













## 3.3.1.2 Designation Changes to Previously Identified Wildlife Habitat Features

The following changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitats described in the approved NHA and EIS were made where distances from Project infrastructure to wildlife habitat Features changed as a result of the proposed Project Location modifications (refer to **Table 1**):

- Generalized Candidate Significant Wildlife Habitat for Amphibian Woodland Breeding in Natural Area 173 was changed to candidate Significant Wildlife Habitat Feature AWO-22 because it is within 120 m of a proposed access road as a result of Modification C1 (refer to **Figure 4.3**);
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-16 in Natural Area 250 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road as a result of Modification B3 (refer to **Figure 4.2**);
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-20 in Natural Area 172 was changed to Generalized Candidate Significant Wildlife Habitat because it is more than 120 m away from a proposed access road as a result of Modification C1 (refer to Figure 4.3);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 215 were changed to candidate Significant Wildlife Habitat Features SCP-26 and RHW-05, respectively, where vegetation removal is proposed in a CUW1q community as a result of Modification D10 (refer to **Figure 4.4**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 252 was changed to candidate Significant Wildlife Habitat Feature SCP-27 where vegetation removal is proposed in a CUM1-1 community as a result of Modification E5 (refer to **Figure 4.5**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 90 was changed to candidate Significant Wildlife Habitat Features SCP-28, SCP-29 and SCP-30 where vegetation removal is proposed in CUM1-1 communities along the Ausable River crossing as a result of Modification E6 (refer to **Figure 4.5**);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 341 was changed to candidate Significant Wildlife Habitat Features SCP-31, SCP-33 and RHW-06, respectively, where vegetation removal is proposed in CUM1-1 and CUW1m communities as a result of Modification K7 (refer to Figure 4.8); and
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in Natural Area 344 was changed to candidate Significant Wildlife Habitat Feature SCP-32 where vegetation removal is proposed in a CUM1-1 community as a result of Modification K8 (refer to **Figure 4.8**).

These Features were carried forward to the Evaluation of Significance of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required.

Although now within 120 m of an access road as a result of Modification G5, the Generalized Candidate Turtle Wintering Area in Natural Area 516 was no longer considered to be suitable habitat based on the results of site investigations conducted in support of this NHA Addendum (refer to **Table 6**). As well, Generalized Candidate Significant Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat previously identified in the approved NHA and EIS within a cultural thicket (CUT1-4) in Natural Area 290 no longer exist because the cultural thicket has since been cleared by the landowner. Therefore, these Features are not considered further in this NHA Addendum.

Minimum distances from the following Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the designation of candidate Significant Wildlife Habitat and Generalized Candidate Significant Wildlife Habitats described in the approved NHA and EIS:

- Candidate Significant Amphibian Movement Corridor Feature AMC-01: The distance from this Feature to the nearest access road decreased from 45 m to 106 m as a result of Modification B3;
- Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-04: The distance from this Features to an access road decreased from 35 m to 9 m (Modification G2);
- Candidate Significant Bat Maternity Colony Feature BMA-097: The distance from this Feature to the nearest Project Infrastructure (crane path and collection line) increased from 20 m to 22 m from turbine blade as a result of Modification G4; however, distance from turbine blade as reported in the approved NHA and EIS did not change (i.e., remains within 22 m);
- Generalized Candidate Significant Bat Maternity Colony Feature in Natural Area 173;
- Generalized Candidate Significant Turtle Wintering Area Features in Natural Areas 243 and 249;
- Generalized Candidate Significant Mature Forest Stand Feature in Natural Area 102;
- Generalized Candidate Significant Turtle Nesting Habitat Feature in Natural Area 249;
- Generalized Candidate Significant Amphibian Wetland Breeding Habitat Feature in Natural Area 249;
- Generalized Candidate Significant Plant Species of Conservation Concern Habitat Features in Natural Areas 97, 102, 173, 167 and 249; and
- Generalized Candidate Significant Red-headed Woodpecker Habitat Features in Natural Areas 97 and 102.

As a result of the proposed Project Location modifications, the following previously identified Features are no longer within 120 m of the Project Location (refer to **Table 1**):

- Candidate Significant Turtle Wintering Area Feature TWH-04 in Natural Area 250 as a result of Modification B3;
- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249 as a result of Modification B3;
- Candidate Significant Turtle Nesting Habitat Feature TNH-02 in Natural Area 298 as a result of Modification J2;
- Generalized Candidate Plant Species of Conservation Concern Habitat and Generalized Candidate Red-headed Woodpecker Habitat in Natural Area 285 as a result of Modification A3;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker, and Bat Maternity Colony in Natural Area 286 as a result of Modification A7;
- Generalized Candidate Plant Species of Conservation Concern Habitat and Generalized Candidate Red-headed Woodpecker Habitat in Natural Area 291 as a result of Modification A7;
- Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31 as a result of Modification A7; and
- Bat Maternity Colony Feature BMA-297 and Generalized Candidate Plant Species of Conservation Concern Habitat in Natural Area 297 as a result of Modification J2.

## 3.3.2 Areas of Natural and Scientific Interest (ANSIs)

The minimum distance from the Project Location to the Provincially Significant Ausable River Valley Life Science ANSI was reduced to 0 m (transmission line in Feature) as a result of Modification E6. Vegetation removal is proposed in CUM1-1 communities within the Thomson Line and Elginfield Road right-of-way, which is within the boundaries of this Feature as mapped by MNR. The descriptions of the attributes, composition and function of this ANSI did not change from the approved NHA and EIS and therefore are not repeated here. This feature was carried forward to the EIS of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required.

## 3.3.3 Minimum Distances from Natural Features to Project Location

The proposed Project Location modifications have resulted in changes to the minimum distance to Project Location for the following Features (**Table 7**). Minimum distances to Features not listed in the table below are the same as reported in the approved NHA and EIS. Where minimum distances from candidate Significant Wildlife Habitat Features to specific Project infrastructure requiring an Evaluation of Significance (as per Appendix D of the Natural Heritage Assessment Guide for Renewable Energy Projects; MNR, 2012) changed, these distances are also provided in the table below.

| Modification |   |                              | Natural               | Minimum Distance from  | n Project Location (m)                                  |
|--------------|---|------------------------------|-----------------------|--|---|
| ID           | Feature Type  | Feature ID                   | Area(s)               | Distance Reported in<br>Approved NHA and EIS (m)                               | Distance Corresponding to<br>Proposed Modifications (m) |
| A1           | Wetland   | WET-048                      | 217, 285,<br>286, 290 | 73<br>(turbine construction disturbance area)                                  | 61<br>(turbine construction disturbance area)           |
|              | Rare Vegetation Community   | RVC-05                       | 290                   | >120<br>(not included in approved NHA and EIS)                                 | 24<br>(access road and collection line)                 |
|              | Insect Species of Conservation Concern Habitat;<br>Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat | Generalized<br>Candidate SWH | 290                   | >120<br>(not included in approved NHA and EIS)                                 | 17<br>(access road and collection line)                 |
| A2           | Plant Species of Conservation Concern Habitat   | Generalized<br>Candidate SWH | 290                   | >0.1<br>(collection line)  | Not applicable <sup>3</sup>                             |
|              | Habitat for Red-headed Woodpecker   | Generalized<br>Candidate SWH | 290                   | >0.1<br>(collection line)  | Not applicable <sup>3</sup>                             |
| A3           | Woodland  | WOD-262                      | 285                   | >0.1<br>(access road)  | >120<br>(all infrastructure)                            |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat  | Generalized<br>Candidate SWH | 285                   | >0.1<br>(access road)  | >120<br>(all infrastructure)                            |
| A7           | Woodland  | WOD-273                      | 291                   | 3<br>(collection line)   | >120<br>(all infrastructure)                            |
|              | Woodland  | WOD-267                      | 286                   | 12<br>(collection line)  | >120<br>(all infrastructure)                            |
|              | Waterfowl Stopover and Staging Areas (Terrestrial)  | WSST-31                      | Not<br>applicable     | 0<br>(turbine construction disturbance area and<br>collection line in Feature) | >120<br>(all infrastructure)                            |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat  | Generalized<br>Candidate SWH | 291                   | 3<br>(collection line)   | >120<br>(all infrastructure)                            |
|              | Bat Maternity Colony; Plant Species of Conservation<br>Concern Habitat; Red-headed Woodpecker Habitat                               | Generalized<br>Candidate SWH | 286                   | 12<br>(collection line)  | >120<br>(all infrastructure)                            |
| B2           | Rare Vegetation Community   | RVC-02                       | 243                   | 27<br>(access road)  | >0.1<br>(collection line)                               |
|              | Turtle Wintering Area   | Generalized<br>Candidate SWH | 243                   | 95<br>(collection line)  | 44<br>(collection line)                                 |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat  | Generalized<br>Candidate SWH | 233                   | >120<br>(not included in the approved NHA and EIS)                             | >0.1<br>(collection line)                               |

<sup>3.</sup> Generalized Candidate Significant Plant Species of Conservation Concern Habitat and Red-headed Woodpecker Habitat previously identified in the approved NHA and EIS within a cultural thicket (CUT1-4) in Natural Area 290 no longer exist because the cultural thicket has since been cleared by the landowner.

| Modification |  |                              | Natural  | Minimum Distance from                                 | m Project Location (m)                                  |
|--------------|--|------------------------------|----------|---|---|
| ID           | Feature Type   | Feature ID                   | Area(s)  | Distance Reported in<br>Approved NHA and EIS (m)      | Distance Corresponding to<br>Proposed Modifications (m) |
| B3           | Amphibian Movement Corridor  | AMC-01                       | 250, 249 | >0.1<br>(collection line)<br>(45 m from access road)  | >0.1<br>(collection line)<br>(106 m from access road)   |
|              | Amphibian Woodland Breeding Habitat  | AWO-16                       | 250      | >0.1<br>(collection line)<br>(1 from access road)     | >0.1<br>(collection line)<br>(>120 from access road)    |
|              | Turtle Wintering Area  | TWH-04                       | 250      | 44<br>(access road)                                   | >120<br>(all infrastructure)                            |
|              | Turtle Wintering Area, Amphibian Wetland Breeding<br>Habitat, Turtle Nesting Habitat | Generalized<br>Candidate SWH | 249      | >0.1<br>(collection line)                             | 77<br>(collection line)                                 |
|              | Plant Species of Conservation Concern Habitat  | Generalized<br>Candidate SWH | 249      | >0.1<br>(collection line)                             | 16<br>(collection line)                                 |
|              | Marsh Bird Breeding Habitat  | Generalized<br>Candidate SWH | 249      | >0.1<br>(collection line)                             | >120<br>(all infrastructure)                            |
| C1           | Woodland   | WOD-192                      | 173      | 5<br>(substation)                                     | >0.1<br>(access road)                                   |
|              | Bat Maternity Colony; Plant Species of Conservation<br>Concern Habitat               | Generalized<br>Candidate SWH | 173      | 5<br>(substation)                                     | >0.1<br>(access road)                                   |
|              | Amphibian Woodland Breeding Habitat  | AWO-22                       | 173      | 5<br>(substation)<br>(>120 from access road)          | >0.1<br>(access road)                                   |
|              | Amphibian Woodland Breeding Habitat  | AWO-20                       | 172      | >0.1<br>(collection line)<br>(109 m from access road) | >0.1<br>(collection line)<br>(>120 m from access road)  |
|              | Plant Species of Conservation Concern Habitat  | Generalized<br>Candidate SWH | 172      | >120<br>(not included in the approved NHA and EIS)    | >0.1<br>(collection line)                               |
| D3           | Wetland  | WET-062                      | 143, 167 | 56<br>(turbine blade)                                 | 50<br>(access road)                                     |
|              | Plant Species of Conservation Concern Habitat  | Generalized<br>Candidate SWH | 167      | 56<br>(turbine blade)                                 | 50<br>(access road)                                     |
| D4           | Red-headed Woodpecker Habitat; Plant Species of<br>Conservation Concern Habitat      | Generalized<br>Candidate SWH | 145      | >120<br>(not included in the approved NHA and EIS)    | 34<br>(turbine construction disturbance area            |
| D10          | Woodland   | WOD-201                      | 215      | >0.1<br>(transmission line)                           | 0<br>(transmission line in feature)                     |
|              | Plant Species of Conservation Concern Habitat  | SCP-26                       | 215      | >0.1<br>(transmission line)                           | 0<br>(transmission line in feature)                     |
|              | Red-headed Woodpecker Habitat  | RHW-05                       | 215      | >0.1<br>(transmission line)                           | 0<br>(transmission line in feature)                     |

| Modification |  |                              | Natural                       | Minimum Distance from  | Project Location (m)                                    |
|--------------|--|------------------------------|-------------------------------|--|---|
| ID           | Feature Type   | Feature ID                   | Area(s)                       | Distance Reported in<br>Approved NHA and EIS (m)                         | Distance Corresponding to<br>Proposed Modifications (m) |
| E5           | Plant Species of Conservation Concern  | SCP-27                       | 252                           | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| E6           | Plant Species of Conservation Concern  | SCP-28                       | 90                            | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
|              | Plant Species of Conservation Concern  | SCP-29                       | 90                            | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
|              | Plant Species of Conservation Concern  | SCP-30                       | 90                            | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
|              | Life Science Area of Natural and Scientific Interest<br>(ANSI)   | Ausable River<br>Valley ANSI | 90                            | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
|              | Wetland  | WET-050                      | 90                            | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| F2           | Woodland   | WOD-111                      | 117, 383                      | >120<br>(not included in the approved NHA and EIS)                       | 41<br>(access road)                                     |
|              | Plant Species of Conservation Concern Habitat  | Generalized<br>Candidate SWH | 117                           | >120<br>(not included in the approved NHA and EIS)                       | 66<br>(access road and collection line)                 |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat                       | Generalized<br>Candidate SWH | 383                           | >120<br>(not included in the approved NHA and EIS)                       | 41<br>(access road and collection line)                 |
| F3           | Woodland   | WOD-097                      | 115, 116,<br>118, 119,<br>566 | >120<br>(not included in the approved NHA and EIS)                       | >0.1<br>(access road)                                   |
|              | Reptile Hibernacula  | RH-05                        | 118                           | >120<br>(not included in the approved NHA and EIS)                       | 5<br>(access road and collection line)                  |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat; Bat Maternity Colony | Generalized<br>Candidate SWH | 118, 119                      | >120<br>(not included in the approved NHA and EIS)                       | >0.1<br>(access road and collection line)               |
| G2           | Woodland   | WOD-110                      | 102                           | 17<br>(turbine construction disturbance area)                            | 9<br>(access road and collection line)                  |
|              | Wetland  | WET-063                      | 102                           | 55<br>(turbine construction disturbance area)                            | 20<br>(access road and collection line)                 |
|              | Amphibian Woodland Breeding Habitat  | AWO-04                       | 102                           | 17<br>(turbine construction disturbance area)<br>(35 m from access road) | 9<br>(access road and collection line)                  |
|              | Mature Forest Stand; Plant Species of Conservation<br>Concern Habitat; Red-headed Woodpecker Habitat   | Generalized<br>Candidate SWH | 102                           | 17<br>(turbine construction disturbance area)                            | 9<br>(access road and collection line)                  |
| G4           | Woodland   | WOD-084                      | 97                            | 20<br>(crane path and collection line)                                   | 22<br>(turbine blade)                                   |
|              | Wetland  | WET-025                      | 97                            | 20<br>(crane path and collection line)                                   | 22<br>(turbine blade)                                   |
|              | Plant Species of Conservation Concern Habitat; Red-<br>headed Woodpecker Habitat                       | Generalized<br>Candidate SWH | 97                            | 20<br>(crane path and collection line)                                   | 22<br>(turbine blade)                                   |

| Modification |   |                              | Natural          | Minimum Distance from  | m Project Location (m)                                  |
|--------------|---|------------------------------|------------------|--|---|
| ID           | Feature Type  | Feature ID                   | Area(s)          | Distance Reported in<br>Approved NHA and EIS (m)                           | Distance Corresponding to<br>Proposed Modifications (m) |
| G5           | Turtle Wintering Area <sup>4</sup>  | Generalized<br>Candidate SWH | 516              | 60<br>(collection line) (>120 m from access road)                          | 1<br>(access road and collection line)                  |
| J2           | Wetland   | WET-046                      | 298, 297,<br>295 | 29<br>(turbine construction disturbance area)                              | >120<br>(all infrastructure)                            |
|              | Turtle Nesting Habitat  | TNH-02                       | 298              | 23<br>(access road)  | >120<br>(all infrastructure)                            |
| -            | Plant Species of Conservation Concern   | Generalized<br>Candidate SWH | 298              | >120<br>(not included in the approved NHA and EIS)                         | 73<br>(turbine construction disturbance area)           |
| -            | Woodland  | WOD-261                      | 297              | 29<br>(turbine construction disturbance area)                              | >120<br>(all infrastructure)                            |
| -            | Bat Maternity Colony  | BMA-297                      | 297              | 29<br>(turbine construction disturbance area)<br>(34 m from turbine blade) | >120<br>(all infrastructure)                            |
| -            | Plant Species of Conservation Concern Habitat                                   | Generalized<br>Candidate SWH | 297              | 29<br>(turbine construction disturbance area)                              | >120<br>(all infrastructure)                            |
| J3           | Woodland  | WOD-265                      | 293              | >120<br>(not included in the approved NHA and EIS)                         | 30<br>(turbine construction disturbance area)           |
| -            | Red-headed Woodpecker Habitat, Plant Species of<br>Conservation Concern Habitat | Generalized<br>Candidate SWH | 293              | >120<br>(not included in the approved NHA and EIS)                         | 30<br>(turbine construction disturbance area)           |
| J4           | Wetland   | WET-044                      | 214              | >0.1<br>(collection line)  | 41<br>(turbine construction disturbance area)           |
| K1           | Plant Species of Conservation Concern Habitat                                   | SCP-24                       | 90               | Not applicable (not described in approved NHA and EIS)                     | 0<br>(transmission line in feature)                     |
| K5           | Woodland  | WOD-181                      | 342              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| K6           | Plant Species of Conservation Concern Habitat                                   | SCP-25                       | 340              | Not applicable (not described in approved NHA and EIS)                     | 0<br>(transmission line in feature)                     |
| K7           | Woodland  | WOD-175                      | 341              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| -            | Plant Species of Conservation Concern Habitat                                   | SCP-31                       | 341              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| -            | Plant Species of Conservation Concern Habitat                                   | SCP-33                       | 341              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| -            | Red-headed Woodpecker Habitat   | RHW-06                       | 341              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |
| K8           | Plant Species of Conservation Concern Habitat                                   | SCP-32                       | 344              | >0.1<br>(transmission line)  | 0<br>(transmission line in feature)                     |

<sup>4.</sup> Generalized Candidate Turtle Wintering Area Feature previously identified in Natural Area 516 was considered not to be suitable habitat based on site investigations conducted for this NHA Amendment.

# 4. Amendments to the Evaluation of Significance

## 4.1 Methods

## 4.1.1 Wetlands

Two wetland Features (WET-026 and WET-048) were carried forward to the Evaluation of Significance (refer to **Figure 2** for locations), as the changes to attributes and composition of these Features required a new Evaluation of Significance. As in the approved NHA and EIS, no development is proposed within wetland Features; therefore, wetland Features located within the 120 m Area of Investigation were treated as Provincially Significant and assessed using the protocol described in Appendix C of the Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, 2012). Consequently, no changes are required to the methods as described in the approved NHA and EIS. This evaluation was completed by OWES certified Biologists, Rob Aitken and Jessica Piette (refer to Appendix E of the approved NHA and EIS for qualifications). Field notes are provided in **Appendix B**.

## 4.1.2 Woodlands

Woodland Features WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277 were re-evaluated based on field data collected during site investigations conducted in support of this NHA Addendum, following the methods described in the approved NHA and EIS. Consequently, no changes are required to the methods as described in the approved NHA and EIS.

## 4.1.3 Wildlife Habitat

#### Bat Maternity Colonies

Bat Maternity Colony Feature BMA-297 is no longer within the 120 m Area of Investigation as a result of Modification J2. Consequently, pre-construction Evaluation of Significance surveys are no longer required for this Feature.

#### Reptile Hibernacula

An Evaluation of Significance will be conducted for candidate Reptile Hibernaculum RH-05 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

#### Turtle Wintering Areas

Evaluation of Significance studies for Turtle Wintering Areas within the 120 m Area of Investigation were completed according to the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

#### Rare Vegetation Community

Rare Vegetation Community Feature RVC-05 consists of a Fresh-Moist Black Walnut Lowland Deciduous Forest Type (FOD7-4) vegetation community, a rare forest type with a provincial ranking of S2S3. No additional field studies are required to evaluate the significance of this rare vegetation community.

#### Turtle Nesting Habitat

Turtle Nesting Habitat Feature TNH-02 is no longer within the 120 m Area of Investigation as a result of Modification J2. Consequently, pre-construction Evaluation of Significance surveys are no longer required for this Feature.

#### Amphibian Woodland Breeding Habitat

An Evaluation of Significance will be conducted for Candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-22 using the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

The designation of amphibian woodland breeding habitat Features AWO-16 and AWO-20 changed from candidate Significant Wildlife Habitat to Generalized Candidate Significant Wildlife Habitat as a result of Modifications B3 and C1, respectively. Consequently, pre-construction Evaluation of Significance surveys are no longer required for these Features.

#### Plant Species of Conservation Concern Habitat

Evaluation of Significance studies were conducted within ten Candidate Significant Plant Species of Conservation Concern Habitat Features (SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33) following the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

#### Red-headed Woodpecker Habitat

Evaluation of Significance studies were conducted for two Candidate Significant Red-headed Woodpecker Habitat Features (RHW-05 and RHW-06) following the methods described for this Significant Wildlife Habitat type in the approved NHA and EIS.

#### 4.2 Results

#### 4.2.1 Wetlands

The results of the wetland evaluations completed or revised in support of this NHA Addendum are documented in **Table 8**. Wetland Features WET-048 and WET-026 are considered to be riverine and palustrine, and are comprised of swamp and marsh habitat communities (refer to **Figure 3** for locations). Both wetland Features were treated as Provincially Significant and thus were carried forward to the EIS of this NHA Addendum.

#### 4.2.2 Woodlands

The results of the woodland evaluations completed or revised in support of this NHA Addendum are documented in **Table 9**. New evaluations were completed for woodland Features WOD-097, WOD-111 and WOD-265 (refer to **Figure 3** for locations) in support of this NHA Addendum and are presented in **Table 9**. No changes to the Evaluation of Significance are required for Significant Woodland Features WOD-263 and WOD-277 as a result of site investigation conducted in support of this NHA Addendum (these evaluations are presented in the approved NHA and EIS and are not reproduced here).

Woodland Features WOD-097, WOD-111 and WOD-265 were considered significant based on meeting at least one of the criteria in the evaluation process. Therefore, all five Significant Woodland Features (WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277) were carried forward to the EIS of this NHA Addendum.

Woodland WOD-273 in Natural Area 291 was determined not to be a Significant Woodland Feature in the approved NHA and EIS, and therefore it was not carried forward to the EIS of this NHA Addendum.

