAM4, MAM5	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. 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. Stormwater retention ponds and sewage lagoons are not considered SWH. <u>Confirmed SWH Criteria</u> Studies confirming: <ul style="list-style-type: none"> 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) Whimbrel stop briefly (<24 hrs.) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. The area of significant shorebird habitat includes the mapped ELC ecosites plus a 100-m radius area Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	Although the Project is situated along the Trent River, the requisite ecosites for this habitat type to be considered significant are not present. Field studies completed for the Project, which included 23 consecutive surveys between May 31-June 23, did not confirm the presence of any indicator species. This habitat type is considered not present.	N	N	N	N
Raptor Wintering Area	Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl <u>Special Concern:</u> Short-eared Owl, Bald Eagle	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; <u>Forest</u> – FOD, FOM, FOC <u>Upland (Cultural)</u> – CUM, CUT, THD, CUS, CUW. <u>Bald Eagle:</u> Forest/Swamp series on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area). <u>Forest</u> – FOD, FOM, FOC <u>Swamp</u> – SWD, SWM, or SWC	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites need to be >20 ha with a combination of forest and upland Least disturbed sites, idle/fallow or lightly grazed field/meadow with adjacent woodlands <u>Confirmed SWH Criteria</u> Studies confirm the use of these habitats by: <ul style="list-style-type: none"> One or more Short-eared Owls At least 10 individuals and two spp. of the listed spp. 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. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	The combination of forest (FOD3-1 and FOD8-1) and upland meadow communities found within and immediately surrounding the Project does not meet the size criteria (i.e., >20 ha) for consideration as SWH. Furthermore, there were no indicator species confirmed during the field studies completed for the Project. This habitat type is considered not present.	N	N	N	N

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	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	Carried Forward to DIA (Y/N)
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	<p><u>Crevice and Cave</u> – CCR1, CCR2, CCA1, CCA2</p> <p><u>Note:</u> buildings are not considered to be SWH.</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Hibernacula may be found in abandoned caves, horizontal mine shafts (adits), abandoned underground foundations and areas of limestone bedrock with solution channels known as Karsts. The locations and site characteristics of bat hibernacula are relatively poorly known. <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The area includes 1000-m radius around the entrance of the hibernaculum. Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Guideline for Wind Power Projects Potential Impacts to Bats and Bat Habitats” If a SWH is determined for Bat Hibernacula then Movement Corridors are to be considered 	The field studies completed for the Project identified an old concrete structure within the woodland south of the Project. This structure includes two large concrete walls; there did not appear to be a foundation. This structure is not considered to be suitable as bat hibernacula. This habitat type is considered not present.	N	N	N	N
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	<p>Maternity colonies considered SWH are found in forested/Swamp Ecosites.</p> <p><u>Forest</u> – FOD, FOM</p> <p><u>Swamp</u> – SWD, SWM</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternal colonies can be found in tree cavities, vegetation and often in buildings (although buildings are not considered SWH). Note: Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature (dominant trees >80 years old) deciduous or mixed forest stands with >10/ha large diameter (>25 cm dbh) wildlife trees. Female Bats prefer wildlife trees (snags) of decay class 1 or 2 or class 2-4, can be living or with bark mostly intact. Northern Myotis prefer contiguous tracts of older forest cover for foraging and roosting in snags and trees Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> Maternity colonies with confirmed use by: <ul style="list-style-type: none"> >20 Northern Myotis >10 Big Brown Bats >20 Little Brown Myotis >5 Adult female Silver-haired Bats The area of the habitat includes the entire woodland or the forest stand ELC Ecosite containing the maternity colony. Evaluation methods for maternity colonies should be conducted following methods outlined in the “Guideline 	A bat habitat assessment was completed for the Project (detailed in the Terrestrial Field Report (Hatch, 2017)). The assessment identified several potential snag trees within the woodlands north and south of the Project. These snag trees are located outside of the Project footprint but within the Study Area. Visual exit/entry surveys for bats were also conducted within the woodland to the north per recommendations from MNRF. There were no bats observed within that woodland. However, bats were observed aerial foraging near the woodland south of the Project during the surveys completed between May 31 – June 23, 2017. Bats were not observed every night and when they were observed, it was typically one or two bats. There were only two nights where up to six bats were observed at one time. All bats were observed foraging in the same area, near the trail and meadow communities adjacent to the woodland along the southern boundary of the Project. It's possible that the	Y (foraging)	Y (assumed present for maternity colonies)	Y (assumed)	Y

