# TECHNICAL MEMORANDUM

**DATE** April 5, 2023 **Project No.** 19130670

**TO** Nick Stow, Senior Planner City of Ottawa

**CC** Matthew Hayley, Craig Bellinger

**FROM** Fergus Nicoll, Gwendolyn Weeks **EMAIL Fergus.Nicoll@WSP.com**

**2023 SUBMISSION OF ONTARIO WETLAND EVALUATION, "WESTERN STITTSVILLE II" WETLAND, TOMLINSON STITTSVILLE PROPERTIES, OTTAWA, ONTARIO**

Please find attached the evaluation for a single wetland (Western Stittsville II), located on lands owned by R. W. Tomlinson Limited, Lot 15, Concession 11, Goulbourn Township, Ottawa, Ontario. This wetland has been evaluated by provincially certified wetland evaluators according to the most recent Ontario Wetland Evaluation System for Southern Ontario manual (MNRF 2022). The results of this evaluation value the Western Stittsville II wetland with a total score of 403, and a special features score of 102, which means this wetland is not Provincially Significant in Ontario.

Should you have any questions, or require further information, do not hesitate to reach out to the undersigned.

Sincerely,

**WSP Canada Inc.**

Fergus Nicoll, Dip.T.
*Wetland Evaluator*

Gwendolyn Weeks, H.B.Sc.Env.
*Wetland Evaluator*

FN/GW/ca

https://golderassociates.sharepoint.com/sites/115663/project files/6 deliverables/owes/western wetland owes package/coverletter western wetland 2023_gw.docx

# WETLAND EVALUATION DATA AND SCORING RECORD

Wetland Name: Western Stittsville II

Geographic Location (municipality, lot/concession, etc):
City of Ottawa, Twp. Golbourn, Lot 15, Con II

Map / Photo Locational Reference (e.g., latitude/longitude, NTS map, UTM):
18T 423293.31, 5009228.51

Eco-District: 6E-11

Wetland Size (hectares): 10.7

| Vegetation Form | FA |
|---|---|
| h | – |
| c | 0.23 |
| dh | – |
| dc | – |
| ts | 0.44 |
| ls | – |
| ds | – |
| gc | – |
| m | – |
| ne | – |
| be | – |
| re | 0.33 |
| ff | – |
| f | – |
| su | – |
| u | – |

## 1.0 BIOLOGICAL COMPONENT

## 1.1 PRODUCTIVITY

### 1.1.1 Growing Degree-Days/Soils *(max: 30 pts)*

Refer to page 36 of manual for further explanation.

1. Determine the correct GDD value for your wetland (use Figure 5).
2. Circle the appropriate GDD value from the evaluation table below.
3. Determine the Fractional Area (FA) of the wetland for each soil type.
4. Multiply the fractional area of each soil type by the applicable score-factor in the evaluation table.
5. Sum the scores for each soil type to obtain the final score (maximum score is 30 points).

| Growing Degree-Days | Clay-Loam | Silt-Marl | Lime-stone | Sand | Humic-Mesic | Fibric | Granite |
|---|---|---|---|---|---|---|---|
| <2800 | 15 | 13 | 11 | 9 | 8 | 7 | 5 |
| 2800-3200 | 18 | 15 | 13 | 11 | 9 | 8 | 7 |
| (3200-3600) | 22 | 18 | (15) | 13 | 11 | 9 | 7 |
| 3600-4000 | 26 | 21 | 18 | 15 | 13 | 10 | 8 |
| >4000 | 30 | 25 | 20 | 18 | 15 | 12 | 8 |

| Soil Type | FA of wetland in soil type | Enter appropriate score-factor from above table | |
|---|---|---|---|
| Clay/Loam | | X | = |
| Silt/Marl: | | X | = |
| Limestone: | 1.0 | X 15 | = 15 |
| Sand: | | X | = |
| Humic/Mesic: | | X | = |
| Fibric: | | X | = |
| Granite: | | X | = |
| Total | | | 15 |