## Table 8. Wetland Characteristics and Ecological Function Assessment

|  | Minimum   |              |                 |                         | Biological Component   |   |                    |               |  |   | Hydrological (  | Component   |                        |   | Special   | Feature Compor   | nents                 |
|--|---|--------------|-----------------|-------------------------|--|---|--------------------|---------------|--|---|---|---|------------------------|---|---|--|-----------------------|
| Wetland ID   | Distance from                                       | Wetland      | We den el       |                         |  | Brandenites to Other  | Inter              | Open          |  |   | Water Quality Imp   | provement   | Shoreline              | 0   |   | Significant  | Ei-h                  |
| (refer to<br>Figure 2)   | Project Location<br>(m)                             | Size<br>(ha) | Wetland<br>Type | Site Type               | Vegetation Communities   | Proximity to Other<br>Wetlands  | Inter-<br>spersion | Water<br>Type | Flood Attenuation  | Short Term  | Long Term<br>Nutrient Trap                                  | Groundwater<br>Discharge  | Erosion<br>Control     | Groundwater<br>Recharge   | Species Rarity  | Features and<br>Habitats                               | Fish<br>Habitat       |
| WET-048<br>Natural Area(s)<br>217<br>285<br>286                  | 61<br>(turbine<br>construction<br>disturbance area) | 13.9         | Swamp,<br>Marsh | Riverine                | <ul> <li>S1 (FOD7-2): h: Green Ash, Black walnut,<br/>White Elm, Bur Oak, Sugar Maple, and<br/>Black Maple, ts: Green Ash, Basswood<br/>and White Elm seedlings, gc: Thicket-<br/>creeper, Zig-zag Goldenrod, Moneywort<br/>and Garlic Mustard</li> <li>Other wetland units not within the 120 m<br/>Area of Investigation include:</li> <li>S2 (SWD): h: Deciduous Swamp</li> <li>S3 (SWT2): ts: Willows</li> <li>M1 (MAM2-10): gc: Meadow Marsh</li> </ul> | Hydrologically<br>connected by<br>surface water to<br>other wetlands<br>(same dominant<br>wetland type) from<br>0.5 to 1.5 km away<br>(1,092 m) | 29                 | Type 1        | <ul> <li>Located in lower portion<br/>of the watershed;</li> <li>Size of catchment basin<br/>upstream of wetland:<br/>1,337 ha;</li> <li>Total area of known<br/>upstream detention<br/>areas 2.1 ha.</li> </ul> | Surrounding<br>land use is<br>over 50%<br>agricultural  | Swamp with less<br>than 50%<br>covered with<br>organic soil | <ul> <li>Topography: flat /<br/>rolling</li> <li>Wetland to catchment<br/>ratio: &lt;1%</li> <li>Seeps: None</li> <li>Not within 1 km of a<br/>major aquifer</li> </ul>       | Emergent<br>vegetation | <ul> <li>Dominant<br/>Wetland Type:<br/>Palustrine</li> <li>Soils: Clays</li> </ul> | No Species of<br>Conservation<br>Concern<br>encountered | Locally<br>significant<br>winter cover<br>for wildlife | Present:<br>Low Marsh |
| WET-026<br>Natural<br>Area(s)<br>115<br>118<br>119<br>120<br>121 | (no change)   | 24.1         | Swamp,<br>Marsh | Palustrine,<br>Riverine | <ul> <li>S1 (FOD7-2): h: Green Ash, White Elm,<br/>Shagbark Hickory and Basswood, ts:<br/>Choke Cherry, Silky Dogwood, and Blue<br/>Beech, Is: Wild Black Current, gc: Spotted<br/>Geranium, Yellow Avens and Garlic<br/>Mustard; and</li> <li>S2 (SWD2-2): h: Green Ash.</li> <li>Other wetland units not within the 120 m<br/>Area of Investigation include:<br/>S3 (SWD): h: Deciduous Swamp<br/>M1 (MAM): ne: Meadow Marsh</li> </ul>                    | Within 1 km of<br>other wetlands, but<br>not hydrologically<br>connected by<br>surface water<br>(928 m)   | 52                 | Type 1        | <ul> <li>Located in headwaters of watershed;</li> <li>Size of catchment basin upstream of wetland: 217 ha;</li> <li>No known upstream detention areas within catchment basin.</li> </ul>                         | Surroundin<br>g land use<br>is over 50%<br>agricultural | Swamp with<br>less than 50%<br>covered with<br>organic soil | <ul> <li>Topography: flat /<br/>rolling</li> <li>Wetland to catchment<br/>ratio: 11%</li> <li>Seeps: None</li> <li>Not located within 1<br/>km of a major aquifer.</li> </ul> | Trees and<br>shrubs    | <ul> <li>Dominant<br/>Wetland Type:<br/>Palustrine</li> <li>Soils: Clays</li> </ul> |   | Locally<br>significant<br>winter cover<br>for wildlife | Present:<br>Swamp     |

## Table 9. Determination of Significance for Woodlands

|                        |                               |                            |         |   |       |  |         |   | Eval     | luation Criteria and   | Sta   | andards  |                 |   |                              |  |                         |                                  |
|------------------------|-------------------------------|----------------------------|---------|---|-------|--|---------|---|----------|--|-------|--|-----------------|---|------------------------------|--|-------------------------|----------------------------------|
|                        |                               |                            |         |   | 1     |  |         | the Municipality of Lambton Shores, 11.54% woodland cover within the Municipality of Warwick, and 14.83% woodland cover within the Municipality of North Middlesex) |          |  |       |  |                 |   |                              | ,  | -                       |                                  |
|                        |                               |                            | 1. V    | Voodland Size                                     | 2a.   | Woodland Interior                                |         | Proximity to Other Significant<br>Voodlands/Habitats  | 2c. L    | inkages  | 2d.   | Water Protection   |                 | Woodland Diversity<br>Representation<br>(Composition)   | 3. l                         | Jncommon Characteristics   |                         |                                  |
| Woodland<br>Feature ID | Natural<br>Area #             | Municipality               |         | Must be at least                                  | М     | ist have woodland interior at least <sup>1</sup> |         | e within 30 m of a significant natural<br>ture or fish habitat <sup>2</sup> and be at least   |          | st be located between two other<br>ant Features each of which are 120<br>m apart and be at least | grour | st be located within 50 m of a sensitive<br>dwater discharge <sup>3</sup> , recharge, headwater,<br>ercourse or fish habitat and be at least | combir<br>Ms, M | lust be dominated singly or in<br>nation by native naturally occurring<br>b, Msi, Mr, By, H, Ba, Ab, Wb, Ta,<br>Pi, Oa, Ba, He, and be at least | Habitat<br>spe<br>c<br>Chara | ave rare vegetation community (S1, S2, S3) and be<br>more than 0.5 ha in size OR<br>t of a rare, uncommon, or restricted woodland plant<br>ecies with ten individual stems or 100 m of leaf<br>soverage and be more than 0.5 ha in size OR<br>acteristics of older woodlands with larger tree size<br>structure in native species and be more than | # of<br>Criteria<br>Met | Determination of<br>Significance |
|                        |                               |                            | Municip | pality of Lambton Shores:<br><b>20 ha</b> in size | Munic | ipality of Lambton Shores: <b>2 ha</b> in size   | Municip | pality of Lambton Shores: <b>4 ha</b> in size   | Munic    | ipality of Lambton Shores: <b>4 ha</b> in<br>size  | Mur   | icipality of Lambton Shores: <b>2 ha</b> in size   | Munic           | ipality of Lambton Shores: <b>4 ha</b> in size  | I                            | Municipality of Lambton Shores: <b>2 ha</b> in size  |                         |                                  |
|                        |                               |                            | Munic   | ipality of Warwick: 4 ha                          | N     | Junicipality of Warwick: any size                | Mu      | nicipality of Warwick: 1 ha in size   | Mun      | icipality of Warwick: 1 ha in size   | ſ     | Iunicipality of Warwick: 0.5 ha in size  | Mun             | icipality of Warwick: 1 ha in size  |                              | Municipality of Warwick: 1 ha in size  |                         |                                  |
|                        |                               |                            | Munici  | bality of North Middlesex:<br><b>4 ha</b> in size | Muni  | cipality of North Middlesex: any size            | Municip | pality of North Middlesex: <b>1 ha</b> in size  | Municipa | ality of North Middlesex: <b>1 ha</b> in size  | Mun   | cipality of North Middlesex: <b>0.5 ha</b> in size   | Munic           | ipality of North Middlesex: <b>1 ha</b> in size   | 1                            | Municipality of North Middlesex: 1 ha in size  |                         |                                  |
|                        |                               |                            |         | Criteria Met                                      |       | Criteria Met                                     |         | Criteria Met  |          | Criteria Met   |       | Criteria Met   |                 | Criteria Met  |                              | Criteria Met   |                         |                                  |
|                        |                               |                            | Y/N     | Description                                       | Y/N   | Description                                      | Y/N     | Description   | Y/N      | Description  | Y/N   | Description  | Y/N             | Description   | Y/N                          | Description  |                         |                                  |
| WOD-097                | 115, 116,<br>118, 119,<br>566 | Warwick/ Lambton<br>Shores | Y       | 76.0 ha   | Y     | 7.4 ha   | Y       | Within 30 m of another significant Feature  | N        | Does not meet criteria   | N     | Not within 120 m of water (no fish habitat)  | Y               | Dominated by listed species   | Y                            | Mature forest present  | 5                       | Significant                      |
| WOD-111                | 117, 383                      | Lambton Shores             | N       | 4.3 ha  | N     | 0.0 ha   | Y       | Within 30 m of another significant Feature  | N        | Does not meet criteria   | Ν     | Not within 120 m of water (no fish habitat)  | Y               | Dominated by listed species   | N                            | Does not meet criteria   | 2                       | Significant                      |
| WOD-265                | 293                           | Lambton Shores             | N       | 15.4 ha   | Y     | 3.2 ha   | Y       | Within 30 m of fish habitat;<br>within 30 m of another<br>significant Feature   | N        | Does not meet criteria   | Y     | Within 50 m of fish habitat  | Y               | Dominated by listed species   | Y                            | Mature forest present  | 5                       | Significant                      |

## 4.2.3 Wildlife Habitat

Rare Vegetation Community Feature RVC-05 was confirmed as significant and carried forward to the EIS of this NHA Addendum. In addition, for the purposes of this submission, the following candidate Significant Wildlife Habitat Features were treated as significant and carried forward to the EIS, with a commitment to complete pre-construction Evaluation of Significance surveys as described in **Section 4.1.3** of this NHA Addendum:

- Reptile Hibernacula Feature RH-05; and
- Amphibian Woodland Breeding Habitat Feature AWO-22.

The designation of candidate Significant Amphibian Woodland Breeding Habitat Features AWO-16 and AWO-20 were changed to Generalized Candidate Significant Wildlife Habitat; therefore, pre-construction Evaluation of Significance surveys are no longer required for these Features. Turtle Wintering Area Feature TWH-04, Turtle Nesting Habitat Feature TNH-02 and Bat Maternity Colony Feature BMA-297 are no longer within 120 m of the Project Location and therefore pre-construction Evaluation of Significance surveys are no longer required for these Features.

The results of Evaluation of Significance studies completed in support of this NHA Addendum are described below.

#### Turtle Wintering Areas

Evaluation of significance surveys for candidate significant Turtle Wintering Area Features TWH-01, TWH-02, TWH-03, TWH-05, TWH-06, TWH-07 and TWH-08 were completed between April 9, 2013 and May 27, 2013. The results of these surveys are summarized in **Table 10**. Field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS.

Turtle Wintering Area Feature TWH-01 was assumed to be Significant Wildlife Habitat because it was not possible to complete Evaluation of Significance surveys for this feature due to a lack of property access. Features TWH-02, TWH-05, TWH-06 and TWH-07 were determined to be Significant Wildlife Habitat based on occurrences of Snapping Turtle. These Features were carried forward to the EIS of this NHA Addendum.

| Feature |             | Pre-constr                     | uction Evaluation of Significa   | nce Surveys                       | Determination of        |
|---------|-------------|--------------------------------|----------------------------------|-----------------------------------|-------------------------|
| ID      |             | Round 1                        | Round 2                          | Round 3                           | Significance            |
| TWH-01  | Date, Start | April 9, 2013                  | N/A                              | N/A                               | Yes – assumed           |
|         | and End     | 14:05 – 14:25                  |                                  |                                   | Significant Wildlife    |
|         | Times, and  | Wind (Beaufort Scale): 2       |                                  |                                   | Habitat                 |
|         | Weather     | Wind Direction: SW             |                                  |                                   |                         |
|         | Conditions  | Cloud Cover (%): 100           |                                  |                                   | This Feature was        |
|         |             | Temp. (°C): 9                  |                                  |                                   | assumed Significant     |
|         |             | Precipitation: Drizzle         |                                  |                                   | due to lack of property |
|         | Results     | Surveys not completed becau    | use permission to access private | e property was denied. Visibility | access to the Feature.  |
|         |             | of Feature is low from roadsid | de vantage point.                |                                   |                         |
| TWH-02  | Date, Start | April 15, 2013                 | May 1, 2013                      | May 16, 2013                      | Yes – Significant       |
|         | and End     | 16:05 – 16:26                  | 14:25 – 14:45                    | 11:35 – 11:55                     | Wildlife Habitat        |
|         | Times and   | Wind (Beaufort Scale): 4       | Wind (Beaufort Scale): 3         | Wind (Beaufort Scale): 2          |                         |
|         | Weather     | Wind Direction: S              | Wind Direction: S                | Wind Direction: SW                | No turtles were         |
|         | Conditions  | Cloud Cover (%): 90            | Cloud Cover (%): 0               | Cloud Cover (%): 0                | observed at this        |
|         |             | Temp. (°C): 21                 | Temp. (°C): 26                   | Temp. (°C): 20                    | Feature; however, one   |
|         |             | Precipitation: None            | Precipitation: None              | Precipitation: None               | Snapping Turtle         |
|         | Results     | No turtles observed.           | No turtles observed.             | No turtles observed.              | observed in adjacent    |
|         |             |                                |                                  |                                   | pond (TWH-07).          |

#### Table 10. Determination of Significance for Turtle Wintering Areas

| Feature |  | Pre-constru   | uction Evaluation of Significan  | ce Surveys   | Determination of   |  |
|---------|--|---|--|--|--|--|
| ID      |  | Round 1   | Round 2  | Round 3  | Significance   |  |
| TWH-03  | Date, Start<br>and End                                       | May 1, 2013<br>12:30 – 12:50  | May 17, 2013<br>11:15 – 11:35  | May 27, 2013<br>14:11 – 14:35  | No – not Significant<br>Wildlife Habitat.  |  |
|         | Times and<br>Weather   | Wind (Beaufort Scale): 3<br>Wind Direction: SE  | Wind (Beaufort Scale): 2<br>Wind Direction: SW   | Wind (Beaufort Scale): 2<br>Wind Direction: SE   | Below threshold of 5   |  |
|         | Conditions   | Cloud Cover (%): 0<br>Temp. (°C): 22<br>Precipitation: None   | Cloud Cover (%): 55<br>Temp. (°C): 13<br>Precipitation: None   | Cloud Cover (%): 20<br>Temp. (°C): 19<br>Precipitation: None   | Midland Painted<br>Turtles. No Snapping<br>Turtles or Northern Map   |  |
|         | Results  | Three Midland Painted<br>Turtles observed basking on<br>floating log.   | One Midland Painted Turtle observed basking.   | No turtles observed.   | Turtles observed.  |  |
| TWH-04  | Feature TWH  |   | the Project Location as a result   | of Modification B3.  | 1  |  |
| TWH-05  | Date, Start<br>and End<br>Times and<br>Weather<br>Conditions | April 15, 2013<br>10:10 – 10:30<br>Wind (Beaufort Scale): 1<br>Wind Direction: SE<br>Cloud Cover (%): 30<br>Temp. (°C): 9                         | May 1, 2013<br>15:31 – 15:51<br>Wind (Beaufort Scale): 2<br>Wind Direction: S<br>Cloud Cover (%): 0<br>Temp. (°C): 26  | May 16, 2013<br>10:00 – 10:20<br>Wind (Beaufort Scale): 2<br>Wind Direction: SW<br>Cloud Cover (%): 0<br>Temp. (°C): 15                        | Yes – confirmed<br>Significant Wildlife<br>Habitat<br>Presence of one<br>Snapping Turtle near                              |  |
|         | Results  | Precipitation: None<br>No turtles observed.   | Precipitation: None<br>Three Midland Painted Turtles<br>observed basking on fallen<br>log. One Snapping Turtle<br>observed travelling around<br>gravel pit towards the pond. | Precipitation: None<br>Four Midland Painted Turtles<br>observed basking on same<br>fallen log.   | and travelling towards<br>the pond and at least<br>four Midland Painted<br>Turtles observed<br>basking in the pond.        |  |
| TWH-06  | Date, Start<br>and End<br>Times and<br>Weather<br>Conditions | April 15, 2013<br>13:46 – 14:06<br>Wind (Beaufort Scale): 3<br>Wind Direction: SE<br>Cloud Cover (%): 85<br>Temp. (°C): 14<br>Precipitation: None | May 1, 2013<br>10:15 – 10:35<br>Wind (Beaufort Scale): 2<br>Wind Direction: SE<br>Cloud Cover (%): 10<br>Temp. (°C): 18<br>Precipitation: None                               | May 16, 2013<br>13:30 – 14:10<br>Wind (Beaufort Scale): 2<br>Wind Direction: SW<br>Cloud Cover (%): 0<br>Temp. (°C): 20<br>Precipitation: None | Yes – Significant<br>Wildlife Habitat.<br>Presence of one<br>Snapping Turtle in<br>adjacent pond.                          |  |
|         | Results  | No turtles observed.  | No turtles observed.   | No turtles observed in TWH-<br>06. One Snapping Turtle<br>observed basking in adjacent<br>pond.  |  |  |
| TWH-07  | Date, Start<br>and End<br>Times and<br>Weather<br>Conditions | April 15, 2013<br>15:45 – 16:05<br>Wind (Beaufort Scale): 4<br>Wind Direction: S<br>Cloud Cover (%): 90<br>Temp. (°C): 21<br>Precipitation: None  | May 1, 2013<br>14:03 – 14:23<br>Wind (Beaufort Scale): 3<br>Wind Direction: S<br>Cloud Cover (%): 0<br>Temp. (°C): 26<br>Precipitation: None                                 | May 16, 2013<br>11:35 – 11:55<br>Wind (Beaufort Scale): 2<br>Wind Direction: SW<br>Cloud Cover (%): 0<br>Temp. (°C): 20<br>Precipitation: None | Yes – confirmed<br>Significant Wildlife<br>Habitat.<br>One Snapping Turtle<br>observed basking along<br>shoreline of pond. |  |
|         | Results  | No turtles observed.  | One Snapping Turtle<br>observed basking in weeds<br>along shoreline of the pond.   | No turtles observed.   |  |  |
| TWH-08  | Date, Start<br>and End<br>Times and<br>Weather<br>Conditions | April 15, 2013<br>17:05 – 17:25<br>Wind (Beaufort Scale): 4<br>Wind Direction: S<br>Cloud Cover (%): 100<br>Temp. (°C): 21                        | May 2, 2013<br>9:15 – 9:35<br>Wind (Beaufort Scale): 4<br>Wind Direction: SE<br>Cloud Cover (%): 10<br>Temp. (°C): 19  | May 16, 2013<br>10:00 – 10:20<br>Wind (Beaufort Scale): 2<br>Wind Direction: SE<br>Cloud Cover (%): 0<br>Temp. (°C): 20                        | No – not Significant<br>Wildlife Habitat.<br>Below threshold of 5<br>Midland Painted<br>Turtles. No Snapping               |  |
|         | Results  | Precipitation: None<br>No turtles observed.   | Precipitation: None<br>Four Midland Painted Turtles<br>observed, three basking on<br>log and one on bank.  | Precipitation: None<br>No turtles observed.  | Turtles of Northern Mag  |  |

#### Plant Species of Conservation Concern Habitat

A summary of the results of the plant species inventories conducted in Features SCP-24, SCP-25, SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33 is provided in **Table 11**. A detailed list of all plant species observed in Features previously identified in the NHA and EIS (SCP-26, SCP-27, SCP-28, SCP-29, SCP-30, SCP-31, SCP-32 and SCP-33) is presented in Appendix I of the approved NHA and EIS and field notes are presented in Appendix D of the approved NHA and EIS. For Features SCP-24 and SCP-25, a detailed list of all plant species observed is provided in **Appendix C** and field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS. No plant Species of Conservation Concern were observed at any of these Features and thus none were carried forward to the EIS of this NHA Addendum.

| Feature ID | Natural<br>Area | ELC Unit | Date and Time of Vascular<br>Plant Survey | Plant Species of Conservation<br>Concern Observed | Carried Forward to EIS                |
|------------|-----------------|----------|---|---|---------------------------------------|
| SCP-24     | 90              | CUM1-1   | 01-Aug-13; 11:50-12:15                    | No  | No – not Significant Wildlife Habitat |
| SCP-25     | 340             | CUM1-1   | 01-Aug-13; 10:40 – 11:25                  | No  | No – not Significant Wildlife Habitat |
| SCP-26     | 215             | CUW1q    | 12-Jul-12; 12:30 – 14:30                  | No  | No – not Significant Wildlife Habitat |
| SCP-27     | 252             | CUM1-1   | 7-Jun-12; 13:45 – 2:55                    | No  | No – not Significant Wildlife Habitat |
| SCP-28     | 90              | CUM1-1   | 7-Jun-12; 07:45 – 15:30                   | No  | No – not Significant Wildlife Habitat |
| SCP-29     | 90              | CUM1-1   | 6-Jun-12; 08:15 – 09:30                   | No  | No – not Significant Wildlife Habitat |
| SCP-30     | 90              | CUM1-1   | 6-Jun-12; 16:30 – 18:15                   | No  | No – not Significant Wildlife Habitat |
| SCP-31     | 341             | CUM1-1   | 21-Jun-12; 11:09 –11:58                   | No  | No – not Significant Wildlife Habitat |
| SCP-32     | 344             | CUM1-1   | 12-Jun-12; 11:30 –15:00                   | No  | No – not Significant Wildlife Habitat |
| SCP-33     | 341             | CUW1m    | 21-Jun-12; 11:09 –11:58                   | No  | No – not Significant Wildlife Habitat |

#### Table 11. Determination of Significance for Plant Species of Conservation Concern Habitat

#### Red-headed Woodpecker Habitat

A summary of the results of woodland breeding bird surveys conducted in Features RHW-05 and RHW-06 is provided in **Table 12**. Field notes are provided in **Appendix B**. The qualifications of all field personnel were provided in Appendix E of the approved NHA and EIS. No evidence of bird Species of Conservation Concern, including Redheaded Woodpecker, was recorded in RHW-05 or RHW-06. Consequently, these Features were not carried forward to the EIS of this NHA Addendum.