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			for Wind Power Projects Potential Impacts to Bats and Bat Habitats”	bats are only using the Project footprint for foraging, however, an assumption will be made that the southern woodland (FOD8-1) provides maternity colony habitat. This habitat type will be assumed present, along with the foraging habitat.				
Turtle Wintering Areas	Midland Painted Turtle <u>Special Concern:</u> Northern Map Turtle, Snapping Turtle	Snapping and Midland Painted Turtles <u>Swamp</u> – SW <u>Marsh</u> – MA <u>Open Water</u> – OA <u>Shallow Water</u> – SA <u>Open Fen</u> – FEO <u>Open Bog</u> – BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent waterbodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. <u>Confirmed SWH Criteria</u> <ul style="list-style-type: none"> Presence of 5 or more over-wintering Midland Painted Turtles is significant. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. 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. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sep. – Oct) or spring (Mar. - April). Congregation of turtles is more common where wintering areas are limited and therefore significant. 	The wetland area (MAS2-1 and SAS1) located approximately 100 north of the proposed powerhouse and within the Study Area is identified as having potential overwintering habitat. This habitat type is assumed present.	N	Y (assumed)	Y (assumed)	Y
Reptile Hibernacula	Eastern Gartersnake, Northern Watersnake, Northern Red-bellied Snake, Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake <u>Special Concern:</u> Milksnake, Eastern Ribbonsnake <u>Lizard: Special Concern</u> (Southern Shield population): Five-lined Skink	Habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural locations. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. <u>Confirmed SWH Criteria</u> Studies confirming: <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. 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 	Potential reptile hibernacula has been identified within the woodland (FOD8-1) along the southern boundary of the Project. A large concrete structure is found in this area and may provide access to subterranean burrows suitable for overwintering. Field studies completed for the Project have confirmed the presence of Eastern Gartersnakes in this woodland. Several northern watersnakes have been observed within the Project footprint along the shoreline. Field studies will be completed in the fall in search for aggregations of snakes. As the probability of finding hibernacula sites are generally low, an assumption will be	N	Y (assumed)	Y (assumed)	Y

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			<p>sunny warm days in Spring (Apr/May) and Fall (Sept/Oct).</p> <ul style="list-style-type: none"> Note: If there are Special Concern species present then the site is SWH. 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. Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. As such, the feature in which the hibernacula is located plus a 30-m radius buffer is the SWH. Presence of any active hibernaculum for skink is significant. The ELC Ecosite polygon containing the skink hibernacula is the SWH. 	made that this habitat type is present within the southern woodland.				
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough – Winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies).	<p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites:</p> <p><u>Cultural Meadow</u> – CUM1</p> <p><u>Cultural Thicket</u> – CUT1, THD</p> <p><u>Cultural Savannah</u> – CUS1</p> <p><u>Bluff</u> – BLO1, BLS1, BLT1</p> <p><u>Cliff</u> – CLO1, CLS1, CLT1</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, and soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more Cliff Swallow pairs or 50 Bank Swallow pairs and Rough-Winged Swallow pairs during the breeding season. A colony identified as SWH will include a 50-m radius habitat area from the peripheral nests Field surveys to observe and count swallow nests are to be completed during the breeding season (May-July). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	Both cultural thicket and bluff ecosites were confirmed to be present within and immediately surrounding the Project. Several Northern Rough-Winged Swallows were observed foraging near the existing Trenton Lock 1 Dam but no nests were observed. It is possible that this species is only utilizing the Project area for foraging only. This habitat type will be considered not present. However, the DIA will include mitigation measures to address potential effects to birds and nests. Therefore, in the event that this habitat type is discovered during construction, appropriate measures will already be recommended.	N	N	N	N
Colonially – Nesting Bird Breeding Habitat (Trees/Shrubs)	Great Blue Heron, Black-crowned Night- Heron, Great Egret, Green Heron	<p><u>Swamp</u> – SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7</p> <p><u>Fen</u> – FET1</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 5 or more active nests of Great Blue Heron The edge of the colony and a minimum 300 m area of habitat or extent of the Forest Ecosite containing the colony or any island <15.0 ha with a colony is the SWH 	Field studies completed for the Project did not identify any nests or heronries for the indicator species associated with this habitat type. There were observations of the great-Blue Heron, Black-crowned Night-Heron and Green Heron foraging within the wetlands upstream of the existing Trenton Lock 1 Dam, within the Project Study Area. As there were no nests observed, this	N	N	N	N

