# Significant Wildlife Habitat Criteria Schedules For Ecoregion 3E

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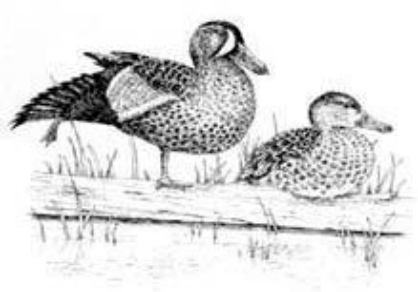

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### 1.2.2 Specialized Habitat for Wildlife



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# SCHEDULE 3E: IDENTIFICATION OF Significant Wildlife Habitat

This Schedule is designed to provide the recommended criteria for identifying Significant Wildlife Habitat (SWH) within Ecoregion 3E. Tables 1.1 through 1.4 within the Schedules provide guidance for SWH designation for the four categories of SWH outlined in the Significant Wildlife Habitat Technical Guide and its Appendices [cxlviii, cxlix]. Table 1.5 contains and provides descriptions for exceptions criteria for ecoregional SWH which will be identified at an ecodistrict scale. Exceptions occur when criteria for a specific habitat are different within an ecodistrict compared to the remainder of an ecoregion or if a habitat only occurs within a restricted area of the ecoregion.

The Schedules, including description of wildlife habitat, wildlife species, and the criteria provided for determining SWH, are based on science and expert knowledge. The ELC Ecosite codes are described using the provincial Ecological Land Classification (ELC) system for the Boreal Forest. The information within these schedules will require periodic updating to keep pace with changes to wildlife species status in Species at Risk schedules, or as new scientific information pertaining to wildlife habitats becomes available. Therefore, OMNRF will occasionally need to review and update these schedules and provide addenda. A reference document for all SWH is found after the schedules and includes citations for all ecoregional schedules. Each citation used to assist with the criteria for SWH will be indicated by a roman numeric symbol. Where no reference exists, OMNRF expert opinion is used to for determination of criteria, this symbol "Ⓔ" represents when OMNRF expert opinion was utilized to develop defining criteria.

## Criteria For Significant Wildlife Habitat in Ecoregion 3E

### 1. 1 Seasonal Concentration Areas

Seasonal concentration areas are areas where wildlife species occur annually in aggregations at certain times of the year. Such areas are sometimes highly concentrated with members of a given species, or several species, within relatively small areas. In spring and autumn, migratory wildlife species will concentrate where they can rest and feed. Other wildlife species require habitats where they can survive winter. Examples of seasonal concentration areas include deer wintering areas, breeding bird colonies and hibernation sites for reptiles, amphibians and some mammals [cxlviii]. Table 1.1 outlines the wildlife habitats and defining criteria that are considered for seasonal concentration areas within Ecoregion 3E.

**Table 1.1 Seasonal Concentration Areas for Wildlife Species**

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| **Moose Late Winter Cover** | Moose | B036 - 038, B049-053, B065-068 | Late winter moose habitat is characterized by dense conifer cover with greater than 60% canopy | Field Studies will confirm the use of these areas as late winter habitat by moose during the months of March |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| **Rationale**<br>Habitat important for providing cover and minimizing snow depths allowing movement of moose in late winter. | | B081-087<br>B098-102<br>B114-117<br><br>More common on deeper soils with dense conifer cover and vegetation in the understory for browse. | closure and >6m in height.<br>Upland sites are preferred [cxcv].<br><br>Snow depth in excess of 70cm restrict moose movement during winter, however late winter thermal refuge is important in relieving heat stress.<br><br>These habitats are extensively used by moose during late spring and summer due to the shade provided [cxcv].<br><br>Conifer stands >50ha [cxcv], dominated by tall trees >6m, on gentle to moderately rugged sites with deep soils. Areas identified as rating 3 or 4 [cxcv] for late winter moose habitat are Candidate SWH.<br>Information Sources<br>• OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• The Selected Wildlife and habitat Inventory Manual (1998)[cxcv] outlines the inventory method for Late Winter Moose Habitat. | and April.<br>Moose are very difficult to observe in late winter habitat, therefore any number of moose observed or moose tracks and trails observed in the habitat confirm this habitat as a SWH.<br>The area of the SWH is the area of treed ecosites associated with the winter cover area plus 300 m surrounding the site [cxlviii].<br><br>The relative importance of the site to the surrounding landscape should be considered. Significant sites may be only one of few in the area [cxlviii].<br><br>SWHMiST [cxlix] Index #24 provides development effects and mitigation measures for aquatic feeding areas, similar effects and mitigation can be used for late winter habitat. |
| **Waterfowl Stopover and Staging Areas (Terrestrial)**<br><br>**Rationale;** | American Black Duck<br>Wood Duck<br>Green-winged Teal<br>Blue-winged Teal<br>Mallard<br>Northern Pintail | Focus on sites that have appropriate vegetation and highest likelihood of seasonal water accumulation | Fields with sheet water during Spring (mid March to May).<br>• Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. | 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" [ccxi]. |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| Habitat important to migrating waterfowl. | Northern Shoveler<br>American Wigeon<br>Gadwall | B060-062<br>B077-079<br>B093-095<br>B109-111<br><br>Plus evidence of annual spring flooding from melt water or run-off within identified Ecosites. | • Flood plains (flooded river banks)<br>• Cultivated fields with waste grains are commonly used by waterfowl, these are not considered SWH.<br><u>Information Sources</u><br>• Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence.<br>• EIS Reports<br>• Sites documented through waterfowl planning processes (eg. EHJV implementation plan)<br>• Naturalist Clubs<br>• Ducks Unlimited Canada<br>• Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area<br>• eBird Canada http://ebird.org/content/canada/ | • Any mixed species aggregations of 100Ⓔ or more individuals required.<br>• The area of the flooded field ecosite habitat plus a 100-300m radius buffer dependant on local site conditions and adjacent land use is the significant wildlife habitat [cxlviii].<br>• Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).<br>• SWHMiST [cxlix] Index #7 provides development effects and mitigation measures. |
| **Waterfowl Stopover and Staging Areas (Aquatic)**<br><br>**<u>Rationale;</u>**<br>Important for local and migrant waterfowl populations | Canada Goose<br>Cackling Goose<br>Snow Goose<br>American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>American Wigeon<br>Gadwall<br>Green-winged Teal<br>Blue-winged Teal | B142-152 | • Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration.<br>• 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.<br>• These habitats have an abundant | Studies carried out and verified presence of:<br>• Aggregations of 100Ⓔ or more individuals of listed species for 7 daysⒺ, results in > 700 waterfowl use days.<br>• Areas with annual staging of ruddy ducks, canvasbacks, redheads and trumpeter swans are SWH [cxlix] |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the ecodistrict. | Hooded Merganser<br>Common Merganser<br>Lesser Scaup<br>Greater Scaup<br>Long-tailed Duck<br>Surf Scoter<br>White-winged Scoter<br>Black Scoter<br>Ring-necked Duck<br>Common Goldeneye<br>Bufflehead<br>Redhead<br>Ruddy Duck<br>Red-breasted Merganser<br>Brant<br>Canvasback<br>Tundra Swan<br>Trumpeter Swan | | food supply (mostly aquatic invertebrates and vegetation in shallow water);<br>Information Sources<br>• OMNRF District staff.<br>• Canadian Wildlife Service staff may know the larger, most significant sites. Check website: http://wildspace.ec.gc.ca<br>• Naturalist clubs often are aware of staging/stopover areas.<br>• OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging.<br>• Sites documented through waterfowl planning processes (eg. EHJV implementation plan)<br>• Ducks Unlimited projects<br>• Element occurrence specification on NatureServe Explorer: http://www.natureserve.org<br>• Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area<br>• eBird Canada http://ebird.org/content/canada/ | • The combined area of the ELC ecosites and a 100m radius area is the SWH [cxlviii]<br>• Wetland area and shorelines associated with sites identified within the SWHTG [cxlviii] Appendix K [cxlix] are significant wildlife habitat.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).<br>• SWHMiST [cxlix] Index #7 provides development effects and mitigation measures. |
| **Shorebird Migratory Stopover Area** | Greater Yellowlegs<br>Lesser Yellowlegs<br>Marbled Godwit<br>Hudsonian Godwit | B005-006<br>B160-162<br>B170-172<br>B176-178 | • Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated | Studies confirming:<br>• Presence of 3 or more of listed species and > 1000Ⓔ shorebird use days during spring or fall |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| **Rationale;**<br>High quality shorebird stopover habitat is extremely rare and typically has a long history of use. | Black-bellied Plover<br>American Golden-Plover<br>Semipalmated Plover<br>Solitary Sandpiper<br>Spotted Sandpiper<br>Semipalmated Sandpiper<br>Pectoral Sandpiper<br>White-rumped Sandpiper<br>Baird's Sandpiper<br>Least Sandpiper<br>Stilt Sandpiper<br>Short-billed Dowitcher<br>Red-necked Phalarope<br>Wilson's Phalarope<br>Whimbrel<br>Ruddy Turnstone<br>Sanderling<br>Dunlin<br>Wilson's Snipe | B186-188<br>B204<br>B207 | shoreline habitats.<br>• Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.<br>• Storm water retention ponds and sewage lagoons are not considered SWH.<br>Information Sources<br>• Western hemisphere shorebird reserve network.<br>• Canadian Wildlife Service (CWS) Ontario Shorebird Survey.<br>• Bird Studies Canada<br>• Ontario Nature<br>• Local birders and naturalist clubs.<br>• Temiskaming Birds: http://timbirds.info/<br>• NHIC Shorebird Migratory Concentration Area<br>• eBird Canada http://ebird.org/content/canada/ | migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period)<br>• Sites used for multiple years are more significant.<br>• The area of significant shorebird habitat includes the mapped ELC ecosites plus a 100m radius area [cxlviii]<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• SWHMiST [cxlix] Index #8 provides development effects and mitigation measures. |
| **Bat Hibernacula**<br><br>**Rationale;**<br>Bat hibernacula are rare habitats in all Ontario landscapes. | Big Brown Bat<br>Tri-coloured Bat | Hibernacula may be found in abandoned caves, mine shafts, underground foundations (Karsts) and these ecosites: | • Hibernacula may be found in abandoned caves, mine shafts, underground foundations and karsts.<br>• The locations and site characteristics of bat hibernacula are relatively | • All sites with confirmed hibernating bats are SWH Ⓔ.<br>• The area includes 1000m radius around the entrance of the hibernaculum [cxlviii, ccvii, Ⓔ].<br>• Studies are to be conducted |