#### Table 12. Determination of Significance for Red-headed Woodpecker Habitat

| Feature | Natural     | Round 1 Su   | irvey  | Round 2 St   | urvey  | Round 3 St   | urvey  | Carried                                     |
|---------|-------------|--|--|--|--|--|--|---|
| ID      | Area<br>No. | Date, Time and<br>Weather Conditions   | Results  | Results Date, Time and Weather Conditions  |  | Date, Time and<br>Weather Conditions   | Results  | Forward to EIS                              |
| RHW-05  | 215         | 5/30/2012<br>7:33 am- 7:43 am<br>Temp: 12°C<br>Wind Direction: W<br>Wind Scale: 1<br>Sky Condition:<br>clear, bright<br>Cloud Cover: 10% | No bird<br>species of<br>conservatio<br>n concern<br>observed. | 1 · · · · ·  | No bird<br>species of<br>conservatio<br>n concern<br>observed. | 7/1/2012<br>7:18 am- 7:28 am<br>Temp: 20°C<br>Wind Direction: -<br>Wind Scale: 0<br>Sky Condition: 0<br>Cloud Cover: 0%  | No bird<br>species of<br>conservatio<br>n concern<br>observed. | No – not<br>Significant Wildlife<br>Habitat |
| RHW-06  | 341         | 5/31/2012<br>5:48 am- 5:58 am<br>Temp: 8°C<br>Wind Direction: -<br>Wind Scale: 0<br>Sky Condition: 1<br>Cloud Cover: 40%                 | No bird<br>species of<br>conservatio<br>n concern<br>observed. | 6/18/2012<br>6:28 am- 6:38 am<br>Temp: 15°C<br>Wind Direction: S<br>Wind Scale: 1-2<br>Sky Condition: 4<br>Cloud Cover: 100% | No bird<br>species of<br>conservatio<br>n concern<br>observed. | 6/30/2012<br>7:31 am- 7:55 am<br>Temp: 25°C<br>Wind Direction: N<br>Wind Scale: 2<br>Sky Condition: 0<br>Cloud Cover: 0% | No bird<br>species of<br>conservatio<br>n concern<br>observed. | No – not<br>Significant Wildlife<br>Habitat |

#### Generalized Candidate Significant Wildlife Habitat

The following new Generalized Candidate Significant Wildlife Habitat Features were carried forward to the EIS:

- Bat Maternity Colonies in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

## 4.2.4 Summary of Features Carried Forward to the EIS

The following Features were either evaluated and confirmed to be significant or treated as significant for the purpose of this submission and carried forward to the EIS:

- Wetland Feature WET-026 and WET-048;
- Woodland Features WOD-097, WOD-111, WOD-263, WOD-265 and WOD-277;
- Reptile Hibernacula Feature RH-05;
- Rare Vegetation Community Feature RVC-05;
- Turtle Wintering Habitat Features TWH-01, TWH-02, TWH-05, TWH-06 and TWH-07; and
- Amphibian Woodland Breeding Habitat Feature AWO-22.

The following new Generalized Candidate Significant Wildlife Habitats were identified as a result of the proposed Project Locations modifications and carried forward to the EIS:

- Bat Maternity Colonies in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

Where distances from Project infrastructure to Significant Features changed as a result of the proposed Project Location modifications (refer to **Table 1**), these Features were carried forward to the EIS of this NHA Addendum to ensure that any potential effects of the modified Project components are addressed through the application of appropriate mitigation measures, if required:

- Wetland Features WET-025, WET-044, WET-046, WET-050, WET-062 and WET-063;
- Woodland Features WOD-084, WOD-110, WOD-175, WOD-181, WOD-192, WOD-201, WOD-261, WOD-262 and WOD-267;
- Turtle Wintering Area Feature TWH-04;
- Turtle Nesting Habitat Feature TNH-02;
- Amphibian Woodland Breeding Habitat Features AWO-04, AWO-16 and AWO-20;
- Generalized Candidate Turtle Wintering Area in Natural Area 516;
- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 285;

- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker, and Generalized Candidate Bat Maternity Colony in Natural Area 286;
- Bat Maternity Colony Feature BMA-297 in Natural Area 297;
- Generalized Candidate Plant Species of Conservation Concern Habitat in Natural Area 297;
- Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31;
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 291;
- Provincially Significant Ausable River Valley Life Science ANSI.

# 5. Amendments to the Environmental Impact Study

## 5.1 Construction and Operation of the Transmission Line within the Thomson Line and Elginfield Road Right-of-way and Significant Wetlands

According to the amended O. Reg. 359/09, applicants may seek an exemption from the prohibition on development within a provincially significant wetland for the construction or installation of a transmission line. In support of this exemption, the EIS Report must provide an explanation for why it is not reasonable for the transmission line to be entirely outside the wetland, including a review of alternative transmission line routes and a description of how the proposed route has the fewest effects and is most easily mitigated. This description is provided below for the construction and operation of the transmission line within the Thomson Line and Elginfield Road Right-of-way and the Provincially Significant Ausable River Wetland (WET-050) and Significant Wetland Feature WET-078.

## 5.1.1 Rationale for Selecting the Proposed Transmission Line Route

The proposed transmission line route was selected as the preferred route for connecting the Jericho transformer substation to the Bornish Wind Energy Centre switchyard based on a review of technical and environmental considerations as well as stakeholder consultation. The range of potential route options for connecting the Jericho Project to the Bornish switchyard is highly constrained by the limited number of available crossings along the Ausable River, which runs north to south through the Project Study Area. Given that the transmission line route must commence at the Jericho transformer substation, which needs to be located in close proximity to the wind turbines that are associated with the Jericho Project, and that it must terminate at the Bornish switchyard, the transmission line route must cross the Ausable River at some point.

Within the Project Study Area, it would be much less disruptive to use an existing Ausable River crossing rather than to establish a new crossing. A new crossing would require clearing of trees and vegetation within the Ausable River valley, which contain several environmentally sensitive features including the Provincially Significant Ausable River Valley Life Science Area of Natural and Scientific Interest, the Provincially Significant Ausable River Wetland, and numerous Significant Wildlife Habitat Features. Using an existing crossing would minimize impacts to these Features.

There are a very limited number of existing crossings of the Ausable River in the Project Study Area. The Thomson Line/Elginfield Road crossing is the most direct transmission line route from the Jericho substation to the Bornish switchyard. The next-closest available river crossings, both to the north and to the south, would add several kilometers to the total length of the transmission line. Therefore, because the Thomson Line/Elginfield Road crossing would minimize negative environmental effects and affect the fewest number of people, the Thomson Line/Elginfield Road crossing is the preferred location for the transmission line crossing of the Ausable River. As a result, some vegetation removal will be required within the Provincially Significant Ausable River Wetland (WET-050) in the vicinity of the Ausable River crossing.

Portions of Significant Wetland Feature WET-078 in Natural Areas 235 and 236 extend into the Thomson Line rightof-way west of Arkona Road. In this location, the transmission line is proposed to be sited on the north side of the road within the right-of-way. The proposed transmission line route was selected as the preferred route as there are Hydro One Network distribution poles located on the other side of the road from WET-078. Therefore, Jericho Wind Inc. is currently expecting to locate the transmission line in the Thomson Line right-of-way within Significant Wetland Feature WET-078.

## 5.1.2 Construction and Operation of the Transmission Line

The transmission line is proposed to be located on private property and within existing road rights-of-way. The following pertains to those portions of the transmission line that will be installed within the Thomson Line and Elginfield Road right-of-way, and adjacent to or within Natural Features (*i.e.*, Woodlands, Wetlands, ANSIs and Significant Wildlife Habitat) identified in the approved NHA and EIS or this NHA Addendum. In the vicinity of the Ausable River, vegetation removal will occur within the right-off-way in CUM1-1 communities which do not contain Significant Wildlife Habitat, as described in this NHA Addendum.

A portion of the Provincially Significant Ausable River Wetland, as mapped by MNR, extends into the road right-of-way within these CUM1-1 vegetation communities and adjacent to the Ausable River. Therefore the minimum distance from the Project Location to Wetland Feature WET-050, which includes the Provincially Significant Ausable River Wetland, will be reduced to 0 m (transmission line in Feature). The transmission line will span this Feature and/or trimming of branches or selective tree removal may occur within the mapped Provincially Significant Ausable River Wetland.

Likewise, the minimum distance from the Project Location to Wetland Feature WET-078 will be reduced to 0 m (transmission line in Feature) resulting from the need to locate the transmission line on the north side of the road due to the presence of existing Hydro One Network distribution poles on the south side of the road. Vegetation removal for the transmission line will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way. Mitigation measures, monitoring and compensation measures to address potential effects to Wetland Features WET-050 and WET-078 are described in **Section 5.2** below.

In the vicinity of this crossing, a number of Significant Features extend into the road right-of-way. These include Wetland Features WET-050 and WET-078, Woodland Feature WOD-263, the Provincially Significant Ausable River Life Science ANSI, Significant Wildlife Habitat Features including Deer Winter Congregation Area DWC-02, a Rare Vegetation Community (FOD7-4), and Generalized Candidate Significant Wildlife Habitat Features. As described in the approved NHA and EIS for Generalized Candidate Significant Wildlife Habitat, vegetation removal for the transmission line will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way.

Similarly, Significant Woodlands, Significant Wetlands and Significant Wildlife Habitat Features including Rare Vegetation Communities and Generalized Candidate Significant Wildlife Habitat Features extend into the Thomson Line and Elginfield Road right-of-way in other locations along the transmission line alignment. Vegetation removal in these Features will be kept to a minimum and limited to the road right-of-way. This may include trimming of branches or selective tree removal within the road right-of-way.

During operation, regular vegetation control will be required around the transmission line to prevent any damage to the line and ensure safe operation. For safety reasons and for maintenance of the transmission line, vegetation within 10 m of the road right-of-way may need to be trimmed or selectively removed. Any vegetation that has the potential to grow to more than 4.3 m above grade will be cleared. The vegetation is typically cleared by mechanized equipment (e.g., chainsaw / hydro axe). Mitigation measures to address potential effects of routine maintenance of the transmission line are described in **Table 13** below.

# 5.2 Significant Wetlands

The minimum distance from Significant Wetland Feature WET-026 to the nearest Project Infrastructure did not change as a result of the proposed Project Location modifications. Therefore, no changes to the mitigation measures as described in Section 5.5.1 (Table 5.2) of the approved NHA and EIS and EIS are required for this Feature.

The minimum distance from Wetland Feature WET-050 to the nearest Project infrastructure (transmission line) is reduced from >0.1 m to 0 m (transmission line in Feature) as a result of Modification E6. Likewise, the minimum distance from the Project Location to Wetland Feature WET-078 will be reduced to 0 m (transmission line in Feature). Potential effects, mitigation measures, monitoring commitments and contingency measures to address potential effects to WET-050 and WET-078 are described in **Table 13** below. In addition, the minimum distances from the Project Location to the following Significant Wetland Features changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

- WET-025: The minimum distance from this Feature to the nearest Project infrastructure (turbine blade) was increased from 20 to 22 m as a result of Modification G4. No changes are required to the mitigation measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- WET-044: The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) was increased from >0.1 m to 41 m as a result of Modification J4. Therefore, mitigation measures described for wetlands within 30 m to 120 m of Project infrastructure in Section 5.5.1 (Table 5.2) of the approved NHA and EIS will be applied to WET-044.
- WET-046: This Feature is no longer within the 120 m Area of Investigation as a result of Modification J2; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WET-046.
- WET-048: The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) was reduced from 73 m to 61 m as a result of Modification A1. No changes are required to the mitigation measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- WET-062: The minimum distance from this Feature to the nearest Project infrastructure (access road) is
  reduced from 56 m to 50 m as a result of Modification D3. No changes are required to the mitigation
  measures described in Section 5.5.1 of the approved NHA and EIS to accommodate this modification,
  as the distance still falls within the range of distances for the mitigation measures proposed (refer to
  mitigation measures for wetlands within 5 m to 30 m of Project Infrastructure in Table 5.2).
- WET-063: The minimum distance from this Feature to the nearest Project infrastructure (access road and collection line) was reduced from 55 m to 20 m as a result of Modification G2. Therefore, mitigation measures described for wetlands within 5 m to 30 m of Project infrastructure in Section 5.5.1 (Table 5.2) of the approved NHA and EIS will be applied to WET-063.

No other changes to the mitigation measures described for Significant Wetland Features in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

| Significant<br>Wetland   | Potential Effects   | Performance<br>Objectives                                     | Mitigation Measures  | Likelihood and Significance<br>of<br>Residual Effects  | Monitoring Plan and Contingency<br>Measures  |
|--|---|---|--|--|--|
| Wetlands where<br>vegetation<br>removal is<br>proposed<br>WET-050<br>(transmission line)<br>WET-078<br>(transmission line) | Construction/<br>Decommissioning<br>• Trimming of branches<br>or selective tree<br>removal for<br>transmission line in<br>Significant Wetlands<br>WET-050 and WET-<br>078 within road right-<br>of-way. | Minimize loss of<br>wetland cover<br>over time.               | <ul> <li>Refer to General Mitigation Measures (Section 5.4 of approved NHA and EIS) for standard mitigation measures.</li> <li>Install transmission line poles outside the boundaries of the Significant Wetland.</li> <li>Minimize vegetation removal in Significant Wetland, to the extent possible.</li> <li>Perform vegetation clearing outside of the breeding bird season (May 1 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required. Refer to Section 5.7 of the approved NHA and EIS for additional timing constraints related to wildlife.</li> <li>Clearly stake area to be cleared.</li> <li>Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction.</li> <li>Fell trees with a chainsaw toward the construction area to reduce damage to adjacent vegetation being retained.</li> <li>Carry out removal of tree limbs on adjacent trees being retained under supervision of an Arborist or Forester.</li> <li>Cut damaged tree roots clean as soon as possible and cover exposed roots in approved topsoil under the supervision of an Arborist or Forester.</li> <li>Restore disturbed areas using suitable native wetland plant species. A Restoration Plan will be provided to MNR.</li> </ul> | road right-of-way.   | <ul> <li>Daily monitoring of areas where active vegetation removal is occurring by Environmental Monitor.</li> <li>Monitor establishment of planted area and replant/fill plant if required.</li> <li>Contingency Measures: <ul> <li>Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.</li> </ul> </li> </ul>   |
|  | Accidental intrusion<br>into Significant<br>Wetland resulting in<br>damage to vegetation.   | Avoid accidental<br>intrusion into<br>Significant<br>Wetland. | <ul> <li>Refer to General Mitigation Measures (Section 5.4 of the approved NHA and EIS) for standard mitigation measures.</li> <li>Where construction occurs within 30 m, install and maintain protective fencing to clearly define the construction area and prevent accidental damage to vegetation.</li> </ul>  | <ul> <li>Accidental intrusion will be<br/>avoided through clear<br/>delineation of boundaries<br/>and protective fencing.</li> <li>Negligible residual effects.</li> </ul> | <ul> <li>Undertake monthly site inspections by an<br/>Environmental Monitor to ensure that<br/>protective fencing is intact and that there<br/>is no damage caused during<br/>construction.</li> <li>Contingency Measures:         <ul> <li>Repair protective fencing if damaged.</li> <li>Any damaged trees will be pruned<br/>through implementation of proper<br/>arboricultural techniques, under<br/>supervision of an Arborist or Forester.</li> </ul> </li> </ul> |

| Significant<br>Wetland | Potential Effects  | Performance<br>Objectives  | Mitigation Measures   | Likelihood and Significance<br>of<br>Residual Effects  | Monitoring Plan and Contingency<br>Measures   |
|------------------------|--|--|---|--|---|
|                        | <ul> <li>Increased erosion and<br/>sedimentation<br/>resulting from clearing<br/>and grubbing,<br/>excavation, backfilling<br/>and stockpiling.</li> </ul> | <ul> <li>Minimize erosion<br/>and<br/>sedimentation<br/>from clearing,<br/>grubbing,<br/>excavation,<br/>backfilling and<br/>stockpiling.</li> </ul> | <ul> <li>Install sediment and erosion control fencing along<br/>edge of construction area as per Ontario Provincial<br/>Standard Specifications (OPSD 219.130).</li> <li>Refer to General Mitigation Measures (Section 5.4<br/>of the approved NHA and EIS) for mitigation<br/>measures including sediment and erosion controls<br/>to be applied.</li> </ul> | <ul> <li>Sedimentation avoided or<br/>minimized through<br/>application of mitigation<br/>measures.</li> <li>Low likelihood and limited<br/>magnitude of effect as a<br/>result.</li> </ul>                | <ul> <li>Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis:</li> <li>Daily during active construction periods;</li> <li>Prior to, during and post forecasted large rainfall events (&gt;20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet);</li> <li>Daily during extended rain or snowmelt periods;</li> <li>Monthly during inactive construction periods, where the site is left alone for 30 days or longer.</li> <li>Contingency Measures:</li> <li>Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g., install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).</li> </ul> |
|                        | Risk of soil or water<br>contamination resulting<br>from accidental spills<br>of fuel, etc.  | Minimize soil or<br>water<br>contamination.  | <ul> <li>Develop and implement emergency spills plan<br/>outlining steps to contain any chemicals or to avoid<br/>contamination of adjacent Significant Wetland<br/>feature.</li> <li>Refer to General Mitigation Measures (Section 5.4<br/>of the approved NHA and EIS) for mitigation<br/>measures.</li> </ul>  | <ul> <li>Soil and water contamination<br/>avoided or minimized<br/>through application of<br/>mitigation measures.</li> <li>Low likelihood and limited<br/>magnitude of effect as a<br/>result.</li> </ul> | <ul> <li>Contractor to conduct routine inspections of construction equipment for leaks / spills.</li> <li>Develop an emergency spills plan.</li> <li>Contingency Measures: <ul> <li>Immediately stop all work until the spill is cleaned up.</li> <li>Notify MOE's Spills Action Centre of any leaks or spills.</li> <li>If a spill enters Significant Wetland, collect and analyze water samples for appropriate parameters.</li> <li>Monitor daily until cleanup is completed.</li> </ul> </li> </ul>   |

| Significant<br>Wetland | Potential Effects   | Performance<br>Objectives  | Mitigation Measures   | Likelihood and Significance<br>of<br>Residual Effects  | Monitoring Plan and Contingency<br>Measures   |
|------------------------|---|--|---|--|---|
|                        | Risk of spread of<br>invasive species into<br>Significant Wetland as<br>a result of construction<br>disturbance.  | Avoid spread of<br>invasive species<br>into Significant<br>Wetland                                     | <ul> <li>Ensure all equipment, including clothing/boots, is<br/>thoroughly washed before entering the Significant<br/>Wetland to avoid introducing seeds or fragments of<br/>invasive species into the Significant Wetland.</li> <li>Restore disturbed areas as soon as possible using<br/>suitable native wetland plant species. A Restoration<br/>Plan will be provided to MNR.</li> </ul>  | <ul> <li>Spread of invasive species<br/>avoided or minimized<br/>through the application of<br/>mitigation measures.</li> <li>Low likelihood and limited<br/>magnitude of effect as a<br/>result.</li> </ul> | <ul> <li>Daily monitoring of areas where<br/>construction activities are occurring<br/>within the Significant Wetland by<br/>Environmental Monitor.</li> <li>Monitor establishment of planted area<br/>and replant/fill plant if required.</li> </ul> |
|                        | Operation<br>• Risk of soil or water<br>contamination from oil,<br>gas, etc. during<br>maintenance activities<br>where the transmission<br>line is within 30 m of<br>Significant Wetlands<br>WET-050 and WET-<br>078. | No off-site<br>contamination of<br>soil and no<br>contamination of<br>groundwater or<br>surface water. | Develop and implement an emergency spills plan<br>outlining steps to contain any spills during<br>maintenance activities to avoid contamination of<br>Significant Wetlands.   | Residual effects considered negligible.  | <ul> <li>No monitoring required.</li> <li>Contingency Measures:</li> <li>Report the details of the spill to MOE, including a description of any assessment and remediation undertaken.</li> </ul>   |
|                        | Trimming of branches<br>or selective tree<br>removal during routine<br>maintenance of the<br>transmission line in<br>Significant Wetlands<br>WET-050 and WET-<br>078.   | Minimize<br>disturbance to<br>wetland form<br>and function.  | <ul> <li>Minimize vegetation removal in Significant Wetland, to the extent possible. For safety reasons and for maintenance of the transmission line, vegetation within 10 m of the road right-of-way may need to be trimmed or selectively removed. Any vegetation that has the potential to grow to more than 4.3 m above grade will be cleared.</li> <li>Perform routine vegetation clearing outside of the breeding season for birds and amphibians (March 15 to July 31). If this is not possible, MNR will be consulted regarding mitigation measures that may be required.</li> <li>Remove trees or tree limbs by hand-held equipment within Significant Wetland to minimize soil compaction.</li> <li>Fell trees with a chainsaw away from the Significant Wetland to reduce damage to adjacent vegetation being retained.</li> <li>Carry out removal of tree limbs under supervision of an Arborist or Forester.</li> <li>Leave tree stumps and roots in place, to minimize to adjacent vegetation.</li> </ul> | vegetation will occur for operation of the transmission  | <ul> <li>No monitoring required.</li> <li>Contingency Measures:</li> <li>Any damaged trees will be pruned through implementation of proper arboricultural techniques, under supervision of an Arborist or Forester.</li> </ul>                        |

| Significant<br>Wetland | Potential Effects  | Performance<br>Objectives                 | Mitigation Measures  | Likelihood and Significance<br>of<br>Residual Effects  | Monitoring Plan and Contingency<br>Measures  |
|------------------------|--|---|--|--|--|
|                        | Trimming of branches<br>or selective tree<br>removal for<br>construction of the<br>transmission line in<br>Significant Wetlands<br>WET-050 and WET-<br>078 within road right-<br>of-way. | No loss of<br>wetland cover<br>over time. | <ul> <li>Restore disturbed areas using suitable native<br/>wetland plant species. A Restoration Plan will be<br/>provided to MNR.</li> </ul> | <ul> <li>Some clearing of vegetation<br/>will occur for the<br/>transmission line; this would<br/>be minimal and limited to the<br/>road right-of-way.</li> <li>Minimal residual effects.</li> </ul> | <ul> <li>Conduct post-planting inventory of<br/>restored area to determine success of<br/>establishment.</li> <li>Contingency Measures:         <ul> <li>If restored area is not establishing for<br/>any number of reasons, implement<br/>additional restoration measures<br/>including re-planting and additional<br/>monitoring.</li> </ul> </li> </ul> |

# 5.3 Significant Woodlands

Three new Significant Woodland Features were identified within the 120 m Area of Investigation as a result of the proposed Project Location modifications. A description of the potential effects, mitigation measures and monitoring commitments that will be applied to these Features is provided below.

- WOD-097: The minimum distance from this Feature to the nearest Project infrastructure (access road) is >0.1 m (Modification F3). Therefore, mitigation measures described for woodlands within 5 m of Project infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-097.
- WOD-111: The minimum distance from this Feature to the nearest Project infrastructure (access road) is 41 m (Modification F2). Therefore, mitigation measures described for woodlands within 30 m to 120 m of Project infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-111.
- WOD-265: The minimum distance from this Feature to the nearest Project infrastructure (turbine construction disturbance area) is 30 m (Modification J3). Therefore, mitigation measures described for woodlands within 5 m to 30 m of Project Infrastructure in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-265.

The minimum distance from Significant Woodland Features WOD-263 and WOD-277 to the nearest Project infrastructure did not change as a result of the proposed Project Location modifications. Therefore, no changes to the mitigation measures as described in Section 5.6.1 (Table 5.3) of the approved NHA and EIS are required for these Features.