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			<ul style="list-style-type: none"> Confirmation of active heronries must 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. 	habitat type is considered not present.				
Colonially – Nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer’s Blackbird	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river.</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird).</p> <p><u>Meadow Marsh</u> – MAM1, MAM2, MAM3, MAM4, MAM5, MAM6</p> <p><u>Shallow Marsh</u> – MAS1, MAS2, MAS3</p> <p><u>Cultural Meadow</u> – CUM</p> <p><u>Cultural Thicket</u> – CUT, THD</p> <p><u>Cultural Savannah</u> – CUS</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Nesting colonies of gulls and terns are on islands or peninsulas (natural or artificial) associated with open water or in marshy areas, lakes or large rivers (two-lined on a 1: 50,000 NTS map). Brewers Blackbird colonies are found loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirming:</p> <ul style="list-style-type: none"> 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 Presence of 5 or more pairs for Brewer’s Blackbird. Any active nesting colony of one or more Little Gull and Great Black-backed Gull is significant The edge of the colony and a minimum 150 m 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. Studies would be done during May/June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” 	Potential habitat for gulls and terns was considered for the wetlands upstream of the existing Trenton Lock 1 Dam, within the Project Study Area. While there were observations of the Ring-billed Gull as flying over the Project, nesting activity was not confirmed. This habitat type is considered not present.	N	N	N	N
Migratory Butterfly Stopover Areas	Painted Lady, Red Admiral Special Concern: Monarch	<p>Combination of ELC Community Series; need to have present one Community Series from each land class: Field and Forest</p> <p><u>Cultural Meadow</u> – CUM</p> <p><u>Cultural Thicket</u> – CUT, THD</p> <p><u>Cultural Savannah</u> – CUS</p> <p><u>Forest</u> – FOC, FOD, FOM</p> <p><u>Cultural Plantation</u> – CUP</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> 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 Ontario The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south 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 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 <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). 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 between years and multiple years of sampling should occur. 	The site is > 5 km away from Lake Ontario and Lake Erie. Therefore, this habitat type is considered to be not present.	N	N	N	N

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		Anecdotal, a candidate site for butterfly stopover will have a history of butterflies being observed.	<ul style="list-style-type: none"> MUD of >5000 or >3000 with the presence of Painted Ladies or White Admiral's is to be considered significant 					
Landbird Migratory Stopover Areas	<p>All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1</p> <p>All migrant raptors species: Ontario Ministry of Natural Resources: <i>Fish and Wildlife Conservation Act</i>, 1997. Schedule 7: Specially Protected Birds (Raptors).</p>	<p>All Ecosites associated with these ELC Community Series;</p> <p><u>Forest</u> – FOC, FOM, FOD</p> <p><u>Swamp</u> – SWC, SWM, SWD</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Woodlots need to be >10 ha in size and within 5 km of Lake Ontario Woodlands <2km from Lake Ontario are more significant Sites have a variety of habitats; forest, grassland and wetland complexes The largest sites are more significant Woodlots and forest fragments are important habitats to migrating birds, these features located along the bank and located within 5 km of Lake Ontario are Candidate SWH <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> Use of the woodlot 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. Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	The site is > 5 km away from Lake Ontario. Therefore, this habitat type is considered to be not present.	N	N	N	N
Deer Yarding areas	White-tailed Deer	<p>ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Deer wintering 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 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. The Core of a deer yard (Stratum I) is located within Stratum II 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% MNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual" 	MNRF typically knows where the deer yarding areas are in southern Ontario. The desktop study did not identify any deer yarding areas within the Project footprint or Study Area. The woodlands within the Project footprint and Study Area are unlikely to provide suitable habitat for deer in the winter. This habitat type is considered not present.	N	N	N	N

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Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
			<ul style="list-style-type: none"> Woodlots with high densities of deer due to artificial feeding are not significant <p><u>Confirmed SWH Criteria</u> No Studies Required.</p> <ul style="list-style-type: none"> Generally, there will be a history of traditional use of the yard by deer, although deer do move to other areas over the course of time if conditions in the yard change or due to societal impacts (i.e. artificial deer feeding). There may be circumstances where deer have recently moved to new areas. Deer Yards are mapped by MNRF District offices. Locations of Core (Stratum 1) and Stratum 2 deer yards considered significant by MNRF will be available at local MNRF offices. 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. If a SWH is determined for Deer Wintering Area or if a proposed development is within a Stratum II yarding area, then Movement Corridors are to be considered 					
Deer Winter Congregation Areas	White-tailed Deer	<p>All Forested Ecosites with these ELC Community Series;</p> <p><u>Forest</u> – FOC, FOM, FOD</p> <p><u>Swamp</u> – SWC, SWM, SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Woodlots need to be >100 ha in size. Deer movement during winter in the southern areas of Eco-region 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. 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 Woodlots with high densities of deer due to artificial feeding are not significant <p><u>Confirmed SWH Criteria</u> No Studies Required.</p> <ul style="list-style-type: none"> Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF 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. Studies should be completed during winter (Jan/Feb) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys or a pellet count deer density survey. 	MNRF typically knows where deer winter congregation areas are in southern Ontario. The desktop study did not identify this habitat type within the Project footprint or Study Area. Furthermore, the woodlands within the Project footprint and Study Area do not meet the size criteria for consideration as SWH. This habitat type is considered not present.	N	N	N	N