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|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | B158-159<br>B164-165<br>B174-175<br>B180-181<br><br>Caves and mine shafts are the important features. Commonly associated as components of either Cliff or Rock Barren ecosites.<br><br>Once feature is identified the substrate classification can be used to identify characteristics and potential/suitability of identified or suspected hibernacula. | poorly known.<br>• Primary criteria is identification of known feature<br>• Buildings or active mine sites are not considered to be SWH)<br><br><u>Information Sources</u><br>• OMNRF for possible locations and contact for local experts<br>• NHIC Bat Hibernaculum/Nursery.<br>• Ministry of Northern Development and Mines and NRVIS for location of mine shafts and mine locations.<br>• Clubs that explore caves (e.g. Caving Canada (http://www.cancaver.ca/) Sierra Club)<br>• University Biology Departments with bat experts. | during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv].<br>• SWHMiST [cxlix] Index #1 provides development effects and mitigation measures. |
| **Bat Maternity Colonies**<br><br>**<u>Rationale;</u>**<br>Known locations of treed bat maternity colonies is extremely rare in all Ontario landscapes. | Big Brown Bat<br>Silver-haired Bat | Maternity colonies considered SWH are found in treed Ecosites.<br>B015-019<br>B023-028<br>B039-043<br>B054-059<br>B069-076<br>B087-092<br>B103-108 | • Maternity colonies can be found in tree cavities, vegetation and often in buildings [xxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH).<br>• Maternity roosts are not found in caves and mines in Ontario [xxii].<br>• Maternity colonies located in Mature (dominant trees > 80yrs old) deciduous or mixed forest | • All Maternity Colonies are considered SWH<br>• The area of the habitat includes the entire woodland or the forest stand ELC Ecosite or an Ecoelement containing the maternity colony Ⓔ.<br>• Evaluation methods for maternity colonies should be conducted following methods |

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|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | B118-125<br><br>Aspen is an important feature in Ecoregion 3E, primarily the presence of larger diameter trees in older mixed-wood stands. | stands [ccix, ccx] with >10/ha large diameter (>25cm dbh) wildlife trees [ccvii].<br>• Female Bats prefer wildlife trees (snags) of decay class 1 or 2 [ccxii] or class 2-4 [ccxiv], can be living or with bark mostly intact.<br>• 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 [ccx]<br><u>Information Sources</u><br>• OMNRF for possible locations and contact for local experts<br>• University Biology Departments with bat experts. | outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv].<br>• SWHMiST [cxlix] Index #12 provides development effects and mitigation measures. |
| **Turtle-Wintering Areas**<br><br>**<u>Rationale;</u>**<br>Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | Painted Turtle<br><br>**<u>Special Concern:</u>**<br>Snapping Turtle | B128-142<br>B145-152 | • 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.<br>• Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. [cix, cx, cxi, cxviii]<br>• Year-round persistence of standing or flowing water to depth, or presence of springs to prevent freezing is key. | • Presence of one or more over-wintering Painted Turtles is significant Ⓔ.<br>• One or more Snapping Turtle over-wintering within a wetland is significant Ⓔ.<br>• The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.<br>• Over wintering areas may be |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.<br><br><u>Information Sources</u><br>• Reports and other information available from CAs.<br>• Local naturalists and experts, as well as university herpetologists may also know where to find some of these sites.<br>• OMNRF ecologist or biologist may be aware of locations of wintering turtles<br>• NHIC, Ontario Herpetofaunal Summary Atlas, Ontario Herpetofaunal Atlas. | identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Aug. – Sept.) or spring (Apr. - May). Congregation of turtles is more common where wintering areas are limited and therefore significant [cix, cx, cxi, cxii].<br>• SWHMiST [cxlix] Index #28 provides development effects and mitigation measures for turtle wintering habitat. |
| **Reptile Hibernacula**<br><br>**<u>Rationale;</u>**<br>Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | **<u>Snakes:</u>**<br>Eastern Gartersnake<br>Smooth Green Snake<br>Northern Ringneck Snake<br>Northern Redbelly Snake | For all snakes, habitat may be found in any forested ecosite in northern Ontario. Talus, rock barren, crevice and caves are more typically related to these habitats. Many suitable conditions also observed in the very shallow ecosites | 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 [xliv, li, cxii]. 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.<br><br>Observation of congregating snakes | Studies confirming:<br>• Presence of snake hibernacula used by a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp.<br>• Congregations of a minimum of five individuals of a snake sp. <u>or</u>; individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)Ⓔ.<br>• <u>Note</u>: Sites for hibernation possess specific habitat |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | particularly on fractured bedrock and lower veg cover Open and Sparse Tall/Low Treed or Shrub Systems.<br>B008-028<br>B128-139<br>B158-159<br>B164-165<br>B167-172<br>B174-175<br>B180-181<br>B183-188 | on sunny warm days in the spring or fall is a good indicator. The existence of rock piles or slopes, stone fences, and crumbling foundations.<br><br><u>Information Sources</u><br>• In spring, local residents or landowners have observed the emergence of snakes on their property (e.g. old dug wells).<br>• Reports and other information available from CAs.<br>• Local naturalists and experts, as well as university herpetologists may also know where to find some of these sites.<br>• OMNRF ecologist or biologist.<br>• NHIC. | 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 Ⓔ<br>• SWHMiST [cxlix] Index #13 provides development effects and mitigation measures for snake hibernacula. |
| **Colonially - Nesting Bird Breeding Habitat (Cliff)**<br><br>**<u>Rationale;</u>**<br>Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow | Cliff Swallow | Cliff faces, bridge abutments, silos, barns (Cliff Swallows).<br><br>Habitat may be found in, but not limited to the following ecosites:<br>B001-004<br>B157-159<br>B173-175 | • Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.<br>• Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, and soil or aggregate stockpiles.<br>• Does not include a licensed/permitted Mineral Aggregate Operation.<br><u>Information Sources</u> | Studies confirming:<br>• Presence of 1 or more nesting sites with 8[cxlvix] or more cliff swallow pairs during the breeding season.<br>• A colony identified as SWH will include a 50m radius habitat area from the peripheral nests [ccvii]<br>• 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" [ccxi] |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| population are declining in Ontario [cxcix]. | | | • Reports and other information available from CAs.<br>• Ontario Breeding Bird Atlas.<br>• Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/<br>• Naturalist Clubs.<br>• eBird Canada http://ebird.org/content/canada/ | • SWHMiST [cxlix] Index #4 provides development effects and mitigation measures. |
| **Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)**<br><br>**<u>Rationale;</u>**<br>Large colonies are important to local bird population, typically sites are only known colony in area and are used annually. | Great Blue Heron<br>Bonaparte's Gull<br>Double-crested Cormorant | May include a wide variety of tall treed ecosites. Habitat selection based on close proximity to water body or on island:<br>B045-059<br>B064-076<br>B081-092<br>B097-108<br>B113-137<br>B161-162<br>B177-178 | • Great Blue Herons nest in live or dead standing trees in wetlands, lakeshores, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.<br>• Most nests in trees are 11 to 15 m from ground, near the top of the tree.<br>• Bonaparte's Gulls nest in coniferous trees (preferably spruce-fir) near fens, bogs, swamps, ponds or lakes.<br>• Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen [(OBBA)].<br><u>Information Sources</u><br>• Ontario Breeding Bird Atlas, colonial nest records.<br>• Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). | Studies confirming:<br>• Presence of 4 or more active nests of Great Blue Heron or 10 or more nests of Bonaparte's Gull [cxlviii].<br>• For Great Blue Heron: the edge of the colony and a minimum 300m radius area of habitat or extent of the ELC ecosite containing the colony or any island <15.0ha with a colony is the SWH [cc, ccvii].<br>• For Bonaparte's Gull: the edge of the colony and a minimum 150m radius area of habitat surrounding the colony is the SWH [ccvii].<br>• For Double-crested Cormorants: OMNRF District offices will identify significance of colony and mitigation measures.<br><br>• Confirmation of active colonies must be achieved through site |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | • NHIC Mixed Wader Nesting Colony<br>• Aerial photographs can help identify large heronries.<br>• Reports and other information available from CAs<br>• OMNRF District Offices.<br>• Local naturalist clubs.<br>• NRVIS<br>• eBird Canada http://ebird.org/content/canada/ | visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh whitewash, dead young and/or eggshells<br>• SWHMiST [cxlix] Index #5 provides development effects and mitigation measures. |
| **Colonially - Nesting Bird Breeding Habitat (Ground)**<br><br>**<u>Rationale;</u>**<br>Colonies are important to local bird population, typically sites are only known colony in area and are used annually. | Herring Gull<br>Ring-billed Gull<br>Common Tern<br>Double-crested Cormorant<br>Brewer's Blackbird | Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map).<br>B160-165<br>B169-172<br>B176-181<br>B185-188<br><br>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird).<br>B008<br>B020-021<br>B030-031<br>B045-046 | • 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).<br>• Brewers Blackbird colonies are found loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands.<br>• Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen [(OBBA)].<br><br><u>Information Sources</u><br>• Ontario Breeding Bird Atlas, rare/colonial species records.<br>• Canadian Wildlife Service<br>• Reports and other information available from CAs | Studies confirming:<br>• Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern Ⓔ.<br>• Presence of 5 or more pairs for Brewer's Blackbird Ⓔ.<br>• The edge of the colony and a minimum 150m area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH [cc, ccvii]<br>• For Double-crested Cormorants: OMNRF District offices will identify significance of colony and mitigation measures.<br>• Studies should be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi] |

| Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | B061-062<br>B078-079<br>B094-095<br>B110-111<br>B142-144 | • OMNRF District Offices.<br>• Local naturalist clubs.<br>• NHIC Colonial Waterbird Nesting Area<br>• eBird Canada http://ebird.org/content/canada/ | • SWHMiST [cxlix] Index #6 provides development effects and mitigation measures. |

## 1.2 Rare Vegetation Communities or Specialized Habitat for Wildlife

### 1.2.1 Rare Vegetation Communities

Rare vegetation communities often contain rare species, particularly plants and small invertebrates, which depend on such habitats for their survival and cannot readily move to or find alternative habitats. When assessing rare vegetation communities, one of the most important criteria is the current representation of the community in the planning area based on its area relative to the total landscape or the number of examples within the planning area. There are a number of criterion used to define rare vegetation communities, however the NHIC uses a system that considers the provincial rank of a species or community type as a tool to prioritize protection efforts. These ranks are not legal designations but have been assigned using the best available scientific information, and follow a systematic ranking procedure developed by The Nature Conservancy (U.S.). The ranks are based on three factors: estimated number of occurrences, estimated community aerial extent, and estimated range of the community within the province:

**S1 Extremely rare** - usually 5 or fewer occurrences in the province, or very few remaining hectares.
**S2 Very rare** - usually between 5 and 20 occurrences in the province, or few remaining hectares.
**S3 Rare to uncommon** - usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.

The setting of criteria for significant wildlife habitat (SWH) has incorporated NHIC's ranking system into its process of determining rare vegetation communities and requires the vegetation community be considered dominant (i.e., absolute cover is >10% and/or relative cover is >35%; Lee 1998[lxxviii]). As such, a rare vegetation community is defined to include areas that contain a provincially rare vegetation community and/or areas that contain a vegetation community that is rare within the planning area.

SWH Table 1.2.1 contains a listing of rare vegetation communities that are considered SWH for the planning area contained within Ecoregion 3E.

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**Table 1.2.1 Rare Vegetation Communities**.