The minimum distances from the Project Location to the following Significant Woodland Features changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

- WOD-084: The minimum distance from this Feature to the nearest Project Infrastructure (turbine blade) increased from 20 m to 22 m (Modification G4). No changes are required to the mitigation measures described in Section 5.6.1 (Table 5.3) of the approved NHA and EIS to accommodate this modification (refer to mitigation measures for woodlands within 5 m to 30 m of Project Infrastructure in Table 5.3).
- WOD-110: The minimum distance from this Feature to the nearest Project Infrastructure (turbine blade) decreased from 17 m to 9 m (Modification G2). No changes are required to the mitigation measures described in Section 5.6.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for woodlands within 5 m to 30 m of Project Infrastructure in Table 5.3).
- WOD-175: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification K7). Up to 0.2 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the road right-ofway. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-175.
- WOD-181: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification K5). Up to 0.1 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the Elginfield Road right-of-way. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-181.

- WOD-192: The minimum distance from this Feature to the nearest Project Infrastructure (access road) decreased from 5 m to >0.1 m (Modification C1). No changes are required to the mitigation measures described in Section 5.6.1 of the approved NHA and EIS to accommodate this modification, as the distance still falls within the range of distances for the mitigation measures proposed (refer to mitigation measures for woodlands within 5 m of Project Infrastructure in Table 5.3).
- WOD-201: The minimum distance from this Feature to the nearest Project infrastructure (transmission line) decreased from >0.1 m to 0 m (transmission line is in Feature; Modification D10). Up to 0.03 ha of trees will be cleared within this Significant Woodland Feature where it occurs within the Thomson Line right-of-way. Therefore, the mitigation measures, monitoring and contingency measures described for woodlands where vegetation removal is proposed in Section 5.6.1 (Table 5.3) of the approved NHA and EIS will be applied to WOD-201.
- WOD-261: This Feature is no longer within the 120 m Area of Investigation as a result of Modification J2; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-261.
- WOD-262: This Feature is no longer within the 120 m Area of Investigation as a result of Modification A3; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-262.
- WOD-267: This Feature is no longer within the 120 m Area of Investigation as a result of Modification A7; therefore, the mitigation measures described for this Feature in the approved NHA and EIS will no longer be applied to WOD-267.

No other changes to the mitigation measures proposed for Significant Woodland Features in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

# 5.4 Significant Wildlife Habitat

The significance of some candidate Significant Wildlife Habitat Features (including RH-05 and AWO-22) has yet to be determined, as additional field studies are required to evaluate the significance of these Features. For the purposes of this submission, these candidate Significant Wildlife Habitat Features have been treated as significant and potential effects, mitigation measures and monitoring commitments related to these Features are described below. However, these will only be implemented if the Features in question are deemed to be significant based on the results of pre-construction surveys, as described in **Section 4.1.3**.

## 5.4.1 New Significant Wildlife Habitat Features Identified Through this NHA Addendum

Two new Significant Wildlife Habitat Features were identified within the 120 m Area of Investigation as a result of the proposed Project Location modifications. A description of the potential effects, mitigation measures and monitoring commitments that will be applied to these Features is provided below.

#### • Reptile Hibernacula Feature RH-05:

The minimum distance from this Feature to the nearest project infrastructure (access road) is 5 m (Modification F3). Therefore, mitigation measures described for Reptile Hibernacula in Section 5.7.3 of the approved NHA and EIS (refer to mitigation measures in Table 5.6) will be applied to RH-05. Two years of post-construction surveys will also be applied to RH-05 if it is confirmed as significant through pre-construction Evaluation of Significance surveys.

## • Rare Vegetation Community Feature RVC-05:

The minimum distance from this Feature to the nearest Project infrastructure (access road) is 24 m (Modification A1). Therefore, mitigation measures described for Other Rare Vegetation Communities in Section 5.7.3 of the approved NHA and EIS (refer to mitigation measures in Table 5.6) will be applied to RVC-05.

Mitigation measures to address potential effects on Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS will be applied to the following new Generalized Candidate Significant Wildlife Habitat Features identified through this NHA Addendum:

- Bat Maternity Colony Habitat in Natural Areas 118 and 119;
- Plant Species of Conservation Concern Habitat in Natural Areas 117, 118, 119, 145, 172, 233, 290, 293, 298 and 383;
- Insect Species of Conservation Concern Habitat in Natural Area 290; and
- Red-headed Woodpecker Habitat in Natural Areas 118, 119, 145, 233, 290, 293 and 383.

## 5.4.2 Designation Changes to Previously Identified Significant Wildlife Habitat Features

Distances from Project infrastructure to the following Significant Wildlife Habitat Features previously identified in the approved NHA and EIS changed as a result of the proposed Project Location modifications. An assessment of any changes required to the mitigation measures that will be applied to these Features is provided below.

## • Amphibian Woodland Breeding Habitat Feature AWO-22:

The distance from this Feature to the disturbance area of an access road decreased from >120 m to >0.1 m (Modification C1). As a result, the designation of this Feature changed from Generalized Candidate Significant Wildlife Habitat to candidate Significant Amphibian Woodland Breeding Habitat Feature AWO-22. Therefore, the mitigation measures for Amphibian Woodland Breeding Habitat as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS now apply to this Feature. Three years of post-construction surveys will also be applied to Feature AWO-22 if confirmed to be significant through pre-construction Evaluation of Significance surveys.

#### • Amphibian Woodland Breeding Habitat Feature AWO-04:

The distance from this Feature to an access road decreased from 35 m to 9 m (Modification G2). As the access road will be within 30 m of this Feature, three years of post-construction surveys will be applied to Feature AWO-04 if it is confirmed to be significant through pre-construction Evaluation of Significance surveys.

#### Amphibian Woodland Breeding Habitat Feature AWO-16:

The distance from this Feature to the disturbance area of an access road increased from 1 m to >120 m (Modification B3). As a result, the designation of this Feature changed to Generalized Candidate Significant Wildlife Habitat. Therefore, the mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS now apply to this Feature.

#### • Amphibian Woodland Breeding Habitat Feature AWO-20:

The distance from this Feature to the disturbance area of an access road increased from 109 m to >120 m (Modification C1). As a result, the designation of this Feature changed to Generalized Candidate Significant Wildlife Habitat. Therefore, the mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS now apply to this Feature.

## • Turtle Wintering Area Feature TWH-04:

This Feature is no longer within 120 m of the Project Location. Therefore, the mitigation measures for Turtle Wintering Area as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.

## • Turtle Nesting Habitat Feature TNH-02:

This Feature is no longer within 120 m of the Project Location. Therefore, the mitigation measures for Turtle Nesting Habitat as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.

### • Generalized Candidate Turtle Wintering Area in Natural Area 516:

This distance from this feature to an access road decreased from >120 m to 1 m (Modification G5). However, this Feature is no longer considered to contain suitable turtle wintering habitat as a result of site investigations conducted in support of this Addendum. Therefore, mitigation measures to address potential effects on Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS no longer apply to this Feature.

#### • Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Area Feature WSST-31:

This Feature is no longer within 120 m of the Project Location as a result of Modification A7. Therefore, the mitigation measures for Terrestrial Waterfowl (Tundra Swan) Stopover and Staging Areas as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.

#### • Bat Maternity Colony Feature BMA-297:

This Feature is no longer within 120 m of the Project Location as a result of Modification J2. Therefore, the mitigation measures for Bat Maternity Colonies as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS no longer apply to this Feature.

The distances from the following Features to the Project Location increased to greater than 120 m as a result of the proposed Project Location modifications. Therefore, mitigation measures for Generalized Candidate Significant Wildlife Habitat as described in Section 5.7.3 (Table 5.5) of the approved NHA and EIS no longer apply to these Features:

- Generalized Candidate Significant Marsh Bird Breeding Habitat in Natural Area 249 (Modification B3);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 285 (Modification A3);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker, and Generalized Candidate Bat Maternity Colony in Natural Area 286 (Modification A7);
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern and Redheaded Woodpecker in Natural Area 291 (Modification A7); and
- Generalized Candidate Significant Wildlife Habitat for Plant Species of Conservation Concern in natural area 297 (Modification J2).

The minimum distances from the following Significant Wildlife Habitat Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the mitigation measures described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS for these Features:

#### • Amphibian Movement Corridor Feature AMC-01:

The distance from this Feature to the nearest Project Infrastructure (turbine construction disturbance area) decreased to >0.1 m (collection line); however this Feature is still 106 m from an access road (Modification B3).

• Bat Maternity Colony Feature BMA-097:

The distance from this Feature to the nearest Project Infrastructure (crane path and collection line) increased from 20 m to 22 m from turbine blade; however, distance from turbine blade as reported in the approved NHA and EIS did not change (i.e., remains within 22 m) (Modification G4).

Minimum distances from the following Generalized Candidate Significant Wildlife Habitat Features to the Project Location changed as a result of the proposed Project Location modifications. However, these changes to minimum distances do not require changes to the mitigation measures as described for Generalized Candidate Significant Wildlife Habitat in Section 5.7.3 (Table 5.5) of the approved NHA and EIS for these Features:

- Bat Maternity Colony Feature in Natural Area 173;
- Turtle Wintering Area Features in Natural Areas 243 and 249;
- Mature Forest Stand Feature in Natural Area 102;
- Turtle Nesting Habitat Feature in Natural Area 249;
- Amphibian Wetland Breeding Habitat Feature in Natural Area 249;
- Plant Species of Conservation Concern Habitat Features in Natural Areas 97, 102, 173, 167 and 249; and
- Red-headed Woodpecker Habitat Features in Natural Areas 97 and 102.

No other changes to the mitigation measures proposed for significant wildlife habitat in the approved NHA and EIS are required to accommodate the proposed Project Location modifications.

## 5.4.3 Additional Potential Effects and Mitigation Measures for Snapping Turtle

Turtle Wintering Area Feature TWH-01 was assumed to be Significant Wildlife Habitat because it was not possible to complete Evaluation of Significance surveys for this feature due to a lack of property access. Therefore, the mitigation measures for Turtle Wintering Area as described in Section 5.7.3 (Table 5.6) of the approved NHA and EIS will be applied to this Feature.

Turtle Wintering Area Features TWH-02, TWH-05, TWH-06 and TWH-07 were confirmed as Significant Wildlife Habitat due to the presence of Snapping Turtle, as species designated federally and provincially as Special Concern. Snapping Turtles are known to nest often on the side of roads, especially those with gravel shoulders, which increases the risk of road mortality (COSEWIC, 2008). In addition, this species is also threatened by legal and illegal harvesting (COSEWIC, 2008). As such, additional mitigation measures are proposed herein for Turtle Wintering Area Features TWH-02, TWH-05, TWH-06 and TWH-07, which are confirmed to contain habitat for Snapping Turtle (**Table 14**).

# 5.5 Areas of Natural and Scientific Interest (ANSIs)

The minimum distance from the Project Location to the Provincially Significant Ausable River Valley Life Science ANSI was reduced to 0 m (transmission line in Feature) as a result of Modification E6. The proposed location of the transmission line crossing of this Feature is within an existing road right-of-way therefore no direct loss or fragmentation of the Feature is expected as a result of the proposed Project Location modifications. Vegetation removal is proposed in CUM1-1 communities within the Thomson Line and Elginfield Road right-of-way, which are within the boundaries of this Feature as mapped by MNR. There are no Significant Wildlife Habitat, Significant Wetland or Significant Woodland Features present in the areas where vegetation removal will occur within the ANSI. Given the significance of this Feature, potential effects to this ANSI are comprehensively covered in Section 5.5 (Significant Wetlands), Section 5.6 (Significant Woodlands) and Section 5.7 (Significant Wildlife Habitat) of the approved NHA and EIS. No additional mitigation measures or monitoring commitments are required for this feature beyond those already described in the approved NHA and EIS.

#### Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

| Significant<br>Features(s)  | Potential Effects   | Performance<br>Objectives  | Mitigation Strategy   | Residual Effects  | Monitoring Plan and Contingency Measures  |
|---|---|--|---|---|---|
| Turtle Wintering<br>Areas Confirmed to<br>Contain Snapping<br>Turtle Habitat<br>Project Infrastructure<br>requiring EIS:<br>• Access roads<br>Minimum distance to<br>nearest access road:<br>• TWH-02: >0.1 m<br>• TWH-05: >0.1 m<br>• TWH-06: 107 m<br>• TWH-07: 7 m | <ul> <li>Accidental intrusion<br/>into natural features<br/>resulting in habitat</li> </ul>   | Avoid accidental<br>intrusion into<br>habitat.   | <ul> <li>Clearly delineate habitat boundaries where construction will occur within 30 m using protective fencing (sediment and erosion control fence) to ensure that construction activities occur outside the habitat boundaries as per Figure 3.5d in the approved NHA and EIS.</li> <li>Construction activities will be limited to the disturbance areas as detailed on Figure 1 of this NHA Addendum.</li> </ul>  | <ul> <li>Disruption to turtle<br/>wintering areas avoided<br/>through habitat delineation<br/>and fencing.</li> <li>Negligible residual effects.</li> </ul>         | <ul> <li>Undertake on-site inspections by an Environmental<br/>Monitor to ensure that protective fencing is intact<br/>and that there is no damage caused during<br/>construction on the following basis:</li> <li>Weekly during active construction periods;</li> <li>Prior to, during and post forecasted large rainfall<br/>events (&gt;20 millimetres in 24 hours) or significant<br/>snowmelt events (<i>i.e.</i>, spring freshet); and</li> <li>Daily during extended rain or snowmelt periods.</li> <li>Inspection not required during inactive<br/>construction periods, where the site is left alone<br/>for 30 days or longer.</li> <li>Contingency Measures:         <ul> <li>Repair protective fencing if damaged.</li> <li>Consultation with MNR to determine additional<br/>contingency measures if necessary.</li> </ul> </li> </ul> |
|   | <ul> <li>Disruption or<br/>possible mortality of<br/>turtles moving<br/>between wintering<br/>ponds and other<br/>areas.</li> <li>Possible<br/>injury/mortality from<br/>intrusion into<br/>construction site.</li> </ul> | <ul> <li>Minimize<br/>disruption to turtle<br/>movement.</li> <li>Prevent injury<br/>and/or mortality of<br/>turtles during<br/>construction.</li> </ul> | <ul> <li>Post speed limits (30 km/hr) and turtle crossing signage along access roads within 120 m of Significant Turtle Wintering Areas.</li> <li>Do not clear vegetation within 30 m of ponds in April, May, September or October. No vegetation within the defined habitat is to be removed. If this is not possible, MNR will be consulted regarding any additional mitigation measures that may be required.</li> <li>To avoid collisions with turtles, schedule construction activities within 30 m to occur during daylight hours and not during the period of emergence (March 15 to May 31). If construction must occur during this timing window, conduct area searches for turtles daily prior to construction site staff about turtle species that may potentially occur in the Study Area and the steps to be taken if an encounter occurs.</li> <li>If roadside nests are encountered during construction, the site should be avoided and the local MNR office should be contacted immediately.</li> <li>Fence area as far from pond and as close to proposed road as possible.</li> </ul> | <ul> <li>Disruption and/or mortality minimized through construction timing and speed limits.</li> <li>Low likelihood of occurring and limited magnitude.</li> </ul> | <ul> <li>If construction occurs within 30 m of a turtle wintering area (if determined to be significant) between March 15 and May 31, conduct area searches for turtles by a qualified Biologist prior to soil stripping or grubbing, as well as daily prior to construction activities by the Contractor within the construction footprint.</li> <li>Contingency Measures:</li> <li>Turtles encountered within the construction area will be moved to a safe location (nearby pond) under the direction of the Environmental Monitor or a qualified Biologist. A Turtle Relocation Plan will be prepared, to be implemented in the event that turtles need to be handled or moved.</li> </ul>  |

#### Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

| Significant<br>Features(s) | Potential Effects  | Performance<br>Objectives   | Mitigation Strategy  | Residual Effects  | Monitoring Plan and Contingency Measures   |
|----------------------------|--|---|--|---|--|
|                            | <ul> <li>Increased erosion<br/>and sedimentation<br/>resulting from<br/>clearing and<br/>grubbing, backfilling<br/>and stockpiling.</li> </ul> | Minimize erosion<br>and sedimentation<br>in wintering pond.                                       | <ul> <li>Install sediment and erosion control fencing<br/>along edge of construction area if within 30<br/>m of habitat feature as per Ontario<br/>Provincial Standards Specifications (OPSD<br/>219.130).</li> </ul>  | <ul> <li>Erosion and sedimentation<br/>mitigated through sediment<br/>and erosion control<br/>fencing.</li> <li>Moderate likelihood; if<br/>erosion and sedimentation<br/>occur, negative effects<br/>may be measurable but<br/>would likely represent a<br/>small change relative to<br/>existing conditions.</li> </ul> | <ul> <li>Monitor on-site conditions (<i>i.e.</i>, erosion and sediment control, spills, flooding, etc.) by an Environmental Monitor where construction occurs within 30 m of a feature on the following basis:</li> <li>Weekly during active construction periods;</li> <li>Prior to, during and post forecasted large rainfall events (&gt;20 millimetres in 24 hours) or significant snowmelt events (<i>i.e.</i>, spring freshet);</li> <li>Daily during extended rain or snowmelt periods;</li> <li>Monthly during inactive construction periods, if the site is left alone for 30 days or longer.</li> <li>Contingency Measures:</li> <li>Suspend work if excessive flows of sediment discharges occur until additional mitigation measures are in place (e.g. install the extra erosion and sediment control materials kept on site, such as heavy duty silt fencing, straw bales, etc.).</li> </ul> |
|                            | Possible indirect<br>effects on wintering<br>pond condition<br>through changes to<br>surface water<br>drainage patterns.                       | Minimize indirect<br>effects on pond<br>through changes<br>in surface water<br>drainage patterns. | <ul> <li>Ensure Best Management Practices are used to maintain current drainage patterns, including:</li> <li>Implement infiltration techniques to the maximum extent possible.</li> <li>Minimize paved surfaces and design roads to promote infiltration.</li> <li>Limit changes in land contours.</li> <li>Ensure no grade changes within 30 m of pond.</li> </ul> | <ul> <li>Indirect effects to habitat<br/>minimized by maintaining<br/>grade.</li> <li>Low likelihood of occurring<br/>and limited magnitude.</li> </ul>   | <ul> <li>Inspect locations following completion of access roads by an Environmental Monitor to ensure no changes in drainage patterns.</li> <li>Examine condition of wintering ponds within 30 m of access roads following completion of construction.</li> <li>Contingency Measures: <ul> <li>If surface water drainage alterations are detected, undertake corrective measures to restore drainage pattern.</li> </ul> </li> </ul>   |
|                            | <ul> <li>Operation</li> <li>Risk of road mortality<br/>to turtles moving<br/>between wintering<br/>ponds and other<br/>areas.</li> </ul>       | <ul> <li>Minimize turtle<br/>mortality along<br/>access roads.</li> </ul>                         | <ul> <li>Maintain wildlife crossing signs and limit<br/>speed of vehicles (30 km/hr) along access<br/>roads within 120 m of Significant Turtle<br/>Wintering Areas.</li> </ul>   | <ul> <li>Risk of turtle road mortality<br/>reduced through mitigation<br/>measures.</li> <li>Low likelihood of occurring<br/>and limited magnitude due<br/>to limited volume of<br/>maintenance vehicles.</li> </ul>  | <ul> <li>No monitoring or contingency measures required.</li> </ul>  |
|                            | <ul> <li>Increased access for<br/>poaching as a result<br/>of access roads.</li> </ul>   | <ul> <li>Avoid increased<br/>access for<br/>poaching during<br/>operation.</li> </ul>             | <ul> <li>Install a gate on access roads that are<br/>within 120 m of Significant Turtle Wintering<br/>Areas to prevent public access.</li> </ul>   | <ul> <li>Potential increased access<br/>for poaching minimized<br/>through the application of<br/>mitigation measures.</li> <li>Low likelihood of poaching<br/>as access roads are<br/>located in agricultural fields<br/>on private property.</li> </ul>   | <ul> <li>No monitoring or contingency measures required.</li> </ul>  |

#### Table 14. Additional Potential Effects on Turtle Wintering Areas and Mitigation Measures

| Significant<br>Features(s) | Potential Effects   | Performance<br>Objectives  | Mitigation Strategy  | Residual Effects  | Monitoring Plan and Contingency Measures                            |
|----------------------------|---|--|--|---|---|
|                            | Possible mortality to<br>turtles nesting on<br>side of access road. | <ul> <li>Prevent mortality<br/>of nesting turtles<br/>during operation.</li> </ul> | Construct access roads that are within 120<br>m of Significant Turtle Wintering Areas<br>designed using materials that are not<br>suitable for turtle nesting. | <ul> <li>Possible mortality to<br/>nesting turtles on side of<br/>access roads minimized<br/>through application of<br/>mitigation measures.</li> <li>Low likelihood of mortality<br/>due to lack of suitable<br/>habitat on side of access<br/>roads.</li> </ul> | <ul> <li>No monitoring or contingency measures required.</li> </ul> |
## 6. Summary and Conclusions

As was the case for the original proposed Project (as described in the approved NHA and EIS), the significance of anticipated residual effects associated with the proposed Project Location modifications is predicted to be low provided that the recommended mitigation measures are properly implemented and proactively managed throughout the duration of construction and post-construction activities. Mitigation and compensation measures will address the minimal vegetation removal within Significant Woodlands and the Provincially Significant Ausable River Valley Life Science ANSI restricted to the Thomson Line and Elginfield Road right-of-way for construction of the transmission line. No other above-ground project infrastructure is proposed to be located within significant natural Features (*i.e.*, Significant Woodlands, Significant Wetlands or Significant Wildlife Habitat) and no vegetation clearing will be required in significant natural Features for the remaining Project Location modifications.

Potential operation effects of turbines on bird and bat mortality will be monitored for at least 3 years postconstruction and, if required, mitigation measures (including operational controls) will be implemented in accordance with provincial guidelines and requirements, as described in Birds and Bird Habitats: Guidelines for Wind Power Projects (MNR, 2011a) and Bats and Bat Habitats: Guidelines for Wind Power Projects (MNR, 2011b).

# 7. References

### AECOM, 2013a:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report. Prepared for NextEra Energy Canada, ULC. February, 2013.

### AECOM, 2013b:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Report Second Addendum. Prepared for NextEra Energy Canada, ULC. January, 2013.

### AECOM, 2012:

Jericho Wind Energy Centre Natural Heritage Assessment and Environmental Impact Study Addendum. Prepared for NextEra Energy Canada, ULC. December 10, 2012.

### COSEWIC, 2008:

COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife In Canada, Ottawa, vii + 47 pp.

### Bried, J.T., K.L. Strout and T. Portante, 2012:

Coefficients of Conservatism for the Vascular Flora of New York and New England: Inter-State Comparisons and Expert Opinion Bias. *Northeastern Naturalist*, 19(Sp6): 101-114.

- Ontario Ministry of Natural Resources (MNR), 2011a: Birds and Bird Habitats: Guidelines for Wind Power Projects.
- Ontario Ministry of Natural Resources (MNR), 2011b: Bats and Bat Habitats: Guidelines for Wind Power Projects.
- Ontario Ministry of Natural Resources (MNR), 2012: Natural Heritage Assessment Guide for Renewable Energy Projects. 2<sup>nd</sup> Edition.