Table C- 2: Significant Wildlife Habitat Assessment for Rare Vegetation Communities

RARE VEGETATION COMMUNITIES								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH			Carried Forward to DIA (Y/N)	
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area		Significant (Y/N)
Cliffs and Talus Slopes	N/A	Any ELC Ecosite within Community Series: <u>Talus</u> – TAO, TAS, TAT <u>Cliff</u> – CLO, CLS, CLT Most cliff and talus slopes occur along the Niagara Escarpment.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris Most cliff and talus slopes occur along the Niagara Escarpment. <u>Confirmed SWH Criteria</u> <ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Cliffs or Talus Slopes 	This vegetation community was not identified within the Project footprint or Study Area. Therefore, this habitat type is not present.	N	N	N	N
Sand Barren	N/A	<u>Sand Barren</u> – SBO1, SBS1, SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < 60%. A sand barren area >0.5 ha in size.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Any sand barren area, no minimum size. Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. 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%. <u>Confirmed SWH Criteria</u> <ul style="list-style-type: none"> Sand Barrens containing any characteristic plant species should be considered significant. ELC Ecosite Area for the sand barren is the SWH Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics) 	This vegetation community was not identified within the Project footprint or Study Area. Therefore, this habitat type is not present.	N	N	N	N
Alvar	1)Carex crawei 2)Panicum philadelphicum 3)Eleocharis compressa 4)Scutellaria parvula 5)Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 6E	<u>Alvar</u> – ALO1, ALS1, ALT1 <u>Coniferous Forest</u> – FOC1, FOC2 <u>Cultural Meadow</u> – CUM2 <u>Cultural Savannah</u> – CUS2 <u>Cultural Thicket</u> – CUT2-1 <u>Cultural Woodland</u> – CUW2 An Alvar site > 0.5 ha in size.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> An Alvar site > 0.5 ha in size 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 may be complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. <u>Confirmed SWH Criteria</u> <ul style="list-style-type: none"> Field studies identify one or more of the 6E Plant Indicator species Site must not be dominated by exotic or introduced species (<50%). The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses 	This vegetation community was not identified within the Project footprint or Study Area. Therefore, this habitat type is not present.	N	N	N	N

RARE VEGETATION COMMUNITIES								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Old Growth Forest	N/A	Forest – FOD, FOC, FOM Swamp – SWD, SWC, SWM Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> • Stands 30 ha or greater in size or with at least 10 ha interior habitat assuming 100-m buffer at edge of forest • Old Growth forests are characterized by exhibiting the greatest number of old-growth characteristics, such as mature forest with large trees that has been undisturbed. 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. <p><u>Confirmed SWH Criteria</u></p> <p>Field Studies will determine:</p> <ul style="list-style-type: none"> • If dominant trees species of the ecosite are >140 years old, then stand is Significant Wildlife Habitat • The stand will have experienced no recognizable forestry activities • The area of Forest Ecosites combined to make up the stand is the SWH 	This vegetation community was not identified within the Project footprint or Study Area. Therefore, this habitat type is not present.	N	N	N	N
Savannah	N/A	Tallgrass Savannah – TPS1, TPS2 Tallgrass Woodland – TPW1, TPW2 Cultural Savannah – CUS2	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> • No minimum size to site though remnant sites such as railway right of ways are not considered to be SWH • Site must be restored or a natural site • A Savannah is related to tallgrass prairie, but includes trees, which vary from 25 – 60% canopy cover. The open areas between the trees are dominated by prairie species, while forest species are found beneath the tree canopy. <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> • Field studies confirm one or more of the Savannah indicator species listed in SWHTG Appendix N should be present. • Note: Savannah plant spp. list from Ecoregion 6E should be used • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species. 	This vegetation community was not identified within the Project footprint or study area. Therefore, this habitat type is not present.	N	N	N	N