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| **Cliffs and Talus Slopes**<br><br>**Rationale;**<br>Uncommon to rare in Ecoregion 3E. | **Cliffs:**<br>B157-159<br>B173-175<br>B201-203<br><br>**Talus:** | **Cliffs:**<br>Vertical consolidate bedrock communities with a minimum height of 3 m and a slope of >60° or | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• Noble 1982 [ccxxi].<br>• NHIC may have information on known | All cliff and talus slope ecosites are considered significant Ⓔ.<br><br>The cliff or talus slope ecosite area is the SWH. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | B166-168<br>B182-184<br><br>Characteristic plant species of cliffs in 3E may include: *Polypodium virginianum, Woodsia ilvensis, Cystopteris fragilis, Danthonia spicata, Dechampsia flexuosa, Aquilegia Canadensis, Sibbaldiopsis tridentate, Selaginella rupestris, Cladina rangiferina, Cladina mitis, Vaccinium angustifolium, Arctostaphylus uva-ursi, Diervilla lonicera, Betula papyrifera*<br><br>Characteristic plant species of talus in 3E may | 173%. They have limited plant growth and species diversification. Ground cover dominated by lichen and bryophytes. Plant communities are tolerant of environmental extremes, well adapted to desiccation, rapid fluctuations in temperature, and low availability of nutrients.<br><br>**<u>Talus:</u>**<br>Rock accumulations at the base of cliffs, or former cobble beaches left behind after lake levels drop. These have a skeletal soil structure, and can have organic accumulations between the rocks. Lichen cover usually extensive. Trees and shrubs are stunted. Herbs and graminoids limited to | locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resources Inventory (FRI).<br>• Aerial photographs.<br>• ANSI Site District and Inventory reports<br>• Significant Wildlife Habitat Technical Guide (OMNRF 2000) [cxlviii].<br>• Topographical maps of area.<br>• Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS).<br>• Local naturalists.<br>• High cliffs (>40 m) can be queried from Digital Elevation Models.<br>• Conservation Authority. | • SWHMiST [cxlix] Index #21 provides development effects and mitigation measures. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | **ELC Ecosite Code** | **Habitat Description** | **Detailed Information and Sources** | **Defining Criteria** |
| | include: *Polypodium virginanum, Agrostis scabra, Aralis hispida, Woodisa ilvensis, Aralia nudicaulis, Cladina rangiferina, Cladina mitis, Diervilla lonicera, Alnus viridis ssp. crispa, Prunus pensylvanica, Betula papyrifera, Populus tremuloides* | patches of organic or mineral soil accumulations. | | |
| **Rare Treed Type: Red and White Pine Stands**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in central and northern areas of Ecoregion 3E – they amount to less than 1% of the total forest. | B011<br>B015<br>B023<br>B027<br>B033<br>B039<br>B048<br>B054<br>B064<br>B069<br>B081<br>B087<br>B097<br>B103<br>B113<br>B118 | Red and White Pine stands attain their northern limit near the northern margin of the Clay Belt. They occur as sporadic, small stands and are generally found on dry, often exposed, and rocky sites. However, these conditions can vary. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI). | Stands should have > 10% absolute cover or > 35% relative cover of white and/or red pine.<br><br>The red and white pine ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | | | • Noble 1982[ccxxi].<br>• Crins et al. 2009 [ccxvi].<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. | |
| **Rare Treed Type: Black Ash**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in central and northern areas of Ecoregion 3E. | B019<br>B028<br>B056<br>B059<br>B071<br>B076<br>B089<br>B092<br>B105<br>B108<br>B120<br>B125 | Black Ash stands are found within low lying, predominantly alluvial material throughout the Clay Belt. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• Noble 1982 [ccxxi].<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009[ccxx].<br>• Forest Resource Inventory (FRI) – but may be under reported, especially along rivers.<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.<br>• Conservation Authority. | Stands should have > 10% absolute cover or > 35% relative cover of Black Ash.<br><br>The black ash ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| **Rare Treed Type: Elm**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in central and northern areas of Ecoregion 3E. | B019<br>B043<br>B056<br>B059<br>B071<br>B076<br>B089<br>B092<br>B105<br>B108<br>B120<br>B125 | Elm stands are found within low lying, predominantly alluvial material throughout the Clay Belt. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• Noble 1982 [ccxxi].<br>• Crins et al. 2009 [ccxvi].<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI) – but may be under reported, especially along rivers.<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.<br>• Conservation Authority. | Stands should have > 10% absolute cover or > 35% relative cover of Elm.<br><br>The elm ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |
| **Rare Treed Type: Oak**<br><br>**<u>Rationale:</u>**<br>Only found in southern portions of Ecoregion 3E. | B017<br>B019<br>B028<br>B041<br>B043<br>B057<br>B059 | Hardwood canopy within lower topographic positions. Fresh to moist moisture regimes with variable substrate textures. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their | Stands should have > 10% absolute cover or > 35% relative cover of Oak.<br><br>The oak ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | B072<br>B076<br>B090<br>B092<br>B106<br>B108<br>B121<br>B125 | | website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI) – but may be under reported, especially along rivers.<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.<br>• Conservation Authority. | and habitats. |
| **Rare Treed Type: Red and Sugar Maple**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in central and northern areas of Ecoregion 3E. | B018<br>B019<br>B028<br>B042<br>B043<br>B058<br>B059<br>B073(Mh)<br>B074(Mr)<br>B075<br>B076<br>B091<br>B092<br>B107<br>B108<br>B122(Mh) | Hardwood canopy containing red and/or sugar maple. Generally on warmer-than-normal sites with a higher nutrient regime. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• Noble 1982 [ccxxi].<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx]. | Stands should have > 10% absolute cover or > 35% relative cover of red and/or sugar maple.<br><br>The red and/or sugar maple ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | B123(Mr)<br>B124<br>B125 | | • Forest Resource Inventory (FRI).<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.<br>• Conservation Authority. | |
| **Rare Treed Type: Yellow Birch**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in central and northern areas of Ecoregion 3E. | B019<br>B028<br>B040<br>B043<br>B055<br>B059<br>B070<br>B076<br>B088<br>B092<br>B0104<br>B108<br>B119<br>B125 | Hardwood canopy consisting mostly of yellow birch. Generally on warmer-than-normal sites with a higher nutrient regime. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Locations may be available within NRVIS layer: Significant Ecological Area (SIGECOL.shp).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI) – some stands may have been misclassified as white birch.<br>• Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations.<br>• Conservation Authority. | Stands should have > 10% absolute cover or > 35% relative cover of yellow birch<br><br>The yellow birch ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | **ELC Ecosite Code** | **Habitat Description** | **Detailed Information and Sources** | **Defining Criteria** |
| **Rock Barren**<br><br>**<u>Rationale;</u>**<br>Rock barrens that are close to roads or trails can be significantly impacted by invasive species and/or trampling. | <u>Calcareous Rock Barren</u><br>B179<br>B180<br>B181<br><br><u>Precambrian Rock Barren</u><br>B163<br>B164<br>B165<br><br>Characteristic plant species of rock barrens in 3E may include: *Danthonia spicata, Dechampsia flexuosa, Carex pensylvanica, Corydalis sempervirens, Aralis hispida, Agrostis scabra, Aralia nudicaulis, Pteridium aquilinum , Vaccinium angustifolium, Rubus spp., Diervilla lonicera, Betula papyrifera, Pinus banksiana,* | Exposed bedrock areas (mostly exposed rock with < 5 cm mineral or < 10 cm organic material) and < 25% vascular vegetation. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• Noble 1982 [ccxxi].<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI).<br>• Conservation Authority.<br>• Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS). | All rock barren ecosites are considered significant Ⓔ.<br><br>The rock barren ecosite area is the SWH.<br><br>• SWHMiST [cxlix] Index #21 provides development effects and mitigation measures. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | *Populus tremuloides* | | | |
| **Sand Dunes**<br>Notably:<br>**American Dune Grass Type**<br><br>**<u>Rationale;</u>**<br>Uncommon to rare in Ecoregion 3E. | B005<br>B006<br>B142<br><br>Characteristic plant species of sand dunes grass type in 3E may include: *Leymus mollis, Lathyrus japonicus, Prunus pumila var. pumila* | Exposed mineral material community often associated with shorelines of lakes or exposed inland mineral material that has been shaped by eolian (wind) processes.<br><br>**<u>American Dune Grass Type</u>**<br>Open grassy sand dunes with Indicator Species: American dune grass, beach pea, and sand cherry. Scattered white spruce forest islands may also occur. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Banton et al. 2009 [ccxx].<br>• Forest Resource Inventory (FRI).<br>• Soil survey reports and Northern Ontario Engineering Geology Terrain Study mapping (NOEGTS).<br>• Conservation Authority. | Field studies confirm the presence of any of the characteristic plant species Ⓔ<br><br>The American Dune Grass Type of Sand Dune ecosite area is the SWH Ⓔ.<br><br>B006 ecosites are considered rare in 3E and are considered SWH Ⓔ.<br><br>SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |
| **Great Lakes Arctic-Alpine Shoreline Type**<br><br>**<u>Rationale;</u>**<br>Rare in Ecoregion 3E. | B161<br>B162<br><br>Characteristic plant species of Great Lakes arctic-alpine shoreline type in 3E may include: *Carex capillaries, Castilleja* | Found on the shoreline of Lake Superior on open basic bedrock. Vegetation consists mostly of arctic-alpine species. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Banton et al. 2009 [ccxx].<br>• Conservation Authority. | Limited to the shore of the Great Lakes.<br><br>All Great Lakes Arctic-Alpine Shoreline Type ecosites are considered significant Ⓔ.<br><br>The Great Lakes Arctic-Alpine Shoreline Type ecosite area is the SWH. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | *septentrionalis, Cypripedium passerinum, Dryopteris fragrans, Elymus mollis, Empetrum nigrum, Euphrasia hudsoniana, Festuca brachyphylla, Hedysarum alpinum, Listera borealis, Lycopodium selago, Pinguicula vulgaris, Poa glauca, Poa glaucantha, Polygonum viviparum, Primula mistassinica, Sagina nodosa, Saxifraga aizoon, Scirpus cespitosus, Selaginella selanginoides, Tofieldia palustris, Trisetum spicatum, Vaccinium uliginosum, Vaccinium vitis-idaea, Woodsia* | | | SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

| Rare Vegetation Community | CANDIDATE SWH | | | CONFIRMED SWH |
|---|---|---|---|---|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria |
| | *glabella* | | | |
| **Hardwood Swamps**<br><br>**<u>Rationale;</u>**<br>Rare in Ecoregion 3E. | B130<br>B131<br>B132<br>B133 | Dominant hardwood canopy that is located within lower topographic positions and subject to flooding. Nutrient regime is rich and substrate is mostly moderately deep to deep with variable textures. | • OMNRF Forester, Ecologist or Biologist may be aware of locations.<br>• NHIC may have information on known locations. This information is available on their website (Biodiversity Explorer).<br>• Banton et al. 2009 [ccxx].<br>• Conservation Authority.<br>• Riley 1994 [ccxxii] | All hardwood swamp ecosites are considered significant Ⓔ.<br><br>The hardwood swamp ecosite is the SWH.<br><br>• SWHMiST [cxlix] Index #37 provides direction for rare species and habitats. |

### 1.2.2 Specialized Habitat for Wildlife

Some wildlife species require large areas of suitable habitat for their long-term survival. Many wildlife species require substantial areas of suitable habitat for successful breeding. Their populations decline when habitat becomes fragmented and reduced in size [cxlviii]. Specialized habitat for wildlife is a community or diversity-based category, therefore, the more wildlife species a habitat contains, the more significant the habitat becomes to the planning area. The largest and least fragmented habitats within a planning area will support the most significant populations of wildlife. The specialized habitats for wildlife that are considered as SWH are outlined in Table 1.2.2.