# **Appendix A**

MNR Confirmation and Re-confirmation Letters

Ministry of<br/>Natural ResourcesMinistère des<br/>Richesses naturellesRenewable Energy Operations Team300 Water Street<br/>4th Floor, South Tower<br/>Peterborough, Ontario K9J 8M5



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February 7, 2013

Jericho Wind, Inc. 390 Bay Street, Suite 1720 Toronto, ON, M5H 2Y2

### **RE: NHA Confirmation for Jericho Wind Energy Centre**

#### Dear Tom Bird:

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the Natural Heritage Assessment and Environmental Impact Study Report for the Jericho Wind Energy Centre project located in the Municipalities of Lambton Shores and North Middlesex and the Township of Warwick, and submitted by Jericho Wind, Inc on February 7, 2013. The Natural Heritage Assessment and Environmental Impact Study Report also includes the Parkhill Interconnect Renewable Energy Approval Application – Natural Heritage Assessment and Environmental Impact Study Report (Appendix A).

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNR provides the following confirmations following review of the natural heritage assessment:

- The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
- 2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features were identified.
- The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.
- 4. The MNR confirms that the project location is not in a provincial park or conservation reserve.
- 5. The MNR confirms that the environmental impact study report has been prepared in accordance with procedures established by the MNR.

In accordance with Section 28(3)(c) and 38(2)(c), MNR also offers the following comments in respect of the project.

### Preconstruction Monitoring

In accordance with Appendix D of MNR's NHA Guide, a commitment has been made to complete pre-construction assessment(s) of habitat use for the following candidate significant wildlife habitats, the results of which will be submitted to MNR:

- Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-01, WSST-31 and WSST-37);
- Waterfowl (Aquatic) Stopover and Staging Areas (WSSA-01 and WSSA-02);
- Raptor Wintering Area (RWA-01);
- Bat Maternity Colonies (BMA-051, BMA-090A, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-147, BMA-179, BMA-188, BMA-214 and BMA-297);
- Turtle Wintering Areas (TWH-01, TWH-02, TWH-03, TWH-04, TWH-05, TWH-06, TWH-07 and TWH-08);
- Reptile Hibernacula (RH-01, RH-02, RH-03 and RH-04);
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (BEN-01 Jericho and BAL-001 Parkhill Interconnect);
- Turtle Nesting Habitat (TNH-02);
- Seeps and Springs (SS-01);
- Amphibian Woodland Breeding Habitat (AWO-01, AWO-02, AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-09, AWO-10, AWO-11, AWO-12, AWO-13, AWO-16, AWO-17, AWO-19 and AWO-20);
- Amphibian Wetland Breeding Habitat (AWE-01, AWE-02, AWE-03, AWE-04 and AWE-05);
- Amphibian Movement Corridors (AMC-01).

MNR has reviewed and confirmed the assessment methods and the range of mitigation options. Pending completion of the assessments and determination of significance, the appropriate mitigation is expected to be implemented, as committed to in the environmental impact study.

### <u>Turbine 9</u>

If pre-construction assessment(s) indicate Turbine 9 is located in Significant Wildlife Habitat for Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-37), **MNR** does not support the construction of this turbine.

### Post-Construction Monitoring

A commitment has been made in the Environmental Impact Study to conduct postconstruction monitoring and if determined necessary, implement mitigation measures. For the Jericho Wind Energy Centre this includes the following significant natural features, the results of which will be submitted to MNR:

 Bat Maternity Colonies (BMA-143, BMA-155, BMA-168, BMA-216, BMA-217 and BMA-382);

The following candidate significant natural features will also be monitored postconstruction if they are deemed significant during pre-construction surveys, the results of which will be submitted to MNR:

- Waterfowl (Tundra Swan) Stopover and Staging Areas (WSST-01, WSST-31 and WSST-37);
- Raptor Wintering Area (RWA-01);
- Bat Maternity Colonies (BMA-051, BMA-090A, BMA-090B, BMA-098, BMA-102B, BMA-120, BMA-145, BMA-147, BMA-179, BMA-188, BMA-214 and BMA-297)
- Reptile Hibernacula (RH-01, RH-03 and RH-04)
- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat (BEN-01 Jericho and BAL-001 Parkhill Interconnect);
- Turtle Nesting Habitat (TNH-02);

- Amphibian Woodland Breeding Habitat (AWO-01, AWO-02, AWO-03, AWO-04, AWO-05, AWO-06, AWO-08, AWO-09, AWO-10, AWO-11, AWO-12, AWO-13, AWO-16, AWO-17, AWO-19 and AWO-20);
- Amphibian Wetland Breeding Habitat (AWE-01, AWE-02, AWE-03, AWE-04 and AWE-05);
- Amphibian Movement Corridors (AMC-01).

In addition to the NHA and EIS, an Environmental Effects Monitoring Plan (EEMP) that address post-construction mortality monitoring and mitigation for birds and bats must be prepared and implemented. Environmental Effects Monitoring Plans for birds and bats must be prepared in accordance with MNR Guidelines and should be reviewed by MNR in advance of submitting a REA application to MOE in order to minimize potential delays in determining if the application is complete. Comments provided by the MNR with respect to the EEMP must be submitted as part of the application for a REA.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA/EIS with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

In accordance with S.12 (1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document*. These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation letter, please contact Jim Beal at Jim.Beal@ontario.ca or 705-755-3203.

Sincerely,

Kazia Milian

Planning Coordinator Southern Region MNR

CC Jim Beal, Renewable Energy Operations Team, Coordinator, MNR Mitch Wilson, District Manager, Aylmer District, MNR Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE Jessica MacKay Ward, Ecologist, AECOM

**Ontario** 

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Ministry of<br/>Natural ResourcesMinistère des<br/>Richesses naturellesRenewable Energy Operations Team300 Water Street<br/>4th Floor, South Tower<br/>Peterborough, Ontario K9J 8M5

February 7, 2013

Jericho Wind, Inc. 390 Bay Street, Suite 1720 Toronto, ON, M5H 2Y2

**RE: Modifications to the Jericho Wind Energy Centre Project Location** 

Dear Mr Tom Bird,

The Ministry of Natural Resources (MNR) has received the document dated December 10, 2012 which describes modifications to the Jericho Wind Energy Centre project location made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued February 7, 2013 for the Jericho Wind Energy Centre project.

If you wish to discuss any part of this letter please contact Jim Beal at jim.beal@ontario.ca or 705-755-3203.

Sincerely,

CC

Kazia Milian Planning Coordinator Southern Region MNR

> Jim Beal, Renewable Energy Operations Team, Coordinator, MNR Mitch Wilson, District Manager, Aylmer District, MNR Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE Jessica MacKay Ward, Ecologist, AECOM



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Ministry of<br/>Natural ResourcesMinistère des<br/>Richesses naturellesRenewable Energy Operations Team300 Water Street4th Floor, South Tower<br/>Peterborough, Ontario K9J 8M5

February 7, 2013

Jericho Wind, Inc. 390 Bay Street, Suite 1720 Toronto, ON, M5H 2Y2

**RE: Modifications to the Jericho Wind Energy Centre Project Location #2** 

Dear Mr Tom Bird,

The Ministry of Natural Resources (MNR) has received the document dated January 2013 and received January 29, 2013 which describes modifications to the Jericho Wind Energy Centre project location made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued February 7, 2013 and re-confirmation letter issued February 7, 2013 for the Jericho Wind Energy Centre project.

If you wish to discuss any part of this letter please contact Jim Beal at jim.beal@ontario.ca or 705-755-3203.

Sincerely,

lia

Kazia Milian Planning Coordinator Southern Region MNR

Jim Beal, Renewable Energy Operations Team, Coordinator, MNR
 Mitch Wilson, District Manager, Aylmer District, MNR
 Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
 Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE
 Jessica MacKay Ward, Ecologist, AECOM



# **Appendix B**

## **Field Notes**

| Appendix B1. | Ecological Land<br>Classification (ELC),<br>Vascular Plant Inventory and<br>Incidental Wildlife |
|--------------|---|
| Appendix B2. | Woodland Breeding Bird<br>Species of Conservation<br>Concern Surveys                            |
| Appendix B3. | Turtle Wintering Area<br>Evaluation of Significance<br>Surveys                                  |



Appendix B1. Ecological Land Classification (ELC), Vascular Plant Inventory and Incidental Wildlife



| FIC                               | Map #: NA 90-T-L     | ine Polyg | Polygon: CVMI-1        |         |  |  |  |  |  |  |
|-----------------------------------|----------------------|-----------|------------------------|---------|--|--|--|--|--|--|
| Community                         | Surveyor(s):<br>RAAW | Date:     | Time start:<br>finish: | 11:5000 |  |  |  |  |  |  |
| Description and<br>Classification | UTMZ:                | UTMZ:     | UTMN:                  | 1111    |  |  |  |  |  |  |

### **Polygon Description**

| System             | Substrate    | Topographic<br>Feature | Plant Form    | Community |
|--------------------|--------------|------------------------|---------------|-----------|
| Terrestrial        | Organic      | Lacustrine             | Plankton      | Lake      |
|                    | Mineral Soil |                        |               |           |
|                    | Parent Min.  | Bottomland             | Floating-LVD. |           |
| Site               | Acidic Bedrk | Terrace                | Graminoid     | Stream    |
| Open Water         | Basic Bedrk  | Valley Slope           | Forb          | Marsh     |
| Shallow Water      | Carb. Bedrk  | Tableland              | Lichen        |           |
| Surficial Dep.     |              | Roll. Upland           | Bryophyte     | Fen       |
| Bedrock            |              |                        | Deciduous     | Bog       |
| History            |              | Talus                  |               | Barren    |
| Natural            |              | Crevice/Cave           |               | Meadow    |
| <b>Ž</b> iCultural |              | Alvar                  |               |           |
| Cover              |              | Rockland               |               | Thicket   |
| X Open             |              | Beach / Bar            |               | Savannah  |
| Shrub              |              | Sand Dune              |               |           |
| Treed              |              | Bluff                  |               | Forest    |
|                    |              |                        |               |           |

### Stand Description

| Layer | HT | CVR | Species in Order of Decreasing Dominance (up to 4 sp)<br>(>> Much Greater Than; > Greater Than; = About Equal To) |
|-------|----|-----|---|
| 1     | 3  | 2   | PINSYLU   |
| 2     | 3  | 2   | FRAPENN = PINSYLV   |
| 3     | 4  | 2   | RHINHIRT , CORRACE  |
| 4     | 6  | 4   | FESTUCA SP. > POAPRAT > SOLALT !  |

 HT Codes:
 7 <0.2m</th>
 6 >0.2-0.5m
 5 >0.5-1m
 4 >1-2m
 3 >2-6m
 2 >6-25m
 1 >25m

 CVR Codes:
 0 = none
 1 0% - 10%
 2 10 - 25%
 3 25 - 60%
 4 > 60%

| Stand Composition | Size Class Analysis: | 0        | <10 | 0      | 10-24  | N | 25-50 | 5 | >50 |
|-------------------|----------------------|----------|-----|--------|--------|---|-------|---|-----|
|                   | Standing Snags:      | R <      | <10 | ß      | 10-24  | N | 25-50 | N | >50 |
| BA:               | Deadfall / Logs:     | <u> </u> | <10 | ß      | 10-24  | N | 25-50 | N | >50 |
| Abundanca Codos:  | N - None R - Rare O- | Occesion |     | A - Ab | undont |   |       |   |     |

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

| Com. Age: | Pioneer | X Young | Mid-Age | Mature | Old Growth |
|-----------|---------|---------|---------|--------|------------|
|           |         |         |         |        |            |

| Ecosite:   | Code: | CUMI   |
|------------|-------|--------|
| Vegetation | Code: |        |
| Туре:      |       | CUMI-1 |
| Inclusion: | Code: |        |
| Complex:   | Code: | CUTI   |

### Community Profile Diagram/Comments



| Tree Tally by S | pecies  |         | Pris    | m Facto | r 2   |          |
|-----------------|---------|---------|---------|---------|-------|----------|
| Species         | Tally 1 | Tally 2 | Tally 3 | Tally 4 | Total | Rel. Avg |
|                 |         |         |         |         |       |          |
|                 | -       | <b></b> |         |         |       |          |
|                 |         |         |         |         |       |          |
|                 |         |         |         | · · .   |       |          |
| Total           | 1.17    |         |         |         |       | 100      |
| Basal Area (BA) | 1.      |         |         |         |       |          |
| Dead            | 1 - 1   |         |         |         |       |          |

### Soils Ontario and ELC Soils Description

|                          | Р     | it/Auger #                    |  |      |      |   | ×    | Sum   | mary        |
|--------------------------|-------|-------------------------------|--|------|------|---|------|-------|-------------|
|                          |       | Zone                          |  |      |      |   |      |       | and started |
| ģ                        | UTM   | Easting                       |  |      |      |   |      | Mois  | 4           |
| Site Metrics             | 5     | Northing                      |  |      |      |   |      | Reg   |             |
| e Me                     |       | Position                      |  |      |      |   |      |       |             |
| Site                     | Ð     | Aspect                        |  | ,    |      |   |      |       |             |
|                          | Slope | Percent                       |  |      |      |   |      |       |             |
|                          |       | Slope<br>Length               |  |      |      |   |      | Draiı | nage        |
|                          | Mottl | es                            |  |      |      |   |      |       |             |
| g                        | Gley  |                               |  |      |      |   |      | Effe  | tive        |
| Depth to                 |       | er Table                      |  |      |      |   |      | Tex   |             |
| ð                        |       | onates                        |  |      |      |   |      | (indi | cate        |
|                          | Bedr  |                               |  |      | <br> | Ļ |      | bel   |             |
|                          | 1     | Depth from<br>zero            |  | % CF | % CF |   | % CF |       | % CF        |
|                          |       | Texture                       |  | 1    |      |   | L    |       |             |
| _                        | 2     | Depth from<br>zero<br>Texture |  | % CF | % CF |   | % CF |       | % CF        |
| Soil Horizon Description | 3     | Depth from                    |  | % CF | % CF |   | % CF |       | % CF        |
| con Des                  | 5     | zero<br>Textere               |  |      |      |   |      |       |             |
| il Horiz                 | 4     | Depth from<br>zero            |  | % CF | % CF |   | % CF |       | % CF        |
| Soi                      |       | Texture                       |  |      |      |   |      |       |             |
|                          |       | % Surface<br>Stone/Rock       |  | :    |      |   |      |       |             |
| Λ                        | Mois  | ture Regime                   |  |      |      |   |      |       |             |
|                          | Drain | lage                          |  |      |      |   |      |       |             |

Notes:

#### Plant Species List 2012

( )