RARE VEGETATION COMMUNITIES								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Tallgrass Prairie	N/A	Open Tallgrass Prairie – TPO1, TPO2	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> 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. Tallgrass Prairie is an open vegetation with less than <25% tree cover, and dominated by prairie species, including grasses. <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> Field studies confirm one or more of the Tallgrass Prairie Indicator Species listed (used Eco-Region 6E in Appendix N) is a SWH. Area of the ELC Ecosite is the SWH. Site must not be dominated (e.g. <50%) by exotic or introduced species. 	This vegetation community was not identified within the Project footprint or Study Area. Therefore, this habitat type is not present.	N	N	N	N
Other Rare Vegetation Communities	N/A	<p><u>S1 – Extremely rare</u> – usually 5 or fewer occurrences in the province, or very few remaining hectares.</p> <p><u>S2 – Very rare</u> – usually between 5 and 20 occurrences in the province, or few remaining hectares.</p> <p><u>S3 – Rare to uncommon</u> – usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.</p> <p>Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps. ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. The MNRF/NHIC will have up to date listing for rare vegetation communities. <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG Area of the ELC Vegetation Type polygon is the SWH. 	All vegetation communities within the Project footprint and Study Area are common to the area. Therefore, this habitat type is not present.	N	N	N	N

Table C- 3: Significant Wildlife Habitat Assessment for Specialized Habitat for Wildlife

SPECIALIZED HABITAT FOR WILDLIFE								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Waterfowl Nesting Area	American Black Duck, Northern Pintail Northern Shoveler Gadwall, Blue-winged Teal, Green-winged Teal Wood Duck,	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH.	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> A waterfowl nesting area extends 120 m from a wetland (>0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m or a cluster of 3 or more small (<0.5 ha) 	Field studies completed for the Project identified shallow marsh and water communities upstream of the existing Trenton Lock 1 Dam. Of the indicator species considered for this habitat type, only one Mallard was observed. There were no waterfowl nests observed	N	N	N	N

SPECIALIZED HABITAT FOR WILDLIFE								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	Carried Forward to DIA (Y/N)
	Hooded Merganser, Mallard	<p><u>Shallow Marsh</u> – MAS1, MAS2, MAS3</p> <p><u>Shallow Water</u> – SAS1, SAM1, SAF1</p> <p><u>Meadow Marsh</u> – MAM1, MAM2, MAM3, MAM4, MAM5, MAM6</p> <p><u>Swamp</u> – SWT1, SWT2, SWD1, SWD2, SWD3, SWD4</p> <p>Note: includes adjacency to Provincially Significant Wetlands.</p>	<p>wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as Raccoons, Skunks, and foxes have difficulty finding nests. Wood Ducks, and Hooded Mergansers utilize large diameter trees (>40 cm) in woodlands for cavity nest sites. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirmed:</p> <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. 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" 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 wetland and will provide enough habitat for waterfowl to successfully nest. 	during the field studies. This habitat type is considered not present.				
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey <u>Special Concern Species</u> Bald Eagle	<p><u>Forest</u> – FOD, FOM, FOC</p> <p><u>Swamp</u> – SWD, SWM, SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands).</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Nests are associated with lakes, ponds, rivers or wetlands along treed shorelines, islands, or on structures over water. Osprey nests are usually at the top of a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects such as telephone or hydro poles will not normally be considered as SWH, however the MNRF District retains discretion regarding significance of constructed nesting platforms. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirm:</p> <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Considered SWH if the nest has been used or suspected of use within the past 5 years; unless documented that the nest and other associated nests in the nesting area have been unoccupied within the past 3 consecutive years by Osprey or Bald Eagle: Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. 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 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- 	Field studies completed for the Project did not identify any Osprey or Bald Eagle nests. An incidental observation of an osprey was observed during one of the site visits, flying over the Project. This habitat type is considered not present.	N	N	N	N