**Table 1.2.2 Specialized Habitats of Wildlife considered SWH**.

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| **Waterfowl Nesting Area**<br><br>**<u>Rationale;</u>**<br>Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant. | American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>Gadwall<br>Blue-winged Teal<br>Green-winged Teal<br>Wood Duck<br>Hooded Merganser<br>Common Merganser<br>Red-breasted Merganser<br>Mallard<br>Canada Goose<br>American Widgeon<br>Bufflehead<br>Common Goldeneye | All upland habitats located adjacent to ELC ecosites;<br>B129-135<br>B140-152<br>B224 are Candidate SWH:<br><br>**Note: includes adjacency to provincially Significant Wetlands** | A waterfowl nesting area extends 120 m [cxlix] from a wetland (> 0.5 ha) or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur [cxlix].<br>• Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests.<br>• Wood Ducks, Bufflehead, Common Goldeneye and Hooded Mergansers utilize large diameter trees in woodlands for cavity nest sites.<br><u>Information Sources</u><br>• Ducks Unlimited staff may know the locations of particularly productive nesting sites.<br>• OMNRF District Staff<br>• OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. | Studies confirmed:<br>• Presence of 3 or more nesting pairs for listed species excluding Mallards Ⓔ, or;<br>• Presence of 10 or more nesting pairs for listed species including Mallards Ⓔ.<br>• Nesting studies should be completed during the spring breeding season (April - July). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m [cxlviii] from the wetland and will provide enough habitat for waterfowl |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | • Reports and other information available from CAs.<br>• eBird Canada http://ebird.org/content/canada/ | to successfully nest.<br>• SWHMiST [cxlix] Index #25 provides development effects and mitigation measures. |
| **Bald Eagle and Osprey Nesting Habitat**<br><br>**<u>Rationale:</u>**<br>Nests are used annually by these species. Suitable nesting locations may be impacted due to shoreline development. | Osprey<br><br>**Special Concern**<br>Bald Eagle | Treed communities directly adjacent to riparian areas – rivers, lakes, ponds and wetlands | Nests are associated with lakes, ponds, rivers or wetlands along treed shorelines, islands, or on structures over water.<br><br>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.<br><br>Nests located on man-made objects such as telephone or hydro poles will not normally be considered as SWH, however the OMNRF District retains discretion regarding significance of constructed nesting platforms.<br><br><u>Information Sources</u><br>• NHIC compiles all known nesting sites for Bald Eagles in Ontario.<br>• OMNRF values information (LIO/NRVIS) will list known nesting locations<br>• Nature Counts, Ontario Nest Records Scheme data.<br>• OMNRF Ecologist or Biologist may be aware of locations of nesting raptors. In addition, these staff may know local naturalists that may be aware of the locations of raptor | Studies confirm:<br>• One or more active Osprey or Bald Eagle nests in an area [cxlviii].<br>• 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 [cxlviii, ccvii].<br>• 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.<br>• For an Osprey, the active nest and a 300 m radius around the nest is the SWH [ccvii]<br>• For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. [cvi, ccvii] Area of the habitat from 400-800m is dependent on sight lines from the nest to the development and inclusion of perching and foraging |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | nests.<br>• Sustainable Forestry Licence (SFL) companies will identify additional nesting locations through field operations.<br>• Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented<br>• Reports and other information available from CAs.<br>• Local naturalists may know of other locations.<br>• Use maps and aerial photographs to identify forests with few roads that tend to have less human disturbance.<br>• eBird Canada http://ebird.org/content/canada/ | habitat [cvi]<br>• SWHMiST [cxlix] Index #26 provides development effects and mitigation measures<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi] |
| **Woodland Raptor Nesting Habitat**<br><br>**<u>Rationale:</u>**<br>These habitats may be used annually by some species. Nests sites for these species are rarely identified in advance site investigations; | Red-tailed Hawk<br>Great Horned Owl:<br>Broad-winged Hawk<br>Sharp-shinned Hawk<br>Merlin<br>Coopers Hawk<br>Northern Goshawk<br>Great gray Owl<br>Long-eared Owl<br>Common Raven<br><br>----------<br>Cavity Nesters/users:<br>Saw-whet Owl<br>Boreal Owl<br>Barred Owl<br>Northern Hawk Owl | May be found in all forested ELC Ecosites. | All natural or conifer plantation woodland/forest stands [lxxxviiii, lxxxix, xc, xci, xciii, xciv, xcv,xcvi, cxxxiii].<br>• Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Merlin or Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands.<br>• Some woodland raptors rely on cavity trees for nesting. They do not excavate their own cavities, but rely on natural cavities of sufficient size and those excavated by Pileated Woodpeckers. Larger diameter trees | Studies confirm:<br>• Presence of 1 or more occupied nests from species list is considered significant [cxlviii].<br>• Northern Goshawk – A 400m radius around the nest or 28 ha of suitable habitat is the SWH [ccvii].<br>• Barred Owl – A 200m radius around the nest is the SWH [ccvii].<br>• Broad-winged Hawk, Coopers Hawk, Great Horned Owl, Red-tailed Hawk, Long-eared Owl – A 100m radius around the nest is the SWH [ccvii]. |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | American Kestrel<br><br>(Northern Flying Squirrel use cavities as roosting sites in winter) | | are used most frequently, with nest cavities most often found in trembling aspen.<br>• Nests may be used again, or a new nest may be in close proximity to old nest.<br>Information Sources<br>• OMNRF Ecologist or Biologist may be aware of locations of nesting raptors.<br>• Sustainable Forestry Licence (SFL) companies will identify additional nesting locations through field operations.<br>• Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented.<br>• Check data from Bird Studies Canada.<br>• Reports and other information available from CAs.<br>• Use maps and aerial photographs to identify forests with few roads that tend to have less human disturbance.<br>• eBird Canada http://ebird.org/content/canada/ | • Merlin and Sharp-Shinned Hawk – A 50m radius around the nest is the SWH [cevii].<br>• Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.<br>• SWHMiST [cxlix] Index #27 provides development effects and mitigation measures. |
| **Turtle Nesting Areas**<br><br>**Rationale;**<br>These habitats are rare and when identified will often be the | Painted Turtle<br><br>Special Concern Species<br>Snapping Turtle | B003<br>B006-007<br>B031<br>B171-172<br>B187-188 | • 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.<br>• For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in | Studies confirm:<br>• One or more Turtle nest is a SWH(E).<br>• The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| only breeding site for local populations of turtles. | | | and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.<br>• Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.<br><u>Information Sources</u><br>• Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels).<br>• Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them.<br>• Ontario Reptile and Amphibian Atlas (Ontario Nature).<br>• NHIC<br>• Use aerial photographs and maps to narrow the search for prime nesting areas including shoreline beaches located near weedy areas of wetlands, lake and river shorelines, road embankments near turtle habitat, and stream crossings/culverts.<br>• Reports and other information available from CAs.<br>• Sightings by local Naturalist groups | around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH [cxlviii].<br>• Travel routes from wetland to nesting area are to be considered within the SWH [cxlix].<br>• Field investigations should be conducted in prime nesting season typically late spring to early summer.<br>• SWHMiST [cxlix] Index #28 provides development effects and mitigation measures for turtle nesting habitat |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| **Seeps and Springs**<br><br>**<u>Rationale;</u>**<br>Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams. | Selected wildlife species that utilize this feature:<br><br>Ruffed Grouse<br>Moose<br>White-tailed Deer<br>Black bear<br>Northern two-lined Salamander. | 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 [cxlvii, cxlix].<br>• Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species [cxx, cxxii, cxiv].<br><u>Information Sources</u><br>• Topographical Map.<br>• Thermography.<br>• Hydrological surveys conducted by CAs and MOE.<br>• Local naturalists and landowners may know some locations.<br>• Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped. | Field Studies confirm:<br>• Presence of a site with 2 or more Ⓔ seeps/springs should be considered SWH.<br>• The area of ELC ecosite or an ecoelement within the 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 [cxlviii].<br>• SWHMiST [cxlix] Index #30 provides development effects and mitigation measures |
| **Aquatic Feeding Habitat**<br><br>**<u>Rationale;</u>**<br>Aquatic Feeding habitats are an extremely important habitat component for moose and other wildlife as they supply | Moose | Habitat may be found in all forested ecosites adjacent to water. | • OMNRF maps these locations on Crown land and rate the site on a scale of 1 – 4, with 4 having the greatest potential. Feeding sites classed 3 or 4 are candidate significant areas Ⓔ.<br>• OMNRF District should be contacted where Class 2 feeding sites are identified as these may be considered significant by OMNRF if higher quality sites are absent in the surrounding landscape.<br>• Identification of Moose Aquatic Feeding Areas should follow the | • Moose Aquatic Feeding Habitat identified and ranked 3 or 4 by OMNRF are considered SWH.<br>• The area of the habitat includes the ELC ecosite area and adjacent stands (120m) of mixed or conifer forest, particularly those that provide thermal cover and/or travel corridors to other habitat features are considered significant [cxcvii].<br>• Surveys should be conducted from mid June to end of July |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| important nutrients. Forest cover adjacent to these areas is important as well to provide for summer thermal cover, screening and escape cover. | | | method outlined in OMNRF's Selected Wildlife and Habitat Features: Inventory Manual [cxcv]<br>• Wetlands and isolated embayments in rivers or lakes which provide an abundance of submerged aquatic vegetation such as pondweeds, water milfoil and yellow water lily are preferred sites. Adjacent stands of lowland conifer or mixed woods will provide cover and shade [cxlviii].<br>Information Sources<br>• Local naturalists and landowners may know some locations.<br>• OMNRF values information (NRVIS) may list known locations<br>• OMNRF Biologist may be aware of locations.<br>• Sustainable Forestry Licence (SFL) companies may identify additional MAFA locations through field operations.<br>• Topographical Maps together with aerial photographs will help locate potential sites. | when submergent aquatic vegetation has peaked [cxcv].<br>• Surveys should confirm the use of the site by moose or other species through observation of animal presence, tracks, etc.<br>• If a SWH is determined for Aquatic Feeding Habitat then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule<br>• SWHMiST [cxlix] Index #24 provides development effects and mitigation measures. |