| ·  |                          |          |                  | 1.1           |   |           |          |              |         |  |               | _               |              | -        |
|--|--------------------------|----------|------------------|---------------|---|-----------|----------|--------------|---------|--|---------------|-----------------|--------------|----------|
| Trees & Shrubs<br>Conifers   | 1                        | 2 3      | 4                | 5             | Tree & Shrubs Deciduous   | 1         | 2        | 3            | 4       | GramInolds   | 1             | 2               | 3            | Ľ        |
| alsam Fir (Abies balsamea)   | -                        | +        | +-               |               | White Oak (Quercus alba)  | ┢┥        | $\vdash$ | -            | ┿       | Giant Redtop (Agrostis gigantea)   | ⊢             | H               | -            | ⊢        |
|  | K                        | -        |                  |               | Bur Oak (Quercus macrocarpa)  |           |          |              | +       | Redtop (Agrostis stolonifera)  |               | $\vdash$        | -            | ┢        |
| astern Red Cedar (Juniperus virginiana)  |                          |          |                  |               | Red Oak (Quercus rubra)   |           |          |              |         | Awnless Brome (Bromus inermis)   | Ŋ             |                 |              | F        |
| marack (Larix laricina)  |                          |          |                  |               | Alder Buckthorn (Rhamnus alnifolia)   |           |          |              |         | Bromus   |               | $\Box$          |              | L        |
| orway Spruce (Picea abies)   | -                        | +        |                  |               | Common Buckthorn (Rhamnus cathartica)   |           |          | -            |         | Blue-joint Grass (Calamagrostis canadensis)                                  |               | Ц               |              | L        |
| hite Spruce (Picea glauca)   |                          |          |                  |               | Smooth Sumac (Rhus glabra)  |           |          | +            |         | Orchard Grass (Dactylis glomerata)   | V             | $\mathbf{H}$    |              | L        |
| ack Spruce (Picea mariana)<br>ck Pine (Pinus banksiana)  | -                        |          | +                |               | Staghorn Sumac (Rhus hirta)<br>Wild Black Currant (Ribes americanum)  | Ŋ         |          | -+           | +       | Poverty Oat Grass (Danthonia spicata)<br>Quack Grass (Elymus repens)         |               | +               | 4            | ⊢        |
| ad Pine (Pinus resinose)   |                          | +        |                  | $\vdash$      | Prickly Gooseberry (Ribes cynosbati)  | $\vdash$  |          | +            | +       | Virginia Wild Rye (Elymus virginicus)  |               | $\vdash$        | $\neg$       | ⊢        |
| stem White Pine (Pinus strobus)  |                          |          | +                | -             | Swamp Black Currant (Ribes lacustre)  | H         |          | +            | +       | Elymus   | $\square$     | $\vdash$        |              | $\vdash$ |
| otch Pine (Pinus sylvestris)   | Ŕ                        |          | Π                |               | Red Currant (Ribes rubrum)  |           |          | -            | +       |  | H             | +               |              | F        |
| anada Yew (Taxus canadensis)   | 1                        | 1        | Γ                |               | Ribes   |           |          | 1            |         | Fowl Manna Grass (Glyceria striata)  |               |                 |              |          |
| stern White Cedar (Thuja occidentalis)   |                          |          |                  |               | Black Locust (Robinia pseudo-acacia)  |           |          |              |         | Glyceria   |               |                 |              |          |
| istem Hemlock (Tsuga canadensis)   | $\rightarrow$            | _        |                  |               | Prickly Rose (Rose acicularis)  |           |          |              |         | Rice Cut Grass (Leersia oryzoides)   |               | $ \downarrow $  |              |          |
|  | $\rightarrow$            | _        | +                |               | Smooth Rose (Rosa blanda)   | $\square$ | -        |              | +       | Tall Fescue (Lolium arundinaceum)  |               | $\rightarrow$   | _            | L        |
| Deciduous  | +                        | +        | Н                |               | Multiflora Rose (Rosa multiflora)<br>Rosa   | $\square$ | -        | +            | +       | Muhlenbergia   |               | -+              |              | ⊢        |
| anitoba Maple (Acer negundo)   | -+                       | +        | $\vdash$         |               | Com. Blackberry (Rubus allegheniensis)  |           | -+       | -            | +       | Witch-grass (Panicum capillare)<br>Panicum                                   | $\vdash$      | -               | -            | ⊢        |
| ack Maple (Acer nigrum)  | +                        | +        | $\square$        |               | Wild Red Raspberry (Rubus idaeus)   | $\vdash$  | +        | +            | +       | Reed Canary Grass (Phalaris arundinacea)                                     | $\vdash$      | nt              | +            | -        |
| nway Maple (Acer platanoides)  | +                        |          | Η                |               | Black Raspberry (Rubus occidentalis)  | H         | . 1      | -+           | +       | Timothy (Phleum pratense)  | 8             | H               | +            | H        |
| d Maple (Acer rubrum)  | -                        | -        | Н                |               | Purple-fl. Raspberry (Rubus odoratus)   | $\vdash$  | +        | +            | +       | Common Reed (Phragmites australis)   | λ             | +               | 1            | F        |
| ver Maple (Acer saccharinum)   | +                        |          | П                |               | Dwarf Raspberry (Rubus pubescens)   |           | +        | +            |         | Canada Blue Grass (Poa compressa)  | Ľ I           | +               | 1            |          |
| eeman's Maple (Acer X freemanii)   | $\neg$                   |          | Π                |               | Rubus   | H         | 1        | 1            |         | Fowl Meadow Grass (Poa palustris)  |               | +               | 1            | F        |
| gar Maple (Acer saccharum)   | T                        |          |                  | 1             | Peach-leaved Willow (Salix amygdaloides)  |           |          |              | T       | Kentucky Bluegrass (Poe pratensis)   | F             |                 |              | Γ        |
| ountain Maple (Acer spicatum)  | _[                       |          | Ľ                |               | Bebb's Willow (Salix bebbiana)  | П         |          | _            | 1       | Yellow Foxtail (Setaria pumila)  |               |                 |              | Ē        |
| eckled Alder (Alnus incana)  | _                        | +        | $\square$        |               | Pussy Willow (Salix discolor)   | $\square$ | _        |              |         | Green Foxtail (Setaria viridis)  |               |                 |              | Ľ        |
| wny Serviceberry (Amelanchier arborea)   | -                        | _        |                  |               | Missouri Willow (Salix eriocephala)   | $\vdash$  |          |              |         | Festuca  | D             | $\perp$         |              | L        |
| rviceberry (Amelanchier sanguinea)   | +                        | +        | +                |               | Sandbar Willow (Salix exigua)   | ┝╌┥       | -        | +            | -       |  | $\square$     | +               | 4            | ⊢        |
| Ilow Birch (Betula alleghaniensis)<br>hite Birch (Betula papyrifera)   | +                        | +        | ┝╌╢              |               | Shining Willow (Salix lucida)<br>Black Willow (Salix pigga)   | $\vdash$  | _        | +            |         |  | $\square$     | +               | -            | $\vdash$ |
| ropean Birch (Betula papyrilera)   | +                        | +        | 1-1              |               | Black Willow (Salix nigra)<br>Slender Willow (Salix petiolaris)   | $\vdash$  | +        | +            |         |  | ⊢∤            | +               | -            | -        |
| le Beech (Carpinus caroliniana)  | +                        | +        |                  |               | Salix   | $\vdash$  | +        | +            | +       |  |               | +               | +            | -        |
| temut hickory (Carya cordiformis   | +                        | +        | $\left  \right $ |               | Hybrid Crack Willow (Salix X rubens)  | $\vdash$  | +        | +            | +       |  |               | +               | +            | -        |
| agbark Hickory (Carya ovata)   | -+                       | +        | 11               |               | Black-berried Elder (Sambucus nigra)  | $\vdash$  | +        | +            | +       |  | +             | +               | +            |          |
| mbing Bittersweet (Celastrus scandens)   |                          |          |                  |               | Red-berried Elder (Sambucus racemosa)   |           | +        | +            | 1       |  |               | +               | +            | -        |
| mmon Hackberry (Celtis occidentalis)   |                          | $\top$   | $\square$        |               | Buffaloberry (Shepherdia canadensis)  |           | +        | +            | +       | Sedges   |               | +               | +            |          |
| ttonbush (Cephalanthus occidentalis)   |                          | Ι        |                  |               | Eur. Mountain Ash (Sorbus aucuparia)  |           |          |              | T       | Drooping Wood Sedge (Carex arctata)  |               | 1               | 1            |          |
| -leaved Dogwood (Cornus alternifolia)  |                          |          |                  |               | Narrow Meadow-sweet (Spiraea alba)  |           |          |              |         | Golden-fruited Sedge (Carex aurea)   |               |                 |              |          |
| ky Dogwood (Cornus amomum)   | $\perp$                  |          |                  |               | Common Lilac (Syringa vulgaris)   | _         |          |              |         | Graceful Sedge (Carex gracillima)  |               |                 |              |          |
| nchberry (Cornus canadensis)   |                          |          | $\square$        |               | Poison-ivy (Toxicodendron rydbergii)  |           |          | $\downarrow$ | $\perp$ | Inland Sedge (Carex interior)  |               | $ \rightarrow $ |              | _        |
|  | W                        | +        | $\square$        |               | Climbing Poison-ivy (Toxicodendron radicans)  | -         | +        | +            | +       | Bladder Sedge (Carex intumescens)  | _             | +               |              | _        |
| und-leaved Dogwood (Cornus rugosa)<br>d-osier Dogwood (Cornus sericea)   | +                        | +        | $\square$        |               | White Elm (Ulmus americana)   |           | +        | +            | +       | Lake-bank Sedge (Carex lacustris)  | $\rightarrow$ | +               | +            | _        |
| nerican Hazel (Corylus americana)  | +                        | +        | +                |               | Siberian Elm (Ulmus pumila)<br>Slippery Elm (Ulmus rubra)   |           | +        | 1            | +       | Hop Sedge (Carex lupulina)   | -             | +               | +            | _        |
| aked Hazel (Corylus cornuta)   | +                        | +        | +                |               | Low Blueberry (Vaccinium angustifolium)   | +         | +        | +            | +       | Pennsylvania Sedge (Carex pensylvanica)<br>Awl-fruited Sedge (Carex stipata) | +             | +               | +            | _        |
| ckspur Thorn (Crataegus crus-galli)  | +                        | +        | $\vdash$         |               |   | R         | +        | +            | +       | Fox Sedge (Carex vulpinoidea)  | -             | +               | +            | _        |
| glish Hawthorn (Crataegus monogyna)  | +                        | +        |                  |               | Hobblebush (Viburnum lantanoides)   | N         | +        | -+           | +       | Carex  | +             | +               | +            | _        |
| rge-fruited Thorn (Crataegus punctata)   |                          |          | Η                |               | Nannyberry (Viburnum lentago)   | +         | +        | -+           |         | Carex  | +             | +               | 1            | -        |
| ataegus  |                          |          | $\Box$           |               | Guelder-Rose (Viburnum opulus)  |           |          |              |         | Carex  |               | +               | 1            | _        |
| ataegus  |                          |          |                  |               | Downy Arrow-wood (Vib. rafine squianum)   |           |          |              |         | Carex  |               | Т               | Τ            | _        |
| sh Honeysuckle (Diervilla Ionicera)  | _                        | —        | $\square$        |               | Riverbank Grape (Vitis riparia)   |           |          |              |         | Carex  |               |                 |              |          |
| ssian Olive (Elaeagnus angustifolia)   | +-                       |          |                  |               | Am. Prickly-ash (Zanthoxylum americanum)  |           | +        | +            |         | Carex  | _             | $\downarrow$    | -            | _        |
|  | Щ                        | +        | $\vdash$         | +             | Mulberry  | 4         | +        | +            | +       | Carex  | _             | +               | +            | _        |
| n. Strawberry-bush (Euonymus obovata)<br>erican Beech (Fagus grandifolia)  | +                        | +-       | + +              | -+            | 1   | -+        | +        | +            | +       | Carex  | -             | +               | -            | _        |
| ssy Buckthorn (Frangula alnus)   | +                        | +        | $\left  \right $ | +             |   | +         | +        | +            | +       | Carex<br>Carex   | +             | +               | +            |          |
| hite Ash (Fraxinus americana)  | +                        | +-       | +                | -             | Ferns & Allies  | -+        | +        | +            | +       | Carex  | -+            | +               | +            | _        |
| ck Ash (Fraxinus nigra)  | +                        | +        | H                | h             | Lady Fern (Athyrium filix-fernina )   | -+        | +        | +            | +       | Carex  | -+            | +               | +            | -        |
|  | И                        | 1        | H                |               | Rattlesnake Fern (Botrychium virginianum)   | +         | +        | +            | +       | Cyperus  | -+            | +               | +            | _        |
| tch-hazel (Hamamelis virginiana)   | T                        | T        |                  |               | Bulbet Bladder Fern (Cystopteris bulbifera)   |           | 1        |              |         | Redroot Spike-rush (Eleocharis erythropoda)                                  | +             | +               | $^{+}$       | -        |
| nterberry (llex verticilata)   | T                        |          |                  |               | Spin. Wood Fern (Dryopteris carthusiana)  |           |          |              | T       | Eleocharis   |               | 1               | T            | _        |
| tternut (Juglans cinerea)  | $\square$                |          | LТ               |               | Crested Wood Fern (Dryopteris cristata)   | T         | T        | T            | T       | Hard-stem Bulrush (Schoenoplectus acutus)                                    |               | 1               | 1            |          |
| ck Walnut (Juglans nigra)  | N                        |          | ЦÍ               |               | Marginal Wood Fern (Dryopteris marginalis)  |           | 1        | 1            | 1       | Three-square Bulrush (Sch. pungens)  |               |                 | T            |          |
| mmon Privet (Ligustrum vulgare)  | +                        | +        | $\vdash$         |               | Dryopteris  | -         | -        | -            | +       | Soft-stem Bulrush (Sch. tabernaemontani)                                     | $\downarrow$  | 4               | $\downarrow$ | _        |
| cebush (Lindera benzoin)   | +                        | +        | $\vdash$         |               | Ostrich Fern (Matteuccia struthiopteris)  | -         |          | +            | +       | Dark-green Bulrush (Scirpus atrovirens)                                      | $\dashv$      | +               | $\downarrow$ | _        |
| Honeysuckle (Lonicera canadensis)<br>ucous Honeysuckle (Lonicera dioica)   | +                        |          | $\vdash$         |               | Sensitive Fern (Onoclea sensibilis)   | +         |          | +            | +       | Wool-grass (Scirpus cyperinus)   | -             | +               | +            | _        |
| rrow's Honeysuckie (Lonicera dioica)   | +                        |          |                  |               | Cinnamon Fern (Osmunda cinnamomea)<br>Interrupted Fern (Osmunda claytoniana)  |           | +        | +            | +       |  | -+            | +               | +            | _        |
| tarian Honeysuckie (Lonicera tatarica)   | ╉                        | +        | $\vdash$         |               | Royal Fern (Osmunda caytoniana)   | -+        | +        | +            | +-      |  |               | +               | +            | _        |
| mmon Apple (Malus pumila)  | +                        | 1        | $\vdash$         |               | Christmas Fern (Polystichum acrostichoides)   |           | +        | +            | +       |  | +             | +               | ╉            |          |
| ite Mulberry (Morus alba)  | 1                        | +        | $\square$        |               | Eastern Bracken-fern (Pteridium aquilinum)  | +         | +        | ╉            | +       |  | +             | +               | +            | -        |
| et Gale (Myrica gale)  | 1                        | 1        |                  |               | Marsh Fern (Thelypteris palustris)  | +         | +        | +            | 1       | Other Graminoids   | +             | +               | +            | -        |
| wood (Ostrya virginiana)   | 1                        |          |                  |               |   |           | 1        | T            | 1.      | Broad Bur-reed (Sparganium eurycarpum)                                       | -+            | -               | 1            | -        |
| cket-creeper (Parthenocissus inserta)  |                          |          |                  | T             | •   |           |          | 1            |         | Narrow-leaved Cattail (Typha angustifolia)                                   |               |                 |              | _        |
| ebark (Physocarpus opulifolius)  | $\square$                |          | Ц                |               | Field Horsetail (Equisetum arvense)   | M         | T        |              |         | Broad-leaved Cattail (Typha latifolia)                                       | T             | T               | T            | 1        |
| sam Poplar (Populus balsamifera)   |                          |          |                  |               | Scouring-rush (Equisetum hyemale)   |           | _        | ſ            |         | Broad-leaved Cattail (Typha X glauca)  | T             | $\Box$          | T            | _        |
| stern Cottonwood (Populus deltoides)   | +                        |          |                  |               | Variegated Horsetail (Equisetum variegatum)   |           | 1        | 1            |         | Articulated Rush (Juncus articulatus)  | _[            | $\bot$          | -            |          |
| ge-tooth Aspen (Populus grandidentata)   | +                        | +        | $\vdash$         |               | Equisetum   | _         | +        | +            | 1.      | Soft Rush (Juncus effusus)   | _             | +               | 1            | _        |
| mbling Aspen (Populus tremuloides)   | -                        | +        |                  |               | Ground-cedar(Lycopodium digitatum)  | +         | +        | +            | +       | Path Rush (Juncus tenuis)  | -             | +               | +            |          |
| Cherry (Prunus avium)  | - -                      |          | $\vdash$         |               | Shining Clubmoss (Lycopodium lucidulum)   | +         | +        | 1            | +-      | Juncus   | +             | +               | +            | _        |
| Cherry (Prunus pensylvanica)<br>ck Cherry (Prunus serotina)  | +                        | -        | +                | -19           | Ground-pine (Lycopodium obscurum)   | -         | +        | -            | +       | Juncus   | +             | +               | +            | _        |
| oke Cherry (Prunus serouna)  | -                        | +        | +                | -             |   | -+-       | +        | +            | +-      |  | +             | +               | +            | -        |
| inus   | 1                        |          | +                | -             | ŀ   | +         | +        | +            | +       |  | +             | +               | +            | _        |
|  | ormir                    | ng >10   | % arc            | bund          | cover or >25% vegetation cover in any one stratum   |           | +        | 1            | -       |  |               |                 | 1            | -        |
| Dominant: represented by lerge numbers: nenerally for  | ~ * * ***                |          |                  |               |   |           |          |              |         |  |               |                 |              |          |
|  |                          | d reare  | serie            | d bv          | / fairly large numbers of individual clumos: usually forming >  | 10%       | arou     | nd o         | ver     |  |               |                 |              |          |
| Fairly common (=Abundant in ELC): generally wides  | prea                     |          |                  |               | r fairly large numbers of individual clumps; usually forming ><br>iduals or represented by one or more clumps of many individ |           |          |              |         | vill fall into this catergory)   | _             |                 |              | _        |
| airly common (=Abundant in ELC): generally wides<br>Uncommon (=Occasional in ELC) : present as widesp  | preak<br>preak           | i scatte | wad li           | ndivi         | iduals or represented by one or more clumps of many individ   |           |          |              |         | vill fall into this catergory)   |               |                 | _            |          |
| Feinly common ("Abundent in ELC): generally wides<br>Uncommon (=Occasional in ELC): present as widesp<br>Rare : represented in the polygon by less than about fv | preak<br>preak           | i scatte | wad li           | ndivi<br>smai | iduals or represented by one or more clumps of many individ   |           |          |              |         | vill fall into this catergory)   |               | <br>T           | T            |          |
| Rare : represented in the polygon by less than about fv  | pread<br>pread<br>re inc | i scatte | wad li           | ndivi<br>smal | iduals or represented by one or more clumps of many individ<br>Il clumps  | uals      |          |              |         | vill fall into this catergory)   |               |                 |              |          |

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### Plant Species List 2012

|   | _            |                  | _              |                    | 2012  |              |           |                 |      |   | _             | _       |        |    |
|---|--------------|------------------|----------------|--------------------|---|--------------|-----------|-----------------|------|---|---------------|---------|--------|----|
| Dicot Herbs - Asteraceae  | 1            | 2                | 3              | 4 !                |   | 1            | 2         | 3               | 4 5  |   | 1             | 2       | 3      | 4  |
| mmon Yarrow (Achillea millefolium)  | ∔            | $\downarrow$     |                |                    | Shepherd's Purse (Capsella bursa-pastoris)  |              |           |                 |      | Kidney-leaf Buttercup (Ranunculus abortivus)                                    | $\square$     | $\bot$  | _      |    |
| nite Snakeroot (Ageratina eltissima)  | ╋            | +                | $\vdash$       |                    | Cutleaf Toothwort (Cardamine concatenata)   | +            |           | $\square$       | +    | Tall Buttercup (Ranunculus acris)   | $\rightarrow$ | -       | +      | _  |
| m. Ragweed (Ambrosia arternisiifolia)<br>ant Ragweed (Ambrosia trifida)   | ╋            | +                |                |                    | Toothwort (Cardamine diphylla)  | +            | $\vdash$  | $\square$       | -    | Hooked Buttercup (Ranunculus recurvatus)  | -+            | +       | +      | _  |
| ant Ragweed (Antonosia Initia )<br>ald Pussytoes (Antennaria neglecta )   | +            | +                | $\vdash$       | $\vdash$           | Penn. Bitter-cress (Cardamine pensylvanica)<br>Cardamine                                  | +-           |           |                 | +    | Ranunculus<br>Sheep Sorrel (Rumex acetosalla)                                   | +             | +       | +      | _  |
| emisia  | +            | +                | Н              | $\vdash$           | Blue Cohosh (Caulophyllum thalictroides)  | +            | $\vdash$  | $\vdash$        | +    | Curly-leaf Dock (Rumex crispus)   | ÷             | +       | +      | 4  |
| mmon Burdock (Arctium minus)  | +            | +                |                |                    | Mouse-ear Chickweed (Cerastium fontanum)  | +            |           | $\vdash$        | +    | Bitter Dock (Rumex obtusifolius)  | +             | +       | +      | -  |
| dding Beggar-ticks (Bidens cernua)  | 1            | +                |                |                    | Turtlehead (Chelone glabra)   | +            |           | $\square$       | +    | Bloodroot (Sanginaria canadense)  | +             | +       | +      | +  |
| vil's Beggar-ticks (Bidens frondosa)  | $\top$       | $\square$        |                |                    | Spotted Water-hemlock (Cicuta maculata)   | +            |           |                 |      | Black Snakeroot (Sanicula marilandica)  | +             | +       | +      | -  |
| otted Knapweed (Centaurea biebersteinii   | )            | $\square$        |                |                    | Water-hemlock (Cicuta virosa)   | 1            |           |                 | 1    | Bouncing Bet (Saponaria officinalis)  | -             | +       | +      | -  |
| own Knapweed (Centaurea jacea)  | $\Box$       |                  |                |                    | Enchanter's Nightshade (Circaea lutetiana)  |              |           |                 |      | Marsh Skullcap (Scutellaria galericulata)                                       | T             | T       | 1      |    |
| icory (Cichorium intybus)   |              |                  |                |                    | Carolina Spring Beauty (Claytonia caroliniana   |              |           |                 |      | Mad Dog Skullcap (Scutellaria lateriflora)                                      |               |         |        |    |
| nada Thistle (Cirsium arvesnse)   |              | $\square$        |                |                    | Virginia Spring Beauty (Claytonia virginica)  |              |           |                 |      | White Campion (Silene latifolia)  | Т             | T       | Τ      |    |
| Il Thistle (Cirsium vulgare)  | ⊥            |                  |                |                    | Virgin's-bower (Clematis virginiana)  |              |           | Ц               |      | Bladder Campion (Silene vulgaris)   |               |         |        |    |
| rseweed (Conyza canadensis)   | ╄            | $\square$        |                | -                  | Field Bindweed (Convolvulus arvensis)   | +            |           |                 |      | Hemlock Water-parsnip (Sium suave)  | $\downarrow$  | $\perp$ |        |    |
| isy Fleabane (Erigeron annus)   | <del>.</del> | ╉╾┩              |                |                    | Dog-strangling Vine (Cynanchum rossicum)  | $\mathbf{h}$ | Ц         | $\vdash$        | -    | Bitter Nightshade (Solanum dulcamara)   | -+            | +       | +      | _  |
| iladelphia Fleabane (Erig. philadelphicus   | 4—           | ╄                |                |                    | Wild Carrot (Daucus carota)   | M            | $\square$ | $\square$       | +    | Black Nightshade (Solanum ptychanthum)  | +             | +       | _      | 4  |
| geron<br>a-py <del>e-weed</del> (Eupatorium maculatum)  | ╋            | +                |                |                    | Deptford Pink (Dianthus armeria)<br>Squirrel-corn (Dicentra canadensis)                   |              | $\square$ | $\vdash$        | +    | Grassleaf Stitchwort (Stellaria graminea)<br>Common Chickweed (Stellaria media) | +             | +       | +      | 4  |
| neset (Eupatorium perfoliatum)  | ╋            | ++               |                | +                  | Dutchman's-breeches (Dicentra cucullaria)   |              |           |                 |      | Early Meadow-rue (Thalictrum dioicum)   | +             | +       | +      | 4  |
| ge-leaved Aster (Eurybia macrophylia)   | +            | +                |                |                    | Wild Teasel (Dipsacus fullonum)   | 1            | $\vdash$  | $\vdash$        | +    | Tall Meadow-rue (Thalictrum pubescens)  | +             | -+-     | +      | -  |
| t-top Goldenrod (Euthamia graminifolia)   | +            | +                |                |                    | Wild Cucumber (Echinocystis lobata)   |              | Н         | $\vdash$        | +    | Field Penny-cress (Thlaspi arvense)   | +             | +       | +      | -1 |
| ange Hawkweed (Hieracium aurantiacum  | 5            | +                |                |                    | Viper's Bugloss (Echium vulgare)  |              | $\vdash$  |                 |      | Foamflower (Tiarella cordifolia)  | +             | +       | +      | +  |
| d Hawkweed (Hieracium caespitosum)  | 一            | 1-1              |                |                    | Northern Willow-herb (Epilobium ciliatum)   |              | Η         | $\square$       | +    | Star-flower (Trientalis borealis)   | +             | +       | +      | +  |
| racium  | 1            | $\square$        |                | $\neg$             | Hairy Willow-herb (Epilobium hirsutum)  |              | П         |                 | +    | Red Clover (Trifolium pratense)   | +             | +       | +      | 1  |
| campane (Inula helenium)  | Γ            | $\Box^{\dagger}$ |                |                    | Small-fl. Willow-herb (Epilobium parviflorum)   |              |           |                 |      | White Clover (Trifolium repens)   | +             | +       | +      | 1  |
| ckly Lettuce (Lactuca serriola)   |              |                  |                |                    | Epilobium   |              |           |                 |      | Trifolium   |               |         | +      | 1  |
| ctuca   |              |                  |                |                    | Worm Mustard (Erysimum cheiranthoides)  |              |           |                 | 1    | Stinging Nettle (Untica dioica)   |               | T       |        |    |
| eye Daisy (Leucanthemum vulgare)  | L            | Г                |                |                    | Euphorbia   |              |           |                 |      | Greater Bladderwort (Utricularia vulgaris)                                      | T             |         | 1      | 1  |
| eapple-weed (Matricaria discoidea)  | Ļ            | Ц                |                | $\square$          | Hemp Nettle (Galeopsis tetrahit)  |              |           |                 |      | Common Mullein (Verbascum thapsus)  |               |         | Γ      |    |
| White Lettuce (Prenanthes altissima)  | 14           | ⊢                | $ \downarrow$  | +                  | Wild Madder (Galium mollugo)  | $\square$    | Ш         |                 |      | Blue Vervain (Verbena hastata)  | $\bot$        |         |        |    |
| ck-eyed Susan (Rudbeckia hirta)   | ⊢            | ⊢∔               |                | -                  | Marsh Bedstraw (Galium palustre )   | $\square$    | $\square$ |                 |      | White Vervain (Verbena urticifolia)   | 4             | _       | +      |    |
| Goldenrod (Solidago altissima)  | $\vdash$     | ⊢∔               | $\rightarrow$  | +                  | Sweet-scented Bedstraw (Galium triflorum)   | +            | $\vdash$  | $ \rightarrow $ | -    | Water Speedwell (Veron. anagallis-aquatica)                                     | $\rightarrow$ | +       | +      |    |
| -stem Goldenrod (Solidago caesia)   | +            | $\vdash$         | $\neg$         | +                  | Galium  | +            |           |                 | _    | Common Speedwell (Veronica officinalis)   | +             | +       | +      | _  |
| ada Goldenrod (Solidago canadensis)<br>zag Goldenrod (Solidago flexicaulis)   | ╋            | +                | -              | +                  | Spotted Geranium (Geranium maculatum)   | 1-1          |           | -               | _    | Veronica  | 4             | +       | +      | _  |
| nt Goldenrod (Solidago gigantea)  | ┢            | +                | +              | +                  | Herb-robert (Geranium robertianum)<br>Yellow Avens (Geum aleppicum)                       |              |           | +               | +    | Cow Vetch (Vicia cracca)  | +             | +       | +      | _  |
| y Goldenrod (Solidago juncea)   | ⊢            | H                | +              | +                  | White Avens (Geum canadense)  |              | $\square$ | +               | +    | Vicia<br>Periwinkle (Vinca minor)   | +             | +       | +      | -  |
| y Goldenrod (Solidago nemoralis)  | +            | $\vdash$         | +              |                    | Urban Avens (Geum urbanum)  | +            |           | +               | +    | Dog Violet (Viola conspersa)  | +             | +       | ╋      | -  |
| dago  | H            | H                | +              | +                  | Dame's Rocket (Hesperis matronalis)   |              | $\square$ | +               | +    | Yellow Violet (Viola pubescens)   | +             | +       | +      | -  |
| d Sow-thistle (Sonchus arvensis)  | $\vdash$     | H                | . 1            |                    | Virg. Water-leaf (Hydrophyllum virginianum)   |              |           |                 | +    | Com. Blue Violet (Viola sororia)  | +             | +       | +      | -  |
| chus  | $\square$    | $\vdash$         | -1             | -                  | Com. St. John's-wort (Hypericum perforatum)   | W            |           |                 |      | Viola   | +             | +       | +      | -  |
| rt-leaf Aster (Symph. cordifolium)  | $\square$    |                  | -1             | +                  | Spotted Jewelweed (Impatiens capensis)  | Ľ            |           | 1               |      | Dichigon Lily   | +             | +       | +      | -  |
| th Aster (Symphyotrichum ericoides)   |              |                  |                |                    | Wood Nettle (Laportea canadensis)   |              |           | 1               |      | hunder tu A   | +             | +       |        |    |
| White Aster (Symph. lanceolatum)  |              |                  |                |                    | Motherwort (Leonurus cardiaca)  |              |           |                 |      |   | +             | +       | 1      |    |
| co Aster (Symphyotrichum lateriflorum)  |              |                  |                |                    | Field Peppergrass (Lepidium campestre)  |              |           |                 |      |   | Т             | Т       | Τ      |    |
| England Aster (Symph. novae-angliae)  |              |                  | _              |                    | Eur. Gromwell (Lithospermum officinale)   |              |           |                 |      |   | T             | T       | Τ      |    |
| ple-stem Aster (Symph. puniceus)  |              | $\square$        |                |                    | Butter & Eggs (Linaria vulgaris)  |              |           |                 |      |   |               |         |        |    |
| nmon Tansy (Tanacetum vulgare)  | $\square$    | $\vdash$         | _              |                    | Great Lobelia (Lobelia siphilitica)   | $\square$    |           | _               | - 11 | to the  | $\downarrow$  | $\perp$ |        | _  |
| nmon Dandelion (Taraxacum officinale)   | +            | $\vdash$         | -              | _                  | Lobelia   | +            |           | +               | +    | Monocot Herbs   | +             | ⊥       | +      | _  |
| n. Goatsbeard (Tragopogon pratensis)  | +            | $\vdash$         | +              | -                  | Cut-leaf Bugleweed (Lycopus americanus)   |              |           | +               | +    | Water-plantain (Alisma plantago-aquatica)                                       | +             | +       | +      | _  |
| sfoot (Tussilago farfara)   | + +          | $\vdash$         | +              | +                  | Northern Bugleweed (Lycopus uniflorus)  |              |           | -               | +    | Wild Leek (Allium tricoccum)  | +             | +       | +      |    |
|   | +            | $\vdash$         | +              | +                  | Fringed Loosestrife (Lysimachia ciliata)<br>Moneywort (Lysimachia nummularia)             | +            |           | +               | +    | Jack-in-the-pulpit (Arisaema triphyllum)<br>Asparagus (Asparagus officinalis)   | +             | +       | +      | _  |
|   | +            | $\vdash$         | +              | +                  | Lysimachia  | ┥┥           |           | +               | +    | Wild Calla (Calla palustris)  | +             | +-      | ╋      | _  |
| ·   | $\vdash$     | $\vdash$         | +              | 1                  | Purple Loosestrife (Lythrum salicaria)  |              |           | +               | +    | Bluebead-lily (Clintonia borealis)  | +             | +       | +      | -  |
|   | H            | $\vdash$         | +              |                    | Black Medick (Medicego lupulina)  | + 1          |           | +               |      | Garden Lily-of-valley (Convallaria majalis)                                     | +             | +       | +      | -  |
|   | H            | $\vdash$         | +              | +                  | Alfalfa (Medicago sativa)   |              | -         | -+              | -    | Yel. Lady's Slipper (Cypripedium parviflora)                                    | +             | +       | +      | -  |
|   | $\square$    | $\vdash$         | +              | +                  | White Sweet-clover (Melilotus alba)   |              |           | +               | +    | Canada Waterweed (Elodea canadensis)  | +             | +       | +      | -  |
|   | $\square$    | H                | 1              |                    | Yellow Sweet-clover (Melilotus officinalis)   | $\square$    |           | +               |      | Helleborine (Epipactis helleborine )  | +             | +       | +      | -  |
|   |              | $\square$        | +              |                    | Wild Mint (Mentha arvensis)   |              |           | +               | 1    | Yellow Trout Lily (Erythronium americanum)                                      | +             | +       | +      | ~  |
| Other Dicot Herbs   |              | $\square$        | 1              |                    | Wild Bergamot (Monarda fistulosa)   | $\square$    | 1         | +               | 1    | Blue-flag Iris (Iris versicolor)  | +             | +       | +      | -  |
| e Baneberry (Actaea pachypoda)  |              | Ē                |                |                    | Small Forget-me-not (Myosotis laxa)   | П            |           |                 | İ    | Orange Day Lily (Hemerocallus fulva )   | +             | +       | 1      | -  |
| Baneberry (Actaea rubra)  |              |                  |                |                    | Forget-me-not (Myosotis scorpioides)  |              |           |                 |      | Lesser Duckweed (Lemna minor)   | T             | T       | T      |    |
| Agrimony (Agrimonia gryposepala)  | Ľ            | $\square$        |                |                    | Water-cress (Nasturtium officinale)   |              | T         |                 |      | Starry Duckweed (Lemna trisulca)  | Τ             | T       | Ι      | _  |
| c Mustard (Alliaria petiolata)  | ⊢            | $\vdash$         |                | -                  | Com. Evening-primrose (Oenothera biennis)   | $\square$    |           |                 |      | Wild Lily-of-valley (Maianthemum canadense)                                     | Ţ             | Ļ       | ſ      | _  |
| n Amaranth (Amaranthus retroflexus)   | $\square$    | $\vdash$         |                |                    | Sweet-cicely (Osmorhiza berterii)   | $\square$    |           |                 |      | False Solom Seal (Maianthemum racemosum)  | 4             | $\perp$ |        | _  |
| peanut (Amphicarpa bracteata)   | ⊢            | $\vdash$         | +              | +                  | Yellow Wood-sorrel (Oxalis stricta)   | ╉╌╢          | -         |                 | -    | Star False Solomon (Maianthemum stellatum)                                      | +             | +       | +      | _  |
| y Everlasting (Anaphalis margaritacea)  | $\vdash$     | $\vdash$         | +              |                    | Wild Parsnip (Pastinaca sativa)   | $\vdash$     | -         |                 | _    | True Solomon Seal (Polygonatum pubescens)                                       | +             | +       | +      | _  |
| da Anemone (Anemone canadensis)   | ⊢            | $\vdash$         | +              |                    | English Plantain (Plantago lanceolata)  | $\square$    | +         | _               |      | Pickerel-weed (Pontederia cordata)  | +             | +-      | +      | _  |
| epatica (Anemone acutiloba)   | $\vdash$     | $\vdash$         | -+             | +                  | Common Plantain (Plantago major)  | +            |           | +               | —    | Curly-leaf Pondweed (Potamogeton crispus)                                       | +             | +       | +      | _  |
| bleweed (Anemone virginiana)<br>e Angelica (Angelica atropurpurea)  | ⊢┥           | ┝╼┽              | +              | +                  | Rugel's Plantain ( <i>Plantago rugelii</i> )<br>May-apple ( <i>Podophyllum peltatum</i> ) | ⊢∣           | +         | +               | +    | Sago Pondweed (Potamogeton pectinatus)  | +             | +       | +      | _  |
| e Angelica (Angelica aropurpurea)<br>n Hemp (Apocynum cannabinum)   | $\vdash$     | $\vdash$         | +              | +                  | May-apple (Podopnylium peltatum)<br>Pale Smartweed (Polygonum lapathifolium)              | ╉╌┦          | -         | +               |      | Potamogeton<br>Potamogeton  | +             | +       | +      | -  |
| Sarsaparilla (Aralia nudicaulis)  | H            | $\vdash$         | +              |                    | Lady's-thumb (Polygonum persicaria)   | ⊢∖           | +         | -+              | -    | Broad-leaved Arrowhead (Sagittaria latifolia)                                   | +             | +       | +      | -  |
| anard (Aralia racernosa)  | H            | $\vdash$         | +              | -1-                | Virginia Knotweed (Polygonum virginianum)   | H            | +         | +               | +    | Blue-eyed-grass (Sisyrinchium montanum)   | +             | +       | +      | -  |
| Ginger (Asarum canadense)   | Н            |                  | +              |                    | Polygonum   |              | -+        | +               |      | Herb. Carrion Flower (Smilax herbacee)  | +             | +       | $^{+}$ | -  |
| np Milkweed (Asclepias incarnata)   | Π            | $\square$        | 1              | 1                  | Polygonum   | $\vdash$     | 1         | +               |      | Bristly Greenbrier (Smilax hispida)   | +             | 1       | +      | -  |
| mon Milkweed (Asclepias syriaca)  |              | $\Box$           |                |                    | Rough Cinquefoil (Potentilla norvegica)   | Π            | -1        |                 |      | Nodding Ladies' Tresses (Spiranthes cernua)                                     | 1             | +       | +      | -  |
| w Rocket (Barbarea vulgaris)  |              | đ                |                | T                  | Rough-fruited Cinquefoil (Potentilla recta)   |              |           |                 |      | Rose Twisted-stalk (Streptopus lanceolatus)                                     | +             | T       | T      | -  |
| e Nettle (Boehmeria cylindrica)   |              | $\Box$           | 1              | T                  | Common Cinquefoil (Potentilla simplex)  |              |           |                 |      | Skunk-cabbage (Symplocarpus foetidus)   | T             | 1       | T      | -  |
| k Mustard (Brassica nigra)  | Ľ            | L                | Ι              |                    | Potentilla  | $\Box$       | T         | T               |      | Purple Trillium (Trillium erectum)  | T             | Τ       | Τ      |    |
| h-marigold (Caltha palustris)   | Ц            | $\Box$           |                |                    | Heal-all (Prunella vulgaris)  | П            |           |                 |      | White Trillium (Trillium grandiflorum)  | T             | T       | L      | _  |
| ping Bellflower (Campanula rapunculoid  | les)         | Ц                |                |                    | Shinleaf (Pyrola elliptica)   | ГŢ           | Ι         |                 |      | Large-flowered Bellwort (Uvularia grandiflora)                                  | T             | Γ       | T      | _  |
|   | لب           | Ļ                |                |                    |   |              | I         | ſ               |      |   | L             | 1       | ſ      | Ĵ  |
|   |              |                  |                |                    | d cover or >25% vegetation cover in any one stratum                                       |              |           |                 |      |   |               | _       | _      | _  |
|   |              | and re           | Was            |                    | y fairly large numbers of individual clumps; usually forming                              | >10%         | am        | und o           | ovar |   |               |         |        |    |
| inty common (=Abundant in ELC): generally wide  |              |                  |                |                    |   |              |           |                 |      |   |               |         |        | _  |
| inty common ("Abundant in ELC): generally wide<br>common ("Occasional in ELC) : present as wide   | spre         | ad so            | atter          | red Ind            | viduals or represented by one or more clumps of many indivi-                              | iduals       |           |                 |      | ill fall into this catergory)   | _             |         |        | _  |
| iny common ("Abundant in ELC): generally wide<br>acommon ("Occasional in ELC): present as wide<br>are represented in the polygon by less than about                           | spre         | ad so<br>individ | atter<br>duals | red Ind<br>s or sn | all clumps  | iduals       |           |                 |      | till fall into this catargory)  | _             | _       | ,      | _  |
| Inty common (=Abundant In ELC): generally wide<br>common (=Occasional in ELC): present as wide<br>re: represented in the polygon by less than about<br>amber: NIA 90 - T-Linc | fve i        | ad so<br>individ | atter<br>tuals | red Ind<br>s or sm | all clumps  | iduals       |           |                 |      | ill fall into this catargory)   | Ţ             | I       |        | -  |
| iny common ("Abundant in ELC): generally wide<br>acommon ("Occasional in ELC): present as wide<br>are represented in the polygon by less than about                           | spre         | ad so<br>individ | atter<br>tuals | red Ind<br>s or sn | all clumps  | iduals       |           |                 |      | ill fall into this catargory)   | -             | Ŧ       |        | -  |