GDD/Soils Score *(maximum 30 points)* 15

## 1.1.2 Wetland Type

*(Fractional Areas = area of wetland type/total wetland area)*

| | Fractional Area | | Score |
|---|---|---|---|
| Bog | | x 3 = | |
| Fen | | x 6 = | |
| Swamp | 0.67 | x 8 = | 10.1 |
| Marsh | 0.33 | x 15 = | 5.0 |
| Total | 1.0 | = | 15.1 |

Wetland Type Score *(maximum 15 points)* 15

## 1.1.3 Site Type

*(Fractional Area = area of site type/total wetland area)*

| | Fractional Area | | Score |
|---|---|---|---|
| Isolated | | x 1 = | |
| Palustrine (permanent or intermittent flow) | 1.0 | x 2 = | 2.0 |
| Riverine | | x 4 = | |
| Riverine (at rivermouth) | | x 5 = | |
| Lacustrine (at rivermouth) | | x 5 = | |
| Lacustrine (with barrier beach) | | x 3 = | |
| Lacustrine (exposed to lake) | | x 2 = | |
| Total | | = | 2.0 |

Site Type Score *(maximum 5 points)* 2.0

## 1.2 BIODIVERSITY

### 1.2.1 Number of Wetland Types

*(Check only one)*

| | | | |
|---|---|---|---|
| | One | = | 9 points |
| ✓ | Two | = | 13 |
| | Three | = | 20 |
| | Four | = | 30 |

Number of Wetland Types Score
*(maximum 30 points)* 13

### 1.2.2. Vegetation Communities

*Use the data sheet provided in Appendix 4 to record and score vegetation communities (the completed form must be attached to this data record)*

Print

Scoring *(circle only one option for each of the columns below):*

| Total # of communities with **1-3 forms** | |
|---|---|
| 1 = | 1.5 pts |
| 2 = | 2.5 |
| 3 = | 3.5 |
| 4 = | 4.5 |
| (5) = | 5 |
| 6 = | 5.5 |
| 7 = | 6 |
| 8 = | 6.5 |
| 9 = | 7 |
| 10 = | 7.5 |
| 11 = | 8 |
| + 0.5 *for each additional community* | = 5 |

| Total # of communities with **4-5 forms** | |
|---|---|
| 1 = | 2 pts |
| 2 = | 3.5 |
| 3 = | 5 |
| 4 = | 6.5 |
| 5 = | 7.5 |
| 6 = | 8.5 |
| 7 = | 9.5 |
| 8 = | 10.5 |
| 9 = | 11.5 |
| 10 = | 12.5 |
| 11 = | 13 |
| + 0.5 *for each additional community* | = 0 |

| Total # of communities with **6 or more forms** | |
|---|---|
| 1 = | 3 pts |
| 2 = | 5 |
| 3 = | 7 |
| 4 = | 9 |
| 5 = | 10.5 |
| 6 = | 12 |
| 7 = | 13.5 |
| 8 = | 15 |
| 9 = | 16.5 |
| 10 = | 18 |
| 11 = | 19 |
| + 1.0 *for each additional community* | = 0 |

Vegetation Communities Score
*(maximum 45 points)* 5

## 1.2.3 Diversity of Surrounding Habitat

*Check all appropriate items. Only habitat within 1.5 km of the wetland boundary and at least 0.5 ha in size are to be scored.*

| | |
|---|---|
| 1 | row crop |
| | pasture |
| | abandoned agricultural land |
| 1 | deciduous forest |
| 1 | coniferous forest |
| 1 | mixed forest* |
| | abandoned pits and quarries |
| | open lake or deep river |
| | fence rows with deep cover, or shelterbelts |
| | terrain appreciably undulating, hilly or with ravines |
| 1 | creek flood plain |

* *"Mixed forest" is defined as either 25% coniferous trees distributed singly or in clumps in deciduous forest, or 25% deciduous trees distributed singly or in clumps in coniferous forest. Note that Forest Resource Inventory (FRI) maps can be misleading since 25% conifer within a unit could be entirely concentrated around a lake.*