SPECIALIZED HABITAT FOR WILDLIFE								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	Carried Forward to DIA (Y/N)
			<p>800 m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat.</p> <ul style="list-style-type: none"> Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 					
Woodland Raptor Nesting Habitat	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	<p>May be found in all forested ELC Ecosites. May also be found in:</p> <p><u>Swamp</u> – SWD, SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands) SWM</p> <p><u>Coniferous Plantations</u> – CUP3</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> All natural or conifer plantation woodland/forest stands >30 ha with 10 ha of interior habitat. 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. In disturbed sites, nests may be used again, or a new nest may be in close proximity to old nest. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more occupied nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400-m radius around the nest or 28 ha of suitable habitat is the SWH. Barred Owl – A 200-m radius around the nest is the SWH. Broad-winged Hawk, Coopers Hawk, Great Horned Owl, Red-tailed Hawk – A 100-m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50-m radius around the nest is the SWH. 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. 	There are no natural or conifer plantation woodland/forest stands > 30 ha with >4 ha of interior habitat within the Project footprint or Study Area. This habitat type is considered not present.	N	N	N	N
Turtle Nesting Areas	Midland Painted Turtle <u>Special Concern Species:</u> Northern Map Turtle Snapping Turtle	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100 m)</p> <p><u>Shallow Marsh</u> – MAS1, MAS2, MAS3</p> <p><u>Shallow Water</u> – SAS1, SAM1, SAF1</p> <p><u>Open Bog</u> – BOO1</p> <p><u>Open Fen</u> – FEO1</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from Skunks, Raccoons or other animals. 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. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100 m 	Site investigations confirmed the presence of Midland Painted Turtle, Northern Map Turtle, Snapping Turtle and Eastern Musk Turtle within the Study Area, but not within the Project Area. Of these species nesting was confirmed for Northern Map Turtle and Snapping Turtles upstream of Trenton Lock 1 Dam (as detailed in the Terrestrial Survey Report Appendix D4), Gravel/sandy areas within the Project footprint may also support nesting turtles, although nesting was not confirmed during field studies. This habitat is present and considered significant within the wetlands upstream of the existing Trenton Lock 1 Dam, north of the proposed new temporary road access (north). Potential habitat within the Project footprint will also be considered present but not significant, to ensure mitigation measures are in place should nesting be discovered during construction.	Y (assumed)	Y (confirmed)	Y (within Study Area only)	Y

SPECIALIZED HABITAT FOR WILDLIFE								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
			<p>around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH.</p> <ul style="list-style-type: none"> Travel routes from wetland to nesting area are to be considered within the SWH. One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. Field investigations should be conducted in prime nesting season typically late spring to early summer. 					
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species <p><u>Confirmed SWH Criteria</u></p> <p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of a site with 2 or more seeps/springs should be considered SWH. The area of ELC forest ecosite containing the seeps/springs is the SWH. The protection of the function of the feature considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat 	There were no seeps or springs documented within or immediately surrounding the Project footprint. This habitat is considered not present.	N	N	N	N
Amphibian Breeding Habitat (Woodland).	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog	<p><u>Forest</u> – FOC, FOM FOD</p> <p><u>Swamp</u> – SWC SWM SWD</p>	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> Presence of a wetland, lake or pond of area >500 m² (about 25-m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). The wetland, lake or pond and surrounding forest, would be the Candidate SWH. Some small wetlands may not be mapped and may be important breeding pools for amphibians. Pools need to be present until mid-July to be used as breeding habitat. Breeding pools within the woodland or the shortest distance from forest habitat are more significant because of reduced risk to migrating amphibians and more likely to be used. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat <p><u>Confirmed SWH Criteria</u></p> <p>Studies confirm;</p> <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed species with at least 20 individuals (adults, juveniles, eggs/larval masses) The habitat is the woodland (ELC polygons) and wetland (ELC polygons) combined. A travel corridor connecting the woodland and wetland polygons is to be included within the habitat. An observational study to determine breeding/larval stages will be required during the spring (Apr-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland 	Amphibian call surveys were completed within the wetlands upstream of the existing Trenton Lock 1 Dam. During all surveys, only a few Green Frogs were heard calling in the wetlands. Only a few Gray Treefrogs were heard calling at least 500 m north of these wetlands. A few Gray Treefrogs were also heard calling south of the southeast boundary of the Project near Chester Road. These Gray Treefrogs were at least 300 m from the Project. As only a few Gray Treefrogs were heard calling within the Study Area, this habitat type is considered not significant. However, mitigation measures will be included as part of the DIA to address the potential for these frogs to occur within the Project.	N	N	N	N