| Significant Wi                 | Idlife Habitat Fo  | rm                                       | AECOM  |
|--------------------------------|--|--|--|
| Study Area:                    | BLW LER  | GSH Map #:                               | 90 (T-LINE)  |
| Date:                          | AUG 2 2013   | Time Started:                            | 11:50  |
| Field Staff:                   | ROB AMERI AN   | amw. Time Finished:                      | 12:15  |
| Weather Conditions:            |  |  |  |
|                                |  | reeding/Feeding, Bald Eagle              | Breeding/Nesting Habitat                                 |
| (FET1, FOC, FOM, FOD, SWC, S   |  |  |  |
| Nest bowls present:            | No   |  | ograph and complete the following )                      |
| UTMs:                          |  | Number of                                |  |
| Decription of nests (ic        | cation, e.g. in tree/on bi                                     | ulit structure; material; evid           | ence of recent use; birds present):                      |
| Description of habitat         | : (note riparian areas if p                                    | resent, evidence of disturba             | nce):  |
| •                              | <b>/Nesting, Amphibian Br</b><br>s1, SAM1, SAF1, SWD, SWT1, SW |  | r-wintering, Marsh Breeding Birds<br>/M, SWD,BOO1, FEO1) |
|                                | i an   | _  | ograph and complete the following )                      |
| Standing water presei<br>UTMs: |  |  |  |
|                                | <u> </u>   |  | water delineated on field map                            |
| Water depth (m):               |  | n water:<br>I, evidence of annual spring | 6 emergent vegetation:                                   |
| Description of standin         | g water (permanent poo   | i, evidence of annual spring             | 100ding, etc):   |
| Area and soil/substrat         | e of shoreline habitat:  |  | <u> </u>   |
| Type and abundance of          | of cover in open water ha                                      | abitat:                                  |  |
| Type and abundance of          | of cover in surrounding h                                      | abitat:                                  | ······   |
| Evidence of disturban          |  |  |  |
|                                | ce (e.g. cattle grazing ):                                     | les (e.g. broken eggs), marst            | brooding hirds   |
| Evidence of use by wa          | terrowi, amphibians, tur                                       | les (e.g. broken eggs), marsi            |  |
|                                | ***Complete Ve   | rnal Pool Habitat Descriptio             | n Form***  |
| Snake Hibernacula              |  |  |  |
| Fissured rock/foundat          | ion or rock/debris pile pr                                     | esent:                                   |  |
|                                | XNo  | Yes ( <i>if yes, phot</i>                | ograph and complete the following )                      |
| UTMs:                          |  |  | end below frost line:                                    |
| % canopy cover:                | 9  |  | e to open canopy (m):                                    |
|                                |  | n/material, dimenstions, etc             |  |
| Description of surrour         | iding habitat (type & abu                                      | indance of cover, evidence of            | of disturbance, etc):                                    |
| Seeps and Springs              | (FOC, FOM, FOD,  | SWC, SWM, SWD)                           |  |
| Evidence of seep or sp         | oring: 🔽 No  | Yes (if yes, phot                        | ograph and complete the following )                      |
| UTMs:                          |  | Description (indi                        | cator species, etc):                                     |
|                                |  |  |  |

 $\bigcirc$ 

## NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

| -                            | Breeding Habitat (Bank and  | Cliff Swallows    | )   |
|------------------------------|---|-------------------|---|
| (CUM1, CUT1, CUS, BLO1, BLS: |   |                   |   |
| Eroding bank, sandy n        | ill, pits, steep slope or rock fa                                     |                   | es, photograph and complete the following ) |
| UTMs:                        |   | Location          | n (e.g. aggregate pit, bridge):             |
| Evidence of use by bai       | nk or cliff swallows (provide r                                       | number of nests   | 5):   |
|                              |   |                   |   |
|                              | Ind Breeding Birds, Shorebir  | •                 |   |
|                              | 1, BBT2, SDO1, SDS2, SDT1, MAM1, MA<br>e river or large wetland prese |                   | MAM5)                                       |
| Shoreline of lake, large     | No  |                   | es, photograph and complete the following ) |
| UTMs:                        |   |                   |   |
|                              |   |                   | land or peninsula present:                  |
| Mudflat present:             |   | Evidenc           | e of disturbance (e.g. cattle grazing):     |
| Description of habitat       | (size of rocky outcrop/mudfl  | at, substrate/so  | bil type, type and abundance of cover):     |
|                              |   |                   |   |
| Raptor Winter Feedin         | g and Roosting, Open Count  | try or Shrub/Ea   | rly Successional Bird Breeding Habitat      |
| -                            | Dha, FOC, FOD, FOM with a CUM, CUT, C                                 | •                 |   |
|                              | ld or generally open habitat (  |                   |   |
| Large open habitat pre       | esent: XNo  | Yes ( <i>if y</i> | es, photograph and complete the following ) |
| UTMs:                        |   |                   | e of disturbance (e.g. cattle grazing):     |
|                              |   |                   |   |
| Description of habitat       | (abundance of food plants fo  | or rodents, abur  | ndance of perches, height of vegetation):   |
|                              |   |                   |   |
| Old growth or Mature         | Forests, Interior Forest Bre  | oding Birds       |   |
| -                            | WD. Mature forest (>60 years) present                                 |                   |   |
|                              |   |                   | es, photograph and complete the following ) |
| Mature forest present        |   |                   |   |
| UTMs:                        |   | Age of o          | ldest trees:                                |
|                              | e (e.g. selective cutting):   |                   |   |
| Description of habitat       | (structural complexity, abun  | dance of shags    | and/or downed woody debris, etc):           |
| Photo #                      | Location or Subject   | Photo #           | Location or Subject                         |
|                              |   |                   |   |
|                              |   |                   |   |
|                              | · · · · · · · · · · · · · · · · · · ·                                 |                   |   |
|                              |   |                   |   |
|                              |   | 1                 |   |
|                              |   |                   |   |
|                              |   |                   | · · · · · · · · · · · · · · · · · · ·       |
|                              |   |                   |   |
|                              |   |                   |   |

### Species of Conservation Concern Habitat and Incidental Wildlife - Jericho



|                             | NA-90 - TL |     |       | Field Staff: <u>RA</u> <u>A</u> W |     | Time Sta   | rted: 11:50an |   |
|-----------------------------|------------|-----|-------|-----------------------------------|-----|------------|---------------|---|
| Date (yyyy-mm-dd):          | 2013-08-01 | -   |       | Feature No .: NA 90 - Thi         | 0.0 | Time Finis | hed: 12,15em  | _ |
| <b>Observed Species Lis</b> | it         |     |       |                                   |     |            |               | - |
| Species Code                | UTM        | EV  | Notes | Species Code                      | UTM | EV         | Notes         |   |
| COYE                        |            | sm  |       |                                   |     |            |               |   |
| INIGEN                      |            | (1) |       |                                   |     |            |               | - |

|      | 21 |         |  |
|------|----|---------|--|
| GRCA | sr |         |  |
| CEWA | sm |         |  |
| Ancr | sn |         |  |
| n000 | sn |         |  |
| SWSP | sp |         |  |
| BLJA | sm |         |  |
| AMBO | SH |         |  |
| NOCA | sm |         |  |
|      |    |         |  |
|      |    |         |  |
|      |    | 22.5 °C |  |

Note: Evidence Codes (EV)

Breeding Bird (Possible) Breeding Bird (Probable)

T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest; A=Anxiety Behavior;

SH=Suitable Habitat, SM=Singing Male;

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Foos/Faecal sack, AE=Nest Entry

OB=observed, VO=Vocalization, CA=Carcass, DP=Distincitve Parts, HO=House/Den, FY=Eggs/young, TK-tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)

Other Wildlife Evidence: PLANTS

Species **Habitat Description** ELC Habitat Present (Y/N; UTM; description of habitat if present) American Gromwell (Lithospermum latifolium) - S3 Grows in rich deciduous woodlands, wooded floodplains, and shaded riverbanks as FOD7 Y (N ) UTM: well as along the edges of woodlands Bloom Time - Spring A Moss (Astomum muehlenbergianum)- S2 Bloom Thin soil over level outcrop ledges and on soil under grasses in open prairie. ALO, TPO Y (N) UTM: Time - Spring Found growing in openings of red pine or white pine plantations as well as dry Autumn Coral -root (Corallorhiza odontorhiza) - S2 FOM1, FOM2, CUP3 Y)N UTM: sandy woods. N/C - ASA Bloom Time – Summer to Fall Broad Beech Fern (Phegopteris hexagonoptera) - SC Species grows in rich, mature deciduous woods in southern Ontario. Y (N) UTM: Bloom Time- not a flowering plant Grows in dry to moist thickets, valleys, and forest edges. Similar Species: Burning Bush (Euonymus atropurpureus) - S3 Y (N) UTM: European Burning Bush (Euonymus europaeus). Distinctive Feature: Burning Bush has hairs on the underside of leaves while the European species does not. Carey's Sedge (Carex careyana) -S2 Bloom Time -Occurs in rich deciduous woods, often on floodplains and slopes and mesic to dry-FOD6, FOD7, FOD9, SWD Y (N) UTM: May and June mesic hardwood forests. Occurs in old fields, poorly managed pastures, fencelines and roadsides. Caughuawaga Hawthron (Crataegus suborbiculata) CUM1 CUS1. CUT1 Y) N UTM: NIC **S1** Round-leaved Hawthorn (Crataeous lumaria) - S3? Occurs in old fields, poorly managed pastures, fencelines and roadsides. CUMI. CUS1. CUT1 Y) N UTM: Chinese Hemlock Parsley (Conioselinum chinense) Swampy places with deciduous trees, white cedars, tamarack; springy river banks, SWC1,SWC3,SWC4,SWM1, Y (N UTM: S2 Bloom Time -summer to fall creek borders, wet borders of streams & rivers. Also calcareous seepage slopes. SWM2.SWM4.SWM5. SWM6 Cream Violet (Viola striata) - S3 Bloom Time- March-Inhabits rich floodplain forest and low, wet woods. FOD6, FOD7, FOD9, SWM, Y (N) UTM: June). SWD Double --striped Bluet (Enallagma basidens)-S3 Inhabits fishless ponds, lakes and boggy swamps. OAO, SA, SWM, SWD Y(N/UTM:

### Species of Conservation Concern Habitat and Incidental Wildlife – Jericho



| Eastern Green-violat (Hyberthus concetor) - 52<br>Coours In rich, web-mesio floodplain forests as well as meets forests ower limestons.<br>ALT1, FOD7 Y (R) UTH:<br>includes floodplain control floodplain forests as well as meets forests ower limestons.<br>ALT1, FOD7 Y (R) UTH:<br>FOD8, FOD7, FOD9 Y (R) UTH:<br>FOD8, FOD7, FOD8, FO | Shacias of couselastion                             | Concern Habitat and Incidental Wild   | IIA - JALICUO                                    | ALCOM  |
|--|---|---|--|--|
| Biom Time - risk March Is Juguet         Induktes foodpatient and river banks.         Y (B) UT IX:           Freen Freeny Charmer datacontinuon         States and units of the states and units and units of the states  | Species   | Habitat Description   | ELC  | Habitat Present (Y/N; UTM; description of habitat if present   |
| Breen Despit (Arisema discoultur) - SCR3 (B)poses found in damp devideues or rearms. Particularly Maple         FODB, FOD7, FOD9         Y (N) UTM:           Term Despit (Engenic lubices) - S3 (Boon<br>Time - early fold for Biotechan Context, especially on floodplains.         FODB, FOD7, FOD9, FOD9         Y (N) UTM:           Term Despit (Engenic lubices) - S3 (Boon<br>Time - early for Biotechan Context, FoDB, FOD7, FOD9, FOD9         Y (N) UTM:         V/(Q)           Stand T Series (Boot Ford)         Source an open, nodel tad grass prainte and meadows - parasitio on Aster, Heild Russ,<br>Read T Series (Boot Ford)         Y (N) UTM:         V/(Q)           Stand T Series (Boot Ford)         Source an open, nodel tad grass prainte<br>and model or dry open enses.         FFO/CMM         Y (N) UTM:         V/(Q)           Stand T Series (Boot Time - Meth<br>Series (Boot Time - Meth)         Source an open, nodel and ", floodplain avemps and river banks.         FODE, FOD7, FOD9, SVD         Y (N) UTM:         V/(Q)           Stand T Series (Boot Time - Meth)         Sorow In fich, dedictious woods and erreem banks.         FODE, FOD7, FOD9, SVD         Y (N) UTM:         V/(Q)           Stand T Series (Boot Time - Meth)         Sorow In fich, dedictious woods and erreem banks.         FODE, FOD7, FOD9         Y (N) UTM:         V/(N) UTM:           Stand T Series (Boot Time - Meth)         Sorow In erree batter to based or the trutk weells cukent, resemaling<br>a pumpkin Ashr, fraekressee (Trutkeree particlus the series tan daring stresm banks.         FODE, FOD7   |   | · · · ·   | ALT1, FOD7                                       | Y (N) UTM:   |
| Time_early is lab. April         Occurs in open, molet tell-grease prainte and meadows - parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:           Asses Dodder (Cusculs corph) - SI         Occurs in open, molet tell-grease prainte and meadows - parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:         N/ (Q           Boom Time - Asto Solution to part (Sub Cuscum on open, rook) you on open, rooky you on any parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:         N/ (Q           Solution to part (Sub Cuscum open, rook) you on open, rooky you on any parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:         N/ (Q           Solution to you on open, rooky you on any parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:         N         UTM:           Solution to you on open, rooky you on any parasitic on Aster, Hellahus, RBO, TPO2, CUMI         Y N         UTM:         N         UTM:           Solution to you on open, rooky you on any on you on open, rooky you on any on you o   |   |   | FOD8, FOD7, FOD9                                 | Y N UTM:   |
| Monards, Rubus, Solidego,         Monards, Rubus, Solidego,         Monards, Rubus, Solidego,           Boom Time - Ields Spring to early Summer         Occurs in perind row yound and prairies.         ALO, TPO         Y (N) UTM:           Badd Stage (Course note), not cours no perind row yound and prairies.         Occurs in prairies and molet or dry open areas.         TPO (CUM)         Y) N         UTM:           View Badk Stage (Course note), not spring to early summar         Occurs in prairies and molet or dry open areas.         TPO (CUM)         Y) N         UTM:           Provide Badk Stage (Course note), not spring not spring to early summar         Occurs in molet dociduous woods and stream banks.         FODE, FOD7, FOD9         Y (N) UTM:           Provide Badk Stage (Course), not spring no  |   | Occurs in rich, moist deciduous woods, especially on floodplains.   | FOD8, FOD7, FOD8, FOD9                           |  |
| Nom Time - late Spring to early Summer         Cocurs in prairies and molet or dry open areas.         TPO (CUM)         Y N UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         PODE, FOD7, FOD9, SWD         Y (N) UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         FODE, FOD7, FOD9, SWD         Y (N) UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         FODE, FOD7, FOD9         Y (N) UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         FODE, FOD7, FOD9         Y (N) UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         FODE, FOD7, FOD9         Y (N) UTM:           Visite Stark Sedge Cocurs in prairies and molet or dry open areas.         FODE, FOD7, FOD9         Y (N) UTM:           Starm Sedge Stark Sedge To dramatic Sedge Cocurs in droid deciduous woods.         Y (N) UTM:         Y (N) UTM:           Starm Sedge Stark Sedge Cocurs in droid deciduous woods.         Y (N) UTM:         Y (N) UTM:           Nited Stark Code area of prove in wert habitate such area weet and along atream banks.         Mile Sedge Stark Sedge Area of the trunk see and along atream banks.         Y (N) UTM:           Bitled Stark Sedge Stark Hickory (Carya lachicles) - S3         Bitled Stark Hickory (Carya lachicles) - S3         Bitled Stark Sedge Area of weet and and active dramatics.         Y (N) UTM:           Bitled Stark Sedge Ar  | lazel Dodder (Cuscuta coryli) –SH                   |   | RBO, TPO2, CUM1                                  |  |
| pring to early summer       Pring to early summer       Pring to early summer       Pring to early summer         by sets Besk (Frace - 51 Biost Time - March-<br>fay       Cocurs In molet deciduous woods and stream banks.       FOD6, FOD7, FOD9       Y (b) UTM:         represent (Asminis Hiobs) - S3 Biost Time - March-<br>fay       Cocurs In molet deciduous woods and stream banks.       FOD6, FOD7, FOD9       Y (b) UTM:         represent (Asminis Hiobs) - S3 Biost Time - March-<br>fay       Cocurs In molet deciduous woods.       Y (b) UTM:       Y (c)       UTM:         time - May, June, July       This species is a wetland obligate and only grows in bottomiand ewamps and<br>a pumptin halt, (Fractinus profunds) - S27       This species is a wetland obligate and only grows in bottomiand ewamps and<br>a pumptin in larger trees.       Role (Jigoneuron riddelli)-SC       Y (b) UTM:       Y (c)       UTM:         HeitBark Hickory (Carya ladiniosa) - S3       Simplar Species: Sheptark Hickory. Distinctive Festure: Larger leaves and<br>leeffest of 7.       Species in heabits mesic and mesic -hydric sites on day and day-doam sois with<br>poor drainaga.       SDT1, FOD5, FOD9       Y (b) UTM:       Y (c) UTM:         Him-Rowared Mulhy (Muhenbergie tensifiera) - S2       Found in noist acids in stardy openings in prairies.       TPO, CUM1       Y (c) UTM:       Y (c) (TM:         Him Rowared Mulhy (Gars coroneis)-S2       Found in molet acids of streambanks, edges of woods, wet prairies, marshy<br>macdows, buffs and wooded lilinicides.       TPO, CUM1       Y (c   |   | Occurs on open, rocky ground and prairies.  |  | Y (N) UTM:   |
| Parwpaw (Asimina triloba) – S3 <u>Bloom Time</u> – March-<br>fay         Occurs in molet deciduous woods and stream banks.         FODE, FOD7, FOD9         Y         N         UTM:           Age         Profilets Triter's-weed (Tritoshum perfulatum) – S1         Grows In rich, deciduous woods.         Y         Y         N         UTM:           Storm Time – May, Juna, July         This species is a welland obligate and only grows in bottomland awamps and<br>floodplains. Distinctive Feature: the base of the trunk evells cutward, resembling<br>a pumpkin in larger trees.         Y         N         UTM:           Numpkin Ab (Frakinus profunda) – S2         This species is a welland obligate such as wet marshes, molit prairies,<br>fers, old field and seepy banks.         ALO, TPO, CUM         Y         N         UTM:           Niedell's Goldenrod (Over in wet habitats such as wet marshes, molit prairies,<br>fers, old field and seepy banks.         Foldell's Goldenrod grows in wet habitats such as wet marshes, molit prairies.         ALO, TPO, CUM         Y         N         UTM:           Binelibeark Hickory (Carya iscincea) – S3         Species Shagbark Hickory. Distinctive Feature: Larger leaves and<br>leafled of 7.         Y         N         UTM:         V         N         UTM:           Binelibeark Hickory (Carya iscin/marchi) – S2         Species inhabita mesic and mesic -hydric sites on clay and clay-leam solits with<br>poor drainage.         Found in nick deciduous forest dark and peopringing in prairidise.         TPO, CUM1         Y <td>pring to early summer</td> <td></td> <td>TPOCUM</td> <td>014</td>   | pring to early summer                               |   | TPOCUM   | 014  |
| May     C       Parfoliate Tinker*-weed (Triosteum perifoliatum) – S1     Grows In Ach, deciduous woods.     Y     W     UTM:       Parmpkin Ash (Fraxinus profunde) – S2?     This species is a wetland obligate and only grows in bottomiand everaps and floodplain. Distinctive Feature: the base of the trunk swells outward, resembling a pumpkin in larger trees.     Y     W     UTM:       Riddell's Goldenrod (Oligoneuron riddelli)-SC     Riddell's Goldenrod (oligoneuron riddelli)-SC     Riddell's Goldenrod prove in wet habitate such as wet marshes, molet prairies, fens, old fields and seepy banks.     ALO, TPO, CUM)     Y     N     UTM:       Binibark Hickory (Carya Inclinosa) – S3     Typically found in wet or wet -mesic deciduous forest and along stream banks.     Y     N     UTM:       Binibark Hickory (Carya Inclinosa) – S3     Species Inhabitat Mickory. Distinctive Feature: Larger leaves and leage stream banks.     Y     N     UTM:       Binibark Hickory (Carya Inclinosa) – S2     Species Inhabitat Mickory. Distinctive Feature: Larger leaves and leage stream banks.     Y     N     UTM:       Bitm-Rowered Muhly (Muhlenbergia tenuffore) – S2     Found in rich deciduous forest dominated by ther oak or baech-maple. It can also     SDT1, FOD5, FOD9     Y     N     UTM:       Stiff Goldenrod Corlso or and y open ground, particularly in praifies.     TPO, CUM1     Y     V     V     V     V       Stiff Goldenrod Corosopis tripteris)-S2 Bloom Time-tee     Occure on   |   | prefers riparian woodlands <sup>14</sup> ; floodplain swamps and river banks.   | FOD6, FOD7, FOD9, SWD                            | <u> </u>   |
| Biom Time – May, June, July       The species is a welland obligate and only grows in bottomiand swamps and floodplains. Distinctive Festure: the base of the trunk swells outward, resembling a pumple in in larger trees.       Y (N) UTM:         Nidelia Soldennod (Oligoneuron riddelii)-SC       Riddelia Goldennod grows in wet habitats such as wet marshes, molst prairies, fers, old fields and seepy banks.       ALO, TPO, CUMI       Y) N UTM:         Nidelia Goldennod grows in wet habitats such as wet marshes, molst prairies, end fields and seepy banks.       ALO, TPO, CUMI       Y) N UTM:       V(O)         Shreilbark Hickory (Carya lacinlose) – S3       Typically frout in wet or wet -mesic dedicuous forests and along stream banks.       Y (N) UTM:       V(O)       UTM:         Shreilbark Hickory (Carya lacinlose) – S3       Species: Shagbark Hickory. Distinctive Festure: Larger leaves and leafeds of 7.       Y (N) UTM:       Y (N) UTM:         Shumard Oak (Quercus shumardii) – SC       Species inhabits mesic and mesic-hydric sites on day and clay-loarn soils with poor drainage.       Y (N) UTM:       Y (N) UTM:         Southern Tickseed (Bidens coronate)-S2       Inhabits dry to molst seany fields and anany openings in prairies.       TPO, CUM1       Y (N) UTM:         PHIT Gentian (Gentlanelia quinquefolia) - S2 Bloom Time-<br>rality June to and only down grows, open woods, wet prairies, marshy traits, marshy traits and wooded hillides.       TPO, CUM1       Y (N) UTM:       V(O) (ASE)         PHIT Gentian (Gentlanelia quinquefolia) - S2 Bloom Time-<br>rality June to ani  |   | Occurs In moist deciduous woods and stream banks.   | FOD6, FOD7, FOD9                                 | Y (N) UTM:   |
| Pumpkin Ash (Fraxinus profunds) - S2?         This species is a vetland obligate and only grows in bottomand swamps and<br>floodplains. Distinctive Feature: the base of the trunk swells outward, resembling<br>a pumpkin in larger trees.         ALO, TPO, CUM         Y         N. UTM:           Riddel's Goldenrod (Oligoneuron riddelli)-SC         Riddel's Goldenrod grows in wet habitats such as wet marshes, molet prairies,<br>fens, oli fields and seepy banks.         ALO, TPO, CUM         Y         N. UTM:           Shellbark Hickory (Carya lacinlosa) - S3         Typically found in wet or wet - mesic deciduous forests and along stream banks.<br>Similar Species: Shagbark Hickory. Distinctive Feature: Larger leaves and<br>leaflets of 7.         Y         W. UTM:           Shumard Oak (Quercus shumardii) -SC         Species inhabits mesic and mesic -hydric sites on day and clay-locam solis with<br>poor drainage.         Y         W. UTM:           Southern Tickseed (Bidens coronate)-S2         Found In rich deciduous forest dominated by either oak or beech-maple. It can also<br>occur on rocky or sandy solis, wooded dunes, hilleides.         TPO, CUM1         Y         W. UTM:           Stiff Goldmong (Gide) -S2 Bloom<br>Immer to and fail         Found In moist solis of streambanks, edges of woods, wet prairies, and relates and<br>relatives, and waste places.         TPO, CUM1         Y         W. UTM:           Stiff Goldmong (Gide) -S2 Bloom<br>Immer to and fail         Found In moist solis of streambanks, edges of woods, wet prairies, and relatives, and waste places.         TPO, CUM1         Y         W. UTM:  |   | Grows In rich, deciduous woods.   |  | Y (N) UTM:   |
| Riddell's Goldenrod (Oligoneuron riddellin)-SC       Riddell's Goldenrod grows in wet habitats auch as wet marshes, moist prairies, fens, old fields and aeopy banks.       ALO, TPO, CUM3       Y) N UTM:         Sheilbark Hickory (Carya laciniosa) – S3       Typically found in wet or wet -masic deciduous forests and along stream banks.       Y N. UTM:       V/C         Sheilbark Hickory (Carya laciniosa) – S3       Typically found in wet or wet -masic deciduous forests and along stream banks.       Y N. UTM:       V/C         Shumard Oak (Quercus shumardii) – SC       Species inhabits mesic and mesic -hydric sites on day and clay-loam solis with poor drainage.       Y N. UTM:       Y N. UTM:         Southerm Tickseed (Bidens coronate)-S2       Inhabits dry to moist sandy fields and sandy openings in prairies.       TPO, CUM1       Y N. UTM:         Stiff Gortan (Certificatia quinquefolia) - S2 Bloom Time-<br>ratif Value to and of November       Found in moist sandy fields and sandy openings in prairies, marshy meadows, buffs and wooded hilialdes.       TPO, CUM1       Y N. UTM:         Typicatif Colomory (Solidago pride) -S3 Bloom Time-<br>ratif Colomory (Solidago pride) -S3 Bloom Time-<br>tardy June to and of November       Occure in prairies and open woods, and thickets.       TPO, TPV2, MAM2, FOD7       Y N. UTM:         Trigge allows in prairies and open woods, and thickets.       TPO, TPV2, MAM2, FOD7       Y N. UTM:       V/Q. (ASA)         Time- loss summer to ard/fall       Southerm Tireles and open woods, and thickets.       TPO, CUM1 <t< td=""><td></td><td>floodplains. Distinctive Feature: the base of the trunk swells outward, resembling</td><td>~</td><td>Y (N) UTM:</td></t<>  |   | floodplains. Distinctive Feature: the base of the trunk swells outward, resembling  | ~  | Y (N) UTM:   |
| iheilbark Hickory (Carya lacinlosa) – S3       Typically found in wet or wet -mesic deciduous forests and along stream banks.<br>Similar Species: Shagbark Hickory. Distinctive Feature: Larger leaves and<br>leafiets of 7.       Y   | Riddell's Goldenrod (Oligoneuron riddellii)-SC      | Riddell's Goldenrod grows in wet habitats such as wet marshes, moist prairies,  | ALO, TPO, CUM)                                   |  |
| Shumard Oak (Quercus shumardii) – SC       Species inhabits mesic and mesic -hydric sites on clay and clay-loam soils with poor drainage.       Y       W       UTM:         Silm-flowered Muhly (Muhlenbergia tenuifiora) – S2       Found in rich deciduous forest dominated by either oak or beech-maple. It can also cocur on rocky or sandy soils, wooded dunes, hillisides, and riverbanks.       SDT1, FOD5, FOD9       Y       W       UTM:         Southern Tickseed (Bidens coronata)-S2       Inhabits dry to moist sandy fields and sandy openings in prairies.       TPO, CUM1       Y       W       UTM:         Stiff Gentianelia quinquefolia) - S2 Bloom       Found in molet soils of streambanks, edges of woods, wet prairies, marshy meadows, buffs and wooded hiliaides.       TPO, CUM1       Y       W       UTM:         Stiff Gentiane to mid fail       Found in molet soils of streambanks, edges of woods, wet prairies, marshy meadows, buffs and wooded hiliaides.       TPO, CUM1       Y       W       UTM:         Stiff Gentiane to mid fail       Cocurs on dry open ground, particularly in prairier remnants; along madeles and remember       TPO1, CUM3       Y       N       UTM:         Initiative to end of November       Cocurs in prairies and open woods, and thickets.       TPO,TPS,TPW,FOD1,FOD2, Y       N       UTM:         Winged -Loosestriffe (Lythrum alatum)-S3 Bloom       found in prairies, marshy mid to late summer       FoD3, FOD4, FOD5, CUT1       N       V       N   | Shelibark Hickory (Carya laciniosa) — S3            | Typically found in wet or wet -mesic deciduous forests and along stream banks.<br>Similar Species: Shagbark Hickory. Distinctive Feature: Larger leaves and |  |  |
| occur on rocky or sandy solls, wooded dunes, hillsides, and riverbanks.         Southern Tickseed (Bidens coronate)-S2       Inhabits dry to moist sandy fields and sandy openings in prairies.       TPO, CUM1       Y (N) UTM:         Stiff Gentian (Gentianelia quinquefolla) - S2       Bloom       Found in moist solis of streambanks, edges of woods, wet prairies, marshy       BLO1, BLS1, BLF4, TPO2, Y) N UTM:       Y (N) UTM:         Image - late summer to mid fail       Found in moist solis of streambanks, edges of woods, wet prairies, marshy       BLO1, BLS1, BLF4, TPO2, Y) N UTM:       Y (N) UTM:         Stiff Goldenrod (Solidago rigida) -S3 Bloom Time-<br>aarly June to end of November       Occurs on dry open ground, particularly in prairie remnants; along madsides and<br>raliway, and waste places.       TPO1, CUM)       Y N UTM:       N/Q (ASb)         Stiff Goldenrod (Solidago rigida) -S3 Bloom Time-<br>aarly June to end of November       Occurs in prairies and open woods, and thickets.       TPO1, FDD1, FDD2, Y N UTM:       N/Q       N/Q         It Time- wid to late summer       Occurs in prairies and open woods, and thickets.       TPO, FDD4, FDD5, CUT1       N UTM:       N/Q         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found in<br>the Asuable River.       Y N) UTM:       N (M) UTM:         MAMMALS       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habitat<br>requires nearby wetiands and forest edges for buildings but<br>requires  | Shumard Oak (Quercus shumardii) –SC                 |   |  | Y 🕅 UTM:   |
| Stiff Gentian (Gentianelia quinquefolla) - S2 Bloom<br>Ime - late summer to mid fail       Found In molst solis of streambanks, edges of woods, wet prairies, marshy<br>meadows, bluffs and wooded hillisides.       BL01, BLS1, BLF4, TPO2,<br>TPS2, TPW2, MAM3, FOD7       Y) N UTM:         Stiff Goldenrod (Solidago rigids) -S3 Bloom<br>arity June to end of November       Occurs on dry open ground, particularly In prairie remnants; along meadsides and<br>raliway, and waste places.       TPO1, CUM3       Y) N UTM:       V/Q (ASe)         Stiff Goldenrod (Solidago rigids) -S3 Bloom<br>raliway, and waste places.       Occurs on dry open ground, particularly In prairie remnants; along meadsides and<br>raliway, and waste places.       TPO1, CUM3       Y) N UTM:       V/Q (ASe)         Stiff Gentian (Gentianelia quinquefolla) -S3 Bloom<br>raliway, and waste places.       Occurs on dry open ground, particularly In prairie remnants; along meadsides and<br>raliway, and waste places.       TPO1, CUM3       Y) N UTM:       V/Q (ASe)         Ninged -Loosestrife (Lythrum alatum)-S3 Bloom<br>Ime- mid to late summer       found In prairies meadows, open woods, thickets and wet disturbed areas.       TPO, TPS, TPW, FOD1, FOD2,<br>CUM1, FOM, FOD,<br>CUM1, CUT1, MAM2       Y N UTM:       N(Q.         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found In<br>the Asuable River.       Y N) UTM:       Y N) UTM:         MAMMALS       Species       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habita<br>requires nearby wetiands and forest edges for hunting.   | ilm-flowered Muhly (Muhlenbergia tenuifiora) S2     |   | SDT1, FOD5, FOD9                                 | Y (N) UTM:   |
| Time late summer to mid fail       meadows, bluffs and wooded hillisides.       TPS2, TPW2, MAM2, FOD7       V(Q (ASA))         Stiff Goldenrod (Solidago rigida) -S3 <u>Bloom Time-</u><br>arly June to end of November       Occurs on dry open ground, particularly in prairie remnants; along madeldes and<br>railway, and waste places.       TPO, FUN, FOD1, FOD2,<br>FOD3, FOD4, FOD5, CUT1       Y N UTM:         Time- nid to late summer       Occurs in prairies meadows, open woods, thickets and wet disturbed areas.       TPO, CUM1, FOM, FOD,<br>(UM1), CUT1, FOM, FOD,<br>(UM1), CUT1, MAM2       Y N UTM:         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found in<br>the Asuable River.       Y N UTM:       Y N UTM:         MAMMALS       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habitat<br>requires nearby wetiands and forest edges for hunting.       Y N) UTM:   | Bouthern Tickseed (Bidens coronate)-S2              |   | TPO, CUM1  |  |
| Stiff Goldenrod (Solidago rigida) -S3 Bloom Time-<br>hardy June to end of November       Occurs on dry open ground, particularly in prairie remnants; along nadaldes and<br>railway, and waste piaces.       TPO1, CUM       Y N UTM:       N/ C         Fall Tickseed (Coreopsis tripteris)-S2 Bloom Time-late<br>summer to early fall.       Occurs in prairies and open woods, and thickets.       TPO1, FOD1, FOD2,<br>FOD3, FOD4, FOD5, CUT1       Y N UTM:       N/ C         Winged -Loosestrife (Lythrum alatum)-S3 Bloom<br>Time-mid to late summer       found in prairies meadows, open woods, thickets and wet disturbed areas.       TPO, CUM1, FOM, FOD,<br>CUM1, CUT1, MAM2       Y N UTM:       N (C         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found in<br>the Asuable River.       Y N UTM:       Y N UTM:         MAMMALS       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habita<br>requires nearby wetlands and forest edges for hunting.       FOD, SWD       Y N UTM:   |   |   |  |  |
| summer to early fall.       FOD3, FOD4, FOD5, CUT1         Ninged -Loosestrife (Lythrum alatum)-S3 Bloom       found in prairies, meadows, open woods, thickets and wet disturbed areas.       TPO, CUM1, FOM, FOD, CUT1 <u>Cum1</u> Cut1, MAM2       Y N UTM:       N(O)         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found in the Asuable River.       Y N UTM:         MAMMALS       ELC       Habitat Description of habita         Ittle Brown Bat (Myotis lucifugus)-SC       This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.       FOD, SWD       Y N) UTM:  |   |   | TPO1, CUM  | (Y) N UTM:   |
| Time- mid to late summer       V(U)         Noodland Bulrush (Scirpus expansus) - S1       Grows in seepage areas, stream banks, and marshes. It is predominately found in the Asuable River.       Y (V) UTM:         MAMMALS       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habitat Descrip  |   | Occurs in prairies and open woods, and thickets.  | TPO,TPS,TPW,FOD1,FOD2,<br>FOD3, FOD4, FOD5, CUT1 | Y N UTM:   |
| the Asuable River.         MAMMALS         Species       Habitat Description       ELC       Habitat Present (Y/N; UTM; description of habitat         Little Brown Bat (Myotis lucifugus)-SC       This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.       FOD, SWD       Y (N) UTM:  | •             | found in prairies, meadows, open woods, thickets and wet disturbed areas.   |  | Y N UTM: N(Q   |
| Species         Habitat Description         ELC         Habitat Present (Y/N; UTM; description of habitat           Little Brown Bat (Myotis lucifugus)-SC         This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.         FOD, SWD         Y (N) UTM:   | Noodland Bulrush (Scirpus expansus) - S1            |   |  | Y 🕲 UTM:   |
| Species         Habitat Description         ELC         Habitat Present (Y/N; UTM; description of habitat           Ittle Brown Bat (Myotis lucifugus)-SC         This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.         FOD, SWD         Y (N) UTM:  | MAMMALS   |   |  | A State of the sta |
| Little Brown Bat (Myotis lucifugus)-SC This species roosts in caves, quarries, tunnels, hollow trees or buildings but requires nearby wetlands and forest edges for hunting.   |   | Habitat Description   | ELC  | Habitat Present (Y/N; UTM; description of habitat if present   |
|  | -Ittle Brown Bat (Myotis lucifugus)-SC              |   | FOD, SWD   |  |
| Northern Long-eared Bat (Myotis septentrionalis)-SC The Northern Long-eared Bat rocets and hibernates in mines, caves, and man-<br>made structures but prefers hollow trees in wooded areas  | Northern Long-eared Bat (Myotis septentrionalis)-SC | The Northern Long-eared Bat roosts and hibernates in mines, caves, and man-   | FOD, SWD   | Y (N) UTM:   |
| Tri-colored Bat (Perimyotis subflavus)-SC The Tricoloured Bat is one of the common bats in Ontario. It prefers to roost in trees, cliff crevices, and caves usually in open woodlands that are near water  | Tri-colored Bat (Perimyotis subflavus)-SC           | The Tricoloured Bat is one of the common bats in Ontario. It prefers to roost in  | FOD, <b>SW</b> D                                 | YN UTM:  |