*Score 1 point for each feature checked, up to a maximum of 7 points.*

Diversity of Surrounding Habitat Score
*(maximum 7 points)* 5

## 1.2.4 Proximity to Other Wetlands

*Check highest appropriate category. (Note: if the wetland is lacustrine, score option #1 at 8 points).*

| ✓ | | Points |
|---|---|---|
| | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or to open lake or deep river within 1.5 km | 8 |
| ✓ | Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km | 8 |
| | Hydrologically connected by surface water to other wetlands (different dominant wetland type), or to open lake or deep river from 1.5 to 4 km away | 5 |
| | Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away | 5 |
| | Within 0.75 km of other wetlands (different dominant wetland type) or open water body, but not hydrologically connected by surface water | 5 |
| | Within 1 km of other wetlands, but not hydrologically connected by surface water | 2 |
| | No wetland within 1 km | 0 |

Name and distance (from wetland) of wetlands/waterbodies scored above: Goulborn Complex PSW ~0.47

Proximity to other Wetlands Score
*(maximum 8 points)* 8

## 1.2.5 Interspersion

Number of Intersections = 101

| ✓ | Number of Intersections *(Check one only)* | Points |
|---|---|---|
| | 26 or less | = 3 |
| | 27 to 40 | = 6 |
| | 41 to 60 | = 9 |
| | 61 to 80 | = 12 |
| | 81 to 100 | = 15 |
| ✓ | 101 to 125 | = 18 |
| | 126 to 150 | = 21 |
| | 151 to 175 | = 24 |
| | 176 to 200 | = 27 |
| | >200 | = 30 |

Interspersion Score *(maximum 30 points)* 18

## 1.2.6 Open Water Types

NOTE: *this attribute is only to be scored for permanently flooded open water within the wetland (adjacent lakes do not count). Check one option only.*

| ✓ | Open Water Type | Characteristic | Points |
|---|---|---|---|
| | Type 1 | Open water occupies < 5 % of wetland area | = 8 |
| | Type 2 | Open water occupies 5-25% of wetland (occurring in central area) | = 8 |
| | Type 3 | Open water occupies 5-25% (occurring in various-sized ponds, dense patches of vegetation or vegetation in diffuse stands) | = 14 |
| | Type 4 | Open water occupies 26-75% of wetland (occurring in a central area) | = 20 |
| | Type 5 | Open water occupies 26-75% of wetlands (small ponds and embayments are common) | = 30 |
| | Type 6 | Open water occupies 76%-95% of wetland (occurring in large central area; vegetation is peripheral) | = 8 |
| | Type 7 | Open water occupies 76-95% of wetland (vegetation in patches or diffuse open stands) | = 14 |
| | Type 8 | Open water occupies more than 95% of wetland area | = 3 |
| ✓ | No open water | | = 0 |