SPECIALIZED HABITAT FOR WILDLIFE								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Amphibian Breeding Habitat (Wetlands)	Eastern Newt, American Toad Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog	Typically, these wetland ecosites will be isolated (>120 m) from woodland ecosites, however, larger wetlands containing predominantly aquatic species (e.g., Bullfrog) may be adjacent to woodlands. Swamp – SW Marsh – MA Fen – FE Bog – BO Open Water – OA Shallow Water – SA	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Wetlands and pools (including vernal pools) >500 m² (about 25-m diameter) isolated from woodlands (>120 m), 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. 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. Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Confirmed SWH Criteria</u> Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed salamander species or 3 or more of the listed frog or toad species with at least 20 breeding individuals (adults, juveniles, eggs/larval masses) or Wetland with confirmed breeding Bullfrogs is significant. The ELC ecosite area and the shoreline are the SWH. Surveys to confirm breeding to be completed during spring (Apr to June) when amphibians are migrating, calling and breeding within the wetland habitats. If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Amphibian Movement Corridors are to be considered (see Table 3.10, Animal Movement Corridors). 	Amphibian call surveys were completed within the wetlands upstream of the existing Trenton Lock 1 Dam. During all surveys, only a few Green Frogs were heard calling in the wetlands and one Bullfrog. Only a few Gray Treefrogs were heard calling at least 500 m north of these wetlands. A few Gray Treefrogs were also heard calling south of the southeast boundary of the Project near Chester Road. These Gray Treefrogs were at least 300 m from the Project. As a Bullfrog was confirmed within the wetlands upstream of the Project, this habitat type will be considered present.	N	Y	Y	Y
Woodland Area-Sensitive Bird Breeding Habitat	Yellow-bellied Sapsucker, Red-breasted Nuthatch, Veery Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler	All Ecosites associated with these ELC Community Series: Forest – FOC, FOM FOD Swamp – SWC SWM SWD	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30 ha Interior forest habitat is at least 100 m from forest edge habitat. <u>Confirmed SWH Criteria</u> Field Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 	The woodlands (FOD3-1 and FOD8-1) within and immediately surrounding the Project do not meet the size criteria (i.e., >30 ha) for consideration as SWH. These woodlands do not provide interior forest habitat. This habitat type is considered not present.	N	N	N	N

Table C- 4: Significant Wildlife Habitat Assessment for Habitat for Species of Conservation Concern

HABITAT FOR SPECIES OF CONSERVATION CONCERN								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH			Carried Forward to DIA (Y/N)	
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area		Significant (Y/N)
Marsh Breeding Bird Habitat	American Bittern, Virginia Rail Sora, Common Moorhen, American Coot Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Green Heron, Trumpeter Swan <u>Special Concern:</u> Black Tern Yellow Rail	<u>Marsh</u> – MAM1-6 <u>Shallow Water</u> – SAS1, SAM1, SAF1 <u>Fen</u> – FEO1 <u>Bog</u> – BOO1 For Green Heron: All SW, MA and CUM1 sites.	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. 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. <u>Confirmed SWH Criteria</u> Studies confirm: <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species. Note: any wetland with breeding of 1 or more Trumpeter Swans, Black Terns, Green Heron or Yellow Rail is SWH Area of the ELC ecosite is the SWH Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” 	Field studies completed for the Project did not identify any marsh bird nests for the indicator species associated with this habitat type. A Green Heron was observed during one of the site visits foraging within the wetlands upstream of the existing Trenton Lock 1 Dam, within the Project Study Area. As there were no nests observed, this habitat type is considered not present. However, mitigation for the Project related to birds and their nests and wetlands would apply to this habitat type should it be discovered during construction.	N	N	N	N
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper, Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow <u>Special Concern:</u> Short-eared Owl	<u>Cultural Meadow</u> – CUM1, CUM2	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Large grasslands areas (includes natural and cultural fields and meadows) >30 ha. Field/meadow 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). Field/meadow sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The indicator bird species are area sensitive requiring larger field/meadow areas than the common field/meadow species. <u>Confirmed SWH Criteria</u> Field Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding of 2 or more of the listed species. A field with 1 or more breeding Short-eared Owls is to be considered SWH. The area of SWH is the contiguous ELC ecosite field areas. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” 	Site investigations confirmed that grassland areas >30 ha with a history of longevity do not exist within the Project footprint or Study Area. Therefore, this habitat type is considered not present.	N	N	N	N
Shrub/Early Successional Bird Breeding Habitat	<u>Indicator Spp:</u> Brown Thrasher, Clay-coloured Sparrow, <u>Common Spp.</u> Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher	<u>Cultural Thicket</u> – CUT1, CUT2, THD <u>Cultural Savannah</u> – CUS1, CUS2 <u>Cultural Woodland</u> – CUW1, CUW2 Patches of shrub ecosites can be complexed into a	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> Large field areas succeeding to shrub and thicket habitats >10 ha in size. 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). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. 	Field studies identified cultural thicket communities within the Project footprint and Study Area. These communities do not meet the size criteria (i.e., >10 ha) to be considered as SWH. Therefore, this habitat type is considered not present.	N	N	N	N