| **Mineral Licks**<br><br>**Rationale;**<br>Mineral licks are a valuable habitat component but are also very rare on the | Moose<br>Porcupine | Habitat may be found in all treed ecosites. | This habitat component is found in upwelling groundwater and the soil around these seepage areas. It typically occurs in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till [cxlviii].<br>Information Sources<br>• Local naturalists and landowners | • The area of the habitat is the wetland, seep or spring containing the mineral lick and 120m of undisturbed contiguous forest around the site dependant on level of disturbance in the area [cxlviii].<br>• Field investigations should be conducted in early spring prior |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| landscape. | | | may know some locations.<br>• OMNRF values information (NRVIS) may list known locations<br>• OMNRF Ecologist or Biologist may be aware of locations.<br>• Sustainable Forestry Licence (SFL) companies may identify additional locations through field operations. | to leaf out. Since sites will be very difficult to locate, consider using a small aircraft.<br>• SWHMiST [cxlix] Index #29 provides development effects and mitigation measures. |
| **Denning Sites for Mink, Otter, Gray Wolf Eastern Wolf Canada Lynx Marten Fisher Black Bear**<br><br>**Rationale:** Species are important fur-bearing mammals and den sites can be a limiting factor in sustaining populations. | Mink<br>Otter<br>Gray Wolf<br>Canada Lynx<br><br>**<u>Special Concern</u>**<br>Eastern Wolf<br><br>**<u>Cavity Users</u>**<br>Marten<br>Fisher | Habitat may be found in all treed ecosites. | Mink prefer shorelines dominated by coniferous or mixed forests with dens usually underground. Mink will often use old muskrat lodges [cxlviii]. Mink may den in root masses along shorelines of water bodies.<br><br>Otters prefer undisturbed shorelines along water bodies that support productive fish populations with abundant shrubby vegetation and downed woody debris for denning. They often use old beaver lodges or log jams and crevices in rock piles [cxlviii].<br><br>Marten and fisher share the same general habitat, requiring large tracts of coniferous or mixed forests of mature or older age classes. Denning sites are often in cavities in large trees or under large downed woody debris [cxlviii].<br><br>Wolves prefer a more interior forest condition for locating their den sites. Wolves often select sandy sites, sloped | • Wolf den sites (gray or eastern) and a 200m radius will be considered significant [ccvii].<br>• Any known active denning site and a 100 m radius around it with the remaining listed species is considered to be significant [cxlviii].<br>• Extensive searches for denning sites are not recommended as they are very difficult to locate but protection of most suitable habitat should be considered during planning.<br>• SWHMiST [cxlix] Index #31 provides development effects and mitigation measures. |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | for excavation (esker areas should be examined as potentially key sites). Wolf dens are often located in close proximity to wetlands Ⓔ.<br><br>Lynx den sites are most often associated with the presence of downed woody debris.<br><br>Black bears, particularly sub-adults, will often den in the base of hollow trees. In 3E such trees are rare and primarily consist of large diameter cedar or sometimes large white spruce.<br><br><u>Information Sources</u><br>• Local naturalists and landowners may know some locations.<br>• OMNRF values information (NRVIS) may list known locations.<br>• OMNRF Ecologist or Biologist may be aware of locations.<br>• Sustainable Forestry Licence (SFL) companies may identify additional denning sites through field operations.<br>• Topographical Maps together with aerial photographs will help locate potential sites.<br>• Local trappers may know the location of prime denning sites. | |
| **Rendezvous Sites** | Gray Wolf | Isolated open areas including bogs, fens, | • Rendezvous sites may be found in a variety of habitats such as open bogs, | The identified rendezvous site and a 200 m radius from the site |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | **Special Concern**<br>Eastern Wolf | other wetlands, meadows, clearcuts. | burns, clearcuts, beaver meadows, and open forest [ccvii].<br>• Rendezvous sites are often used by wolf packs during multiple years [ccvii].<br>• Areas used as rendezvous sites one year may be used as den sites in a subsequent year [ccvii].<br>• Wolves appear to have a low tolerance for human activity near rendezvous sites [ccvii]. | are considered the SWH [ccvii]. |
| **Amphibian Breeding Habitat (Wetlands)**<br><br>**Rationale;**<br>Wetlands supporting breeding for these amphibian species are extremely important within Northern Ontario landscapes. | Eastern Newt<br>American Toad<br>Spotted Salamander<br>Four-toed Salamander<br>Blue-spotted Salamander<br>Gray Treefrog<br>Boreal Chorus Frog<br>Northern Leopard Frog<br>Green Frog<br>Mink Frog<br>Wood Frog<br>Spring Peeper | Rich swamps and thickets, vernal/seasonal pooling, riparian and variety of wetland interiors and margins<br>B128-135<br>B141-152<br>B223-224<br><br>Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Green Frog) may be adjacent to woodlands. | • Wetlands and pools (including vernal pools) >500m$^2$ (about 25m diameter) [ccvii] supporting high species diversity are significant; some small or ephemeral habitats may not be identified on OMNRF mapping and could be important amphibian breeding habitats [clxxxiv].<br>• Wetlands and pools need to persist until mid-July [cxlviii]<br>• Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.<br>Information Sources<br>• Ontario Herpetofaunal Summary Atlas<br>• Ontario Reptile and Amphibian Atlas (Ontario Nature).<br>• Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. | Studies confirm:<br>• Presence of breeding population of 1 or more of the listed newt/salamander species or 3 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) [lxxi] or 3 or more of the listed frog/toad species with Call Level Codes of 3Ⓔ.<br>• The ELC ecosite area and the shoreline are the SWH.<br>• A combination of observational study and call count surveys [cviii] will be required during the spring (Apr to June) when amphibians are migrating, calling and breeding within the wetland habitats.<br>• If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | • OMNRF Ecologist or Biologist may know of populations, wetland evaluations may be a good source of information.<br>• Use maps or aerial photography to locate marsh habitat.<br>• Reports and other information available from CAs. | as outlined in Table 1.4.1 of this Schedule.<br>• SWHMiST [cxlix] Index #15 provides development effects and mitigation measures. |
| **Amphibian Breeding Habitat (Woodland).**<br><br>**<u>Rationale;</u>**<br>These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations. | Eastern Newt<br>Blue-spotted Salamander<br>Spotted Salamander<br>Four-toed Salamander<br>Spring Peeper<br>Wood Frog<br>American Toad | All treed upland ecosites, however more likely on fine textured moist ecosites (e.g., B119-125)<br><br>The wetland breeding ponds (including vernal pools) may be permanent or seasonal, large or small in size and could be located within or adjacent to the woodland [lxxii]. | • Presence of a wetland, lake or pond of area >500m$^2$ (about 25m diameter) [ccvii] within or adjacent (within 120m) to a woodland (no minimum size) [clxxxii, lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx].<br>• 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.<br>• Pools need to be present until mid-July.<br>• 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.<br>• Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat [cxlviii].<br><u>Information Sources</u><br>• Ontario Herpetofaunal Summary | Studies confirm;<br>• Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 100 individuals (adults or eggs masses) [lxxi] or 2 or more of the listed frog species with Call Level Codes of 3Ⓔ.<br>• The habitat is the wetland and treed area or adjacent ELC treed ecosites. The amount of area protected is dependant on slope, riparian vegetation, high water mark, density and height of trees and ground/surface water condition [cxlviii].<br>• A combination of observational study and call count surveys [cviii] will be required during the spring when amphibians are migrating or are concentrated around suitable breeding habitat within the woodland.<br>• SWHMiST [cxlix] Index #14 |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | Atlas for historical records<br>• Ontario Reptile and Amphibian Atlas (Ontario Nature).<br>• Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property.<br>• Contact local OMNRF Ecologist or Biologist and wetland evaluations.<br>• Local field naturalist clubs<br>• Canadian Wildlife Service Amphibian Road Call Survey information.<br>• Ontario Vernal Pool Association (http://www.ontariovernalpools.org/) | provides development effects and mitigation measures |
| **Mast Producing Areas**<br><br>**<u>Rationale:</u>**<br>Mast is a very important food requirement for many wildlife species. | Examples of wildlife species utilizing this habitat:<br>Black Bear<br>White-tailed deer<br>Ruffed Grouse | All shrub and treed ecosites capable of producing mast. | • Significant tree species include mountain ash and pin cherry. Significant shrub species include blueberries, raspberries, beaked hazel and choke cherry [cxlviii].<br>• Some Oak or other hard-mast producing species may be present in 3E and significance should be evaluated as encountered because of its importance as a food source for various wildlife species.<br>• Recently disturbed sites (fire or logging), large bedrock outcroppings, forest openings or utility corridors >1 ha provide excellent sites for mast producing shrubs [cxlviii].<br>• Permanent open sites providing long-term food sources are more | • Natural open sites with abundant (50% ground cover) Ⓔ mast producing shrubs (e.g. Raspberry, Blueberry and Beaked hazel) species are considered significant [cxlix].<br>• Anthropogenic disturbances (logging or otherwise) may be considered significant at the discretion of OMNRF.<br>• Area of the early successional habitat or treed ELC ecosite with mast-producing trees or shrubs is the SWH.<br>• Surveys should be conducted during the active growing season from June to August |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | significant [cxlviii].<br>Information Sources<br>• OMNRF Ecologists, Biologists or Foresters may know of important feeding sites or areas with high composition of mast producing trees through OMNRF Wildlife Food Surveys.<br>• FRI maps to locate stands with mast producing trees.<br>• SFL companies may know of areas through regular forest inventory work.<br>• Local naturalists clubs or hunters may be aware of important locations.<br>• Aerial photography will assist in locating forest openings and bedrock outcrops. | however may be assessed at other times particularly for tree species.<br>• SWHMiST [cxlix] Index #3 provides development effects and mitigation measures |
| **Sharp-tailed Grouse Leks**<br><br>**Rationale:**<br>Leks are an important habitat feature required to maintain populations of sharp-tailed grouse. | Sharp-tailed Grouse | B029-031<br>B044-046<br>B060-062<br>B077-079<br>B093-095<br>B109-111<br>B126<br>B136-141 | • The lek or dancing ground consists of bare, grassy area as the core of the lekking area, and may contain some sparse shrubland.<br>• There is often a knoll or slightly elevated rise in topography associated with the site [ccxix]. This is a better drained site less likely to collect water.<br>• Leks are typically a grassy field/meadow separated by >15ha from adjacent shrublands and >30ha from adjacent treed areas.<br>• Field/meadows are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous stands | Studies confirming lek habitat are to be completed from March to June.<br>• Any site confirmed with sharp-tailed grouse courtship activities is considered significantⒺ<br>• The ELC ecosite plus a 200 meter area with shrub or deciduous trees is the lek habitatⒺ<br>• SWHMiST [cxlix] Index #32 provides development effects and mitigation measures |

