Appendix F Significant Wildlife Habitat Assessment

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Appendix F Significant Wildlife Habitat Assessment for the Dawn-Enniskillen Project Study Area

Seasonal Concentration Areas

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Waterfowl Stopover and Staging Area (Terrestrial)	Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (ME), Thicket (TH). Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless used by Tundra swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee Areas.	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial).	Absent. No low-lying areas to support SWH for waterfowl stopover and staging areas (terrestrial) were observed in meadows, thickets and agricultural fields in the Study Area.
Waterfowl Stopover and Staging Area (Aquatic)	The following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD). Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. The combined area of the ELC ecosites and a 100 m radius area is the SWH. Sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify.	ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic).	Absent. Suitable open water habitat to support SWH for waterfowl stopover and staging areas (aquatic) was absent Study Area.
Shorebird Migratory Stopover Area	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 amour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a significant wildlife habitat. The following community types: Meadow Marsh (MAM), shoreline (SH), or Sand Dune (SB).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support migratory shorebirds.	Absent. Suitable shoreline habitat to support large aggregations of shorebirds was absent from the Study Area.
Raptor Wintering Area	At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (ME), Thicket (TH), Savannah (SV), Woodland (WOD) (<60% cover) that are >20 ha and provide roosting, foraging and resting habitats for wintering raptors. Upland habitat (ME, TH, SV, WOD), must represent at least 15 ha of the 20 ha minimum size.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support wintering raptors.	Absent. Meadow and thickets in the Study Area were not of sufficient size to support SWH for raptor wintering areas.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and karsts. May be found in these Community Types: Crevice (CCR), Cave (CCA).	ELC surveys were used to assess features within the Study Area that may support bat hibernacula.	Absent. No suitable cave or underground habitat was observed in the Study Area to support SWH for bat hibernacula.
Bat Maternity Colonies	Maternity colonies considered significant wildlife habitat are found in forested ecosites. Either of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Coniferous Forest (FOC), Deciduous Swamp (SWD), Mixed Forest (SWM) and Coniferous Forest (SWC) that have wildlife trees >10 cm diameter at breast height (dB). Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. 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.	ELC surveys were used to assess features within the Study Area that may support bat maternity colonies. A roost tree suitability assessment was performed on trees in the Project Footprint and up to 60m from the Project Footprint.	**Potentially Present:** forest communities in the Study Area provide candidate SWH for bat maternity colonies.
Turtle Wintering Areas	Snapping and Midland Painted turtles utilize ELC community classes: Swamp (SW), Marsh (MA) and Open Water (OA). Shallow water (SA), Open Fen (FEO) and Open Bog (BOO). Northern Map turtle- open water areas such as deeper rivers or streams and lakes can also be used as over-wintering habitat. Water has to be deep enough not to freeze and have soft mud substrate. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support areas of permanent standing water but not deep enough to freeze.	**Potentially Present:** watercourses in the Study Area may provide candidate SWH for turtle wintering.
Snake Hibernacula	Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support snake hibernacula.	**Potentially Present**: Suitable features for snake hibernacula may occur in the Study Area.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (ME), Thicket (TH), Bluff (BL), Cliff (CL). Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat.	Absent. No eroding banks, steep slopes, soil piles, cliff faces, or cliff faces were observed in the Study Area during the site visit.
Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs)	Identification of stick nests in any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Treed Fen (FET). 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. Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs).	Absent. No wetland communities or stick nests were observed in the Study Area during the site visit.
Colonial-Nesting Bird Breeding Habitat (Ground)	Any rocky island or peninsula within a lake or large river. For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (ME), Thicket (TH), Savannah (SV).	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Ground).	Absent. No rocky islands or peninsulas were present in the Study Area.
Migratory Butterfly Stopover Areas	Located within 5 km of Lake Ontario. A combination of ELC communities, one from each land class is required: Field (ME, TH) and Forest (FOC, FOM, FOD). Minimum of 10 ha in size with a combination of field and forest habitat present.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support migratory butterfly stopover areas.	Absent. The Study Area is not located within 5km of Lake Ontario, and there were no suitable combination of field and forest habitat to support SWH for migratory butterfly stopover areas.
Landbird Migratory Stopover Areas	The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD). Woodlots must be >10 ha in size and within 5 km of Lake Ontario – woodlands within 2 km of Lake Ontario are more significant.	ELC surveys and GIS analysis were used to assess features within the Study Area that may support landbird migratory stopover areas.	Absent. The Study Area is not located within 5km of Lake Ontario and there were no forest communities of sufficient size to support SWH for landbird migratory stopover areas.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Deer Winter Congregation Areas	Woodlots typically >100 ha in size unless determined by the MNR as significant. (If large woodlots are rare in a planning area >50 ha). All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD. Conifer plantations much smaller than 50 ha may also be used.	No studies required as the MNR delineates this habitat.	Absent. No deer winter congregation areas were identified on MNR mapping (MNR 2025b) within the Study Area. Fox Creek Woods Wetland, occurs four kilometers from the proposed pipeline route and is mapped as a deer wintering area. Fox Creek Wood Wetland is outside of the Study Area.