Open Water Type Score *(maximum 30 points)* 0

## 1.3 SIZE (BIOLOGICAL COMPONENT)

Total Size of Wetland = 10.7 ha

Sum of scores from Biodiversity Subcomponent

1.2.1 13
+ 1.2.2 5
+ 1.2.3 5
+ 1.2.4 8
+ 1.2.5 18
+ 1.2.6 0
49

*Circle the appropriate score from the table below.*

Total Score for Biodiversity Subcomponent

| Wetland size (ha) | <37 | 37-47 | (48-60) | 61-72 | 73-84 | 85-96 | 97-108 | 109-120 | 121-132 | >132 |
|---|---|---|---|---|---|---|---|---|---|---|
| (<20 ha) | 1 | 5 | (7) | 8 | 9 | 17 | 25 | 34 | 43 | 50 |
| 20-40 | 5 | 7 | 8 | 9 | 10 | 19 | 28 | 37 | 46 | 50 |
| 41-60 | 6 | 8 | 9 | 10 | 11 | 21 | 31 | 40 | 49 | 50 |
| 61-80 | 7 | 9 | 10 | 11 | 13 | 23 | 34 | 43 | 50 | 50 |
| 81-100 | 8 | 10 | 11 | 13 | 15 | 25 | 37 | 46 | 50 | 50 |
| 101-120 | 9 | 11 | 13 | 15 | 18 | 28 | 40 | 49 | 50 | 50 |
| 121-140 | 10 | 13 | 15 | 17 | 21 | 31 | 43 | 50 | 50 | 50 |
| 141-160 | 11 | 15 | 17 | 19 | 23 | 34 | 46 | 50 | 50 | 50 |
| 161-180 | 13 | 17 | 19 | 21 | 25 | 37 | 49 | 50 | 50 | 50 |
| 181-200 | 15 | 19 | 21 | 23 | 28 | 40 | 50 | 50 | 50 | 50 |
| 201-400 | 17 | 21 | 23 | 25 | 31 | 43 | 50 | 50 | 50 | 50 |
| 401-600 | 19 | 23 | 25 | 28 | 34 | 46 | 50 | 50 | 50 | 50 |
| 601-800 | 21 | 25 | 28 | 31 | 37 | 49 | 50 | 50 | 50 | 50 |
| 801-1000 | 23 | 28 | 31 | 34 | 40 | 50 | 50 | 50 | 50 | 50 |
| 1001-1200 | 25 | 31 | 34 | 37 | 43 | 50 | 50 | 50 | 50 | 50 |
| 1201-1400 | 28 | 34 | 37 | 40 | 46 | 50 | 50 | 50 | 50 | 50 |
| 1401-1600 | 31 | 37 | 40 | 43 | 49 | 50 | 50 | 50 | 50 | 50 |
| 1601-1800 | 34 | 40 | 43 | 46 | 50 | 50 | 50 | 50 | 50 | 50 |
| 1801-2000 | 37 | 43 | 47 | 49 | 50 | 50 | 50 | 50 | 50 | 50 |
| >2000 | 40 | 46 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

**Size Score (Biological Component)**
*(maximum 50 points)* 7

# 2.0 SOCIAL COMPONENT

## 2.1 ECONOMICALLY VALUABLE PRODUCTS

### 2.1.1 Wood Products

*Check the option that best reflects the total area (ha) of forested wetland (i.e., areas where the dominant vegetation form is h or c). Note that this is the area of all the forested vegetation communities, not total wetland size. Do not include areas where harvest is not permitted. Check only one option.*

Area of wetland used for scoring 2.1.1: N/A

| | | | |
|---|---|---|---|
| | < 5 ha | = | 0 pts |
| | 5 - 25 ha | = | 3 |
| | 26 – 50 ha | = | 6 |
| | 51 – 100 ha | = | 9 |
| | 101 – 200 ha | = | 12 |
| | > 200 ha | = | 18 |

Source of information:

Harvest not permitted

**Wood Products Score** *(maximum 18 points)* 0

### 2.1.2 Wild Rice

*Check only one.*

| | | | |
|---|---|---|---|
| | Present (min. size 0.5 ha) | = | 6 pts |
| Ø | Absent | = | 0 |
| | Harvest not permitted | = | 0 |

Source of information: Field-FN

**Wild Rice Score** *(maximum 6 points)* Ø

## 2.1.3 Commercial Baitfish

*Check only one.*

| | | | |
|---|---|---|---|
| | Present | = | 12 pts |
| | Absent | = | 0 |
| 0 | Fishing not permitted | = | 0 |

Source of information: Landowner

Commercial Fish Score *(maximum 12 points)* 0

## 2.1.4 Furbearers

*Only species recognized as furbearers under the Fish & Wildlife Conservation Act may be scored here.* Score 3 *points for each furbearer species listed, up to a maximum of 12 points.*
*Score 0 points if trapping is prohibited.*

| | Name of furbearer | Source of information |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | Prohibited | |