HABITAT FOR SPECIES OF CONSERVATION CONCERN								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
	<u>Special Concern:</u> Yellow-breasted Chat Golden-winged Warbler	larger habitat for some bird species.	<u>Confirmed SWH Criteria</u> Field Studies confirm: <ul style="list-style-type: none"> • Presence of nesting or breeding of 1 indicator species and at least 2 of the common species. • A field with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH. • The area of the SWH is the contiguous ELC ecosite area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" 					
Terrestrial Crayfish	Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>) Devil Crayfish or Meadow Crayfish; (<i>Cambarus Diogenes</i>)	<u>Marsh</u> – MAM1-6, MAS1-3 <u>Swamp</u> – SWD, SWT, SWM	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> • Meadow and edges of shallow marshes (no minimum size) identified should be surveyed for terrestrial crayfish. • Construct burrows in marsh, mudflats, meadow the ground can't be too moist. Can often be found far from water. <u>Confirmed SWH Criteria</u> Studies Confirm: <ul style="list-style-type: none"> • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable marsh meadow or terrestrial sites. • The area of the ELC polygon is the SWH. • Surveys should be done in adult breeding season (April to late June) and in late summer-early August in nearby temporary or permanent water for juveniles. 	No terrestrial crayfish or their constructs were observed during site investigations. This habitat type is considered not present.	N	N	N	N
Rare Wildlife Species (excludes species designated as special concern as these will be addressed as SAR in Section 3.1.15.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	<u>Candidate SWH Criteria</u> <ul style="list-style-type: none"> • When an element occurrence is identified within a 1 or 10 km grid for a rare species; linking candidate habitat on the site to ELC Ecosites needs to be completed. <u>Confirmed SWH Criteria</u> Studies Confirm: <ul style="list-style-type: none"> • 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. • Habitat form and function needs to be assessed from the assessment of vegetation types and an area of significant habitat that protects the rare or special concern species identified. • 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. 	There were no rare species (i.e., S1 - S3 and SH) documented within or immediately surrounding the Project. As noted earlier, species designated as special concern will be addressed under SAR in Section 3.1.15. Special concern species confirmed during the site investigations include: Northern Map Turtle, Snapping Turtle and Eastern Musk Turtle and Common Nighthawk (also designated as Threatened under SARA).	Y	Y	Y	Y

Table C- 5: Significant Wildlife Habitat Assessment for Animal Movement Corridors

ANIMAL MOVEMENT CORRIDORS								
Habitat Type	Significant Wildlife Habitat Criteria			Assessment of SWH				Carried Forward to DIA (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Footprint (Y/N)	Within Study Area	Significant (Y/N)	
Amphibian Movement Corridors	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bullfrog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> • Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian Breeding Habitat (Wetland) is confirmed as SWH <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, roadless area, no gaps such as fields, waterways or bodies, and undeveloped areas are most significant • 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. Shorter corridors are more significant than longer corridors; however, amphibians must be able to get to and from their summer and breeding habitat 	Amphibian breeding wetland habitat has been confirmed within the wetlands upstream of the existing Trenton Lock 1 Dam. As such, amphibian movement corridors will be assumed present within the Project footprint and Study Area.	Y (assumed)	Y (assumed)	Y (assumed)	Y
Deer Movement Corridors	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	<p><u>Candidate SWH Criteria</u></p> <ul style="list-style-type: none"> • Movement corridor must be determined when Deer Winter Habitat is confirmed as SWH is confirmed to be present. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). • Corridors will be multi-functional (i.e., utilized by other mammal species). <p><u>Confirmed SWH Criteria</u></p> <ul style="list-style-type: none"> • Studies must be conducted at the time of year when deer or moose are moving to mineral licks or feeding areas (May – July). • Corridors that lead to a deer wintering yard should be unbroken by roads and residential areas • Corridors should be at least 200 m wide with gaps <20 m and if following riparian area with a minimum of 15 m of vegetation cover on both sides of the waterway. Shorter corridors are more significant than longer corridors, however cervids must be able to get to and from their habitat. 	Although the Project is found along the Trent River, the areas within the Project footprint are unlikely to be used as significant corridor, as it would require deer to cross through the river where the trail ends upstream of the existing Trenton Lock 1 Dam. This habitat is considered not present.	N	N	N	N