Rare Vegetation Communities

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Cliffs and Talus Slopes	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris. Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT. Most cliff and talus slopes occur along the Niagara Escarpment.	ELC surveys were used to assess features within the Study Area that would be considered cliffs or talus slopes.	Absent. There were no cliff ELC Ecosites observed in the Study Area during the site visit.
Sand Barrens	Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion. Vegetation can vary from patchy and barren to tree covered but less than 60%. Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be sand barrens.	Absent. There were no sand barren ELC Ecosites observed in the Study Area during the site visit.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Alvars	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. 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 phytol- 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. Any of the following Community Types: ALO1(Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland). An Alvar site >0.5 ha in size.	ELC surveys were used to assess features within the Study Area that would be considered to be alvar communities.	Absent. There were no alvar ELC Ecosites observed in the Study Area during the site visit.
Old-growth Forest	Old-growth forests tend to be relatively undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species. No minimum size criteria t in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest). Forests greater than 120 years old and with no historical forestry management was the main criteria when surveying for old-growth forests.	ELC surveys were used to assess features within the Study Area that would be considered to be old-growth forest communities.	Absent. There were no old-growth ELC Ecosites observed in the Study Area during the site visit.
Savannahs	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be savannah communities.	Absent. There were no savannah ELC Ecosites observed in the Study Area during the site visit.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Tall-grass Prairies	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has <25% tree cover. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite).	ELC surveys were used to assess features within the Study Area that would be considered to be tall-grass communities.	Absent. There were no tall-grass prairie ELC Ecosites observed in the Study Area during the site visit.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	ELC surveys were used to assess features within the Study Area that would be considered to be other rare vegetation communities.	Absent. There were no rare ELC vegetation communities observed in the Study Area during the site visit.

Specialized Habitat for Wildlife

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4. Note: includes adjacency to Provincially Significant Wetlands.	ELC surveys were used to assess features within the Study Area that may support nesting waterfowl. Habitats adjacent to wetlands without standing water were not considered candidate SWH.	Absent. Suitable wetland habitat is absent form the Study Area.
Bald Eagle and Osprey nesting, Foraging, and Perching Habitat	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms). ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors.	Absent. No large stick nests were observed in the Study Area.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Woodland Raptor Nesting Habitat	All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer. 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. May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors.	Absent. Large forests with interior habitat are absent from the Study Area.
Turtle Nesting Areas	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1. Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. 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.	ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support turtle nesting areas.	Absent. Suitable wetland communities are absent from the Study Area.
Seeps and Springs	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs. Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	ELC surveys were used to assess features within the Study Area that may support seeps/springs.	Absent. Headwater areas were absent from the Study Area.
Amphibian Breeding Habitat (Woodland)	All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD. Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	ELC surveys were used to assess features within the Study Area that may support woodland breeding amphibians.	**Potentially Present:** Forest habitat within the Study Area may support amphibian breeding through the presence of small unmapped wetlands and vernal pools.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Amphibian Breeding Habitat (Wetland)	ELC Community Classes SW, MA, FE, BO, OA and SA. Wetland areas >120 m from woodland habitats. Wetlands and pools (including vernal pools) >500 m^2 (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats. 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.	ELC surveys were used to assess features within the Study Area that may support wetland breeding amphibians.	Absent. Suitable wetland habitat is absent from the Study Area**.**

Species of Conservation Concern

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Marsh Bird Breeding Habitat	All wetland habitats with shallow water and emergent aquatic vegetation. May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (ME) Community Types.	ELC surveys were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds.	Absent. Suitable habitat absent from the Study Area.
Woodland Area-sensitive Bird Breeding Habitat	Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically >60 years old. These include any of the following Community Types: Forest (FO), Treed Swamp (SW).	ELC surveys and GIS analysis were used to determine whether woodlots that occurred within the Study Area that were >30 ha with interior habitat present (>200 m from edge).	Absent. There were no large woodlands in the Study Area to support SWH for woodland area sensitive bird breeding habitat.
Open Country Bird Breeding Habitat	Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (ME).	ELC surveys and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds.	Absent. Meadows in the Study Area were not of sufficient size to support SWH for open country bird breeding habitat.
Shrub/Early Successional Bird Breeding Habitat	Old field areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (TH), Savannahs or Woodlands (WOD).	ELC surveys and GIS analysis were used to identify large communities that may support shrub/early successional breeding birds.	Absent. Thickets in the Study Area were not of sufficient size to support SWH for shrub/early successional bird breeding habitat.

Candidate Wildlife Habitat	Criteria	Methods	Potential Habitat Present in the Study Area?
Terrestrial Crayfish	Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3. Construct burrows in marshes, mudflats, meadows. Can be found far from water.	ELC surveys and wildlife habitat assessments were used to identify shallow marsh and meadow marsh communities that may support Terrestrial Crayfish within the Study Area.	Absent. Marshes to support SWH for terrestrial crayfish were absent from the Study Area.
Special Concern and Rare Wildlife Species	All special concern and provincially rare (S1-S3, SH) plant and animal species (SOCC) within potential to occur in the Study Area.	ELC surveys were used to identify suitable habitat for each potential SOCC listed in Table 3.6.	Potentially Present. Potential habitat for the following SOCC was identified in the Study Area: Midland Painted Turtle, Snapping Turtle, Barn Swallow, Bobolink, Common Nighthawk, Eastern Meadowlark, Eastern Wood-Pewee, Red-headed Woodpecker, Wood Thrush, Carolina Vetch, Muskingum Sedge, Ravenfoot Sedge, Shumard Oak, Two-flowered Dwarf-dandelion, Blue-tipped Dancer, Monarch/Milkweed, Tawny Emperor

Animal Movement Corridors

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