| Specialized Wildlife Habitat | Wildlife Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria |
| | | | [ccxix].<br>• Field/meadows are to be as undisturbed as possible with low intensities of agriculture (light grazing or late haying)<br>• Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting [ccxix]<br><u>Information Sources</u><br>▪ OMNRF district office<br>▪ Bird watching clubs<br>▪ Local landowners<br>▪ Ontario Breeding Bird Atlas<br>▪ eBird Canada http://ebird.org/content/canada/ | |

## 1.3 Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Habitats of Species of Conservation Concern include wildlife species that are listed as Special Concern or rare, that are declining, or are featured species. Habitats of Species of Conservation Concern do not include habitats of Endangered or Threatened Species as identified by the Endangered Species Act 2007. Table 1.3 assists with the identification of SWH for Species of Conservation Concern.

**Table 1.3. Habitats of Species of Conservation Concern considered SWH.**

| Wildlife | Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite | Habitat Criteria and Information Sources | Defining Criteria |
| **Marsh Bird Breeding Habitat**<br><br>**Rationale;**<br>Rich wetlands for these bird species are very productive and rare in Northern Ontario landscapes. | American Bittern<br>Sora<br>Red-necked Grebe<br>Pied-billed Grebe<br>Ring-necked Duck<br>Lesser Scaup<br>Ruddy Duck<br>American Coot<br>Sandhill Crane<br>Virginia Rail<br>Trumpeter Swan<br><br>**Special Concern**:<br>Yellow Rail<br>Black Tern | Ecosites:<br><br>B134-B152 | • Nesting occurs in wetlands.<br>• All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present [cxxiv].<br><br>Information Sources<br>• Contact OMNRF, wetland evaluations are a good source of information.<br>• Local naturalist clubs<br>• NHIC Records.<br>• Reports and other information available from CAs.<br>• Ontario Breeding Bird Atlas [ccv].<br>• eBird Canada http://ebird.org/content/canada/ | Studies confirm:<br>• Presence of any combination of 5 or more of the listed species Ⓔ.<br>• Presence of one or more breeding pair of trumpeter swans is significant.<br>• Note: any wetland with breeding of 1 or more Black Terns or Yellow Rail is SWH Ⓔ.<br>• Area of the ELC ecosite is the SWH.<br>• Breeding surveys should be done in May-July when these species are actively nesting in wetland habitats.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• SWHMiST [cxlix] Index #35 provides development effects and mitigation measures |
| **Open Country Bird Breeding Habitat**<br><br>**Rationale;**<br>This wildlife habitat is declining throughout Ontario | Vesper Sparrow<br>Le Conte's Sparrow<br>Northern Harrier<br>Savannah Sparrow<br><br>**Special Concern**<br>Short-eared Owl | All Field, Meadow and Sparse Shrub ecosites<br>B08-09<br>B20-21<br>B29-31<br>B44-46 | Large field/meadow areas (includes natural and cultural fields and meadows) >30 ha [clx, clxi, clxii, clxiii, clxiv, clxv, clxvi, clxvii, clxviii, clxix]. Field/meadow not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or | Field Studies confirm:<br>• Presence of nesting or breeding of 2 or more of the listed species.Ⓔ<br>• A field with 1 or more breeding Short-eared Owls is to be considered SWH.<br>• The area of SWH is the contiguous |

| Wildlife | Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite | Habitat Criteria and Information Sources | Defining Criteria |
| and North America. | | B60-62<br>B77-79<br>B93-95<br>B109-111 | intensive hay or livestock pasturing in the last 5 years) Ⓔ.<br><br>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.<br><br>The Indicator bird species are area sensitive requiring larger Field/meadow areas than the common Field/meadow species.<br>Information Sources<br>• Use Agricultural land classification maps with aerial photographs to determine the potential Fields/meadows that might be candidate sites.<br>• Ask local birders for location of Fields/meadows that support abundant and species rich populations of area-sensitive species.<br>• Reports and other information available from CAs.<br>• Ontario Breeding Bird Atlas.<br>• eBird Canada http://ebird.org/content/canada/ | ELC ecosite field areas.<br>• Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• SWHMiST [cxlix] Index #32 provides development effects and mitigation measures |
| **Shrub/Early Successional Bird Breeding Habitat**<br><br>**Rationale;** | Clay-colored Sparrow<br>Field Sparrow<br>Ruffed Grouse<br>Eastern Kingbird | All sparse shrub and shrub ecosites<br>B09-10<br>B21-22<br>B31-32 | Large natural field areas succeeding to shrub and thicket habitats>30 ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being | Field Studies confirm:<br>• Presence of nesting or breeding of 2 or more of species listed Ⓔ.<br>• The area of the SWH is the |

| Wildlife | Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite | Habitat Criteria and Information Sources | Defining Criteria |
| This wildlife habitat is declining throughout Ontario and North America. | American Woodcock | B46-47<br>B62-63<br>B79-80<br>B95-96<br>B111-112<br>B134-135 | actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) Ⓔ.<br><br>Larger shrub thicket habitats (>30 ha) are most likely to support and sustain a diversity of these species [clxxiii].<br><br>Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or lightly grazed pasturelands.<br><br><u>Information Sources</u><br>• Use agricultural land classification maps and recent aerial photographs to determine the amount of potential shrub and thicket habitats.<br>• Ask local birders for location of shrub and thicket habitats that support abundant and species rich populations of area-sensitive species.<br>• Reports and other information available from CAs.<br>• Ontario Breeding Bird Atlas.<br>• eBird Canada http://ebird.org/content/canada/ | contiguous ELC ecosite area.<br>• Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" [ccxi]<br>• SWHMiST [cxlix] Index #33 provides development effects and mitigation measures. |
| **Special Concern and Rare Wildlife Species** | All Special Concern and Provincially Rare | All plant and animal element occurrences (EO). | When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or | Studies Confirm:<br>• Assessment/inventory of the site for the identified special concern or rare |

| Wildlife | Species | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Ecosite | Habitat Criteria and Information Sources | Defining Criteria |
| **Rationale:**<br>These species are quite rare or have experienced significant population declines in Ontario. | (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre. | Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy | Provincially rare species; linking candidate habitat on the site to ELC Ecosites [ccxx] needs to be completed.<br>Information Sources<br>• Natural Heritage Information Centre will have the Special Concern and Provincially Rare (S1-S3, SH) species lists and element occurrences for these species.<br>  • NHIC Website: Biodiversity Explorer https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do<br>• Expert advice should be sought as many of the rare spp. have little information available about their requirements.<br>Ontario Breeding Bird Atlas | species needs to be completed during the time of year when the species is present or easily identifiable.<br>• 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.<br>• The habitat needs to be easily mapped and cover an important life stage component for a species (e.g. specific nesting habitat or foraging habitat).<br>• The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH; this must be delineated through detailed field studies.<br>• SWHMiST [cxlix] Index #37 provides development effects and mitigation measures. |

## 1.4 Animal Movement Corridors

Animal Movement Corridors are elongated areas used by wildlife to move from one habitat to another. They are important to ensure genetic diversity in populations, to allow seasonal migration of animals (e.g. deer moving from summer to winter range) and to allow animals to move throughout their home range from feeding areas to cover areas. Animal movement corridors function at different scales often related to the size and home range of the animal. For example, short, narrow areas of natural habitat may function as a corridor between amphibian breeding areas and their summer range, while wider, longer corridors are needed to allow deer to travel from their winter habitat to their summer habitat.

Identifying the most important corridors that provide connectivity across the landscape is challenging because of a lack of specific information on animal movements. There is also some uncertainty about the optimum width and mortality risks of corridors. Furthermore, a corridor may be beneficial for some species but detrimental to others. For example, narrow linear corridors may allow increased access for racoons, cats, and other predators. Also, narrow corridors dominated by edge habitat may encourage invasion by weedy generalist plants and opportunistic species of birds and mammals. Corridors often consist of naturally vegetated areas that run through more open or developed landscapes. However, sparsely vegetated areas can also function as corridors. For example, many species move freely through agricultural land to reach natural areas. Despite the difficulty of identifying exact movement corridors for all species, these landscape features are important to the long-term viability of certain wildlife populations.

**Animal Movement Corridors should only be identified as SWH where:**

A Confirmed or Candidate SWH has been identified by OMNRF or the planning authority based on documented evidence of a habitat identified within these Criterion Schedules or the Significant Wildlife Habitat Technical Guide. The identified wildlife habitats within Table 1.4.1 will have distinct passageways or rely on well defined natural features for movements between habitats required by the species to complete its life cycle.

**Table 1.4.1. Animal Movement Corridors**

| Habitat | SPECIES | CANDIDATE SWH | | CONFIRMED SWH |
|---|---|---|---|---|
| | | ELC Eco-sites | Habitat Criteria and Information Sources | Defining Criteria |
| **Amphibian Movement Corridors**<br><br>**<u>Rationale;</u>**<br>Movement corridors for amphibians moving from their | Eastern Newt<br>Blue-spotted Salamander<br>Spotted Salamander<br>Gray Treefrog<br>Wood Frog<br>Spring Peeper<br>Boreal Chorus Frog | Corridors may be found in all ecosites associated with water.<br>• Corridors will be determined based on identifying the significant breeding habitat | Movement corridors between breeding habitat and summer habitat clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi.<br><br>Movement corridors must be determined when Amphibian breeding habitat is confirmed as | • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites (April-July).<br>• Corridors should consist of native vegetation, roadless |

| Habitat | SPECIES | CANDIDATE SWH | | CONFIRMED SWH |
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| terrestrial habitat to breeding habitat can be extremely important for local populations. | Wood Frog<br>Northern Leopard Frog<br>Green Frog<br>Mink Frog<br>American Toad<br>Four-toed Salamander | for these species in Table 1.2.2 | SWH from Table 1.2.2 (**Amphibian Breeding Habitat –Wetland)** of this Schedule Ⓔ.<br><br>Information Sources<br>• OMNRF District Office.<br>• NHIC.<br>• EIS reports and other studies prepared by CAs<br>• Naturalist Clubs. | area, no gaps such as fields, waterways or bodies, and undeveloped areas are most significant [cxlix]<br>• Corridors should be at least 200m wide [cxlix] with gaps <20m[cxlix], and if following riparian area, with at least 15m of vegetation on both sides of waterway [cxlix]. Shorter corridors are more significant than longer corridors; however amphibians must be able to get to and from their summer and breeding habitat [cxlix].<br>• SWHMiST [cxlix] Index #40 provides development effects and mitigation measures |
| **Cervid Movement Corridors**<br><br>**Rationale:**<br>Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their | Moose | Corridors may be found in all treed ecosites. | Movement corridor must be determined when **Moose Aquatic Feeding Area and Mineral Lick Habitat** are confirmed from Table 1.2.2 of this schedule. Ⓔ<br><br>Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).<br><br>Corridors will be multi-functional i.e. these will function for any smaller mammal species as well. | • Studies must be conducted at the time of year when moose are moving to mineral licks or aquatic feeding areas (May – July).<br>• Studies should include a description of surrounding forest matrix for determination of significance.<br>• Corridors that lead moose to MAFAs and mineral licks should remain intact. |

| Habitat | SPECIES | CANDIDATE SWH | | CONFIRMED SWH |
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| vulnerability while travelling. | | | Information Sources<br>• OMNRF District Office.<br>• NHIC.<br>• EIS reports and other studies prepared by CAs.<br>• Naturalist Clubs. | • SWHMiST [cxlix] Index #39 provides development effects and mitigation measures.<br>• Corridors with greater canopy coverage width having fewer gaps are more significant. |
| **Furbearer Movement Corridor**<br><br>**Rationale:**<br>Intact forest corridors are critical for movements within territories for hunting, breeding, and maintenance of populations.<br><br>For habitat related to denning sites, a corridor to and from the denning site must be maintained as this habitat is extremely important for local populations and is rarely identified. | Mink<br>Marten<br>Fisher<br>Otter<br>Canada Lynx | All treed Ecosites adjacent to or within shoreline habitats. | Mink and Otter den sites are typically found within a riparian area of a lake, river, stream or wetland. The den site will potentially have a movement corridor associated with it.<br><br>Den sites of other furbearer species may be more associated with social, hunting, breeding or other behaviours.<br><br>All den sites identified using Table 1.2.2 of this schedule under the habitat of **Denning Sites for Mink, Otter, Marten Fisher and Eastern Wolf** are to be considered for an animal movement corridor.<br><br>Information Sources<br>• Local naturalists and landowners may know some locations.<br>• OMNRF values information (NRVIS) may list known locations | Studies to confirm:<br>• Studies must be conducted at the time of year (March to June) when mink or otter are using the denning sites. Studies can be based on observation or from track and scat surveys.<br>• SWHMiST [cxlix] Index #31 provides development effects and mitigation measures. |

| Habitat | SPECIES | CANDIDATE SWH | | CONFIRMED SWH |
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| | | ELC Eco-sites | Habitat Criteria and Information Sources | Defining Criteria |
| | | | • OMNRF Ecologist or Biologist may be aware of locations.<br>• Topographical Maps together with aerial photographs will help locate potential sites.<br>• Local trappers may know the location of prime denning sites and movement corridors. | |