Furbearer Score *(maximum 12 points)* 0

## 2.2 RECREATIONAL ACTIVITIES

*Sources of information and reasons for scoring a wetland under high or moderate use below, must be included below.*

*Circle one score for each of the activities listed. Score is cumulative – add score for hunting, nature enjoyment and fishing together for final score.*

| Intensity of Use | Type of Wetland-Associated Use: Hunting | Nature Enjoyment/ Ecosystem Study | Fishing |
|---|---|---|---|
| High | 40 points | 40 points | 40 points |
| Moderate | 20 | 20 | 20 |
| Low | 8 | 8 | 8 |
| Not Possible/ No evidence | 0 | 0 | 0 |

Sources of information (include evidence/criteria forming basis for score and any relevant reference used to obtain that information):

Hunting: Landowner – No Publ. access

Nature:

Fishing:

| Recreational Activities Score *(maximum 80 points)* 0 |
|---|

## 2.3 LANDSCAPE AESTHETICS

### 2.3.1 Distinctness

*Check only one.*

| | | |
|---|---|---|
| | Clearly Distinct | = 3 pts |
| ✓ | Indistinct | = 0 |

**Landscape Distinctness Score**
*(maximum 3 points)* 0

### 2.3.2 Absence of Human Disturbance

*Check only one.*

| | | |
|---|---|---|
| | Human disturbances absent or nearly so | = 7 pts |
| | One or several localized disturbances | = 4 |
| | Moderate disturbance; localized water pollution | = 2 |
| ✓ | Wetland intact but impairment of ecosystem quality intense in some areas | = 1 |
| | Extreme ecological degradation; or water pollution severe and widespread | = 0 |

Details regarding type, extent and location of disturbance scored:

- effects from adjacent quarry / clearing, Fill etc

Source of information:

Field obs. - FN

**Absence of Human Disturbance Score**
*(maximum 7 points)* 1

## 2.4 EDUCATION AND PUBLIC AWARENESS

### 2.4.1 Educational Uses

*Check highest appropriate category.*

| | | | |
|---|---|---|---|
| | Frequent | = | 20 pts |
| | Infrequent | = | 12 |
| ✓ | No visits | = | 0 |

Details regarding the type and frequency of education uses scored above:

Land owner — No access

Source of information:

Educational Uses Score *(maximum 20 points)* 0

### 2.4.2 Facilities and Programs

*Check all appropriate options, score highest category checked.*

| | | | |
|---|---|---|---|
| | Staffed interpretation centre | = | 8 pts |
| | No interpretation centre or staff, but a system of self-guiding trails or brochures available | = | 4 |
| | Facilities such as maintained paths (e.g., woodchips), boardwalks, boat launches or observation towers, but no brochures or other interpretation | = | 2 |
| ✓ | No facilities or programs | = | 0 |

Additional Notes/Comments: Landowner — No access.

Source of information:

Facilities and Programs Score *(maximum 8 points)* 0

### 2.4.3 Research and Studies

*Check all that apply; score highest category checked.*

| | | | |
|---|---|---|---|
| | Long term research has been done | = | 12 pts |
| | Research papers published in refereed scientific journal or as a thesis | = | 10 |
| | One or more (non-research) reports have been written on some aspect of the wetland's flora, fauna, hydrology, etc. | = | 5 |
| 0 | No research or reports | = | 0 |

List of reports, publications, research studies etc. scored above:

EIS does not qualify.

Research and Studies Score
*(maximum 12 points)* 0

## 2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Name of Settlement: Ottawa subdivision

Distance of wetland from settlement: 3.7 Km

Population of settlement: 1 million + (Source: Ottawa.ca)

*Circle only the highest score applicable*

| Distance of wetland to settlement | population >10,000 | population 2,500-10,000 | population <2,500 or cottage community |
|---|---|---|---|
| within or adjoining settlement | 40 points | 26 points | 16 points |
| 0.5 to 10 km from settlement | (26) | 16 | 10 |
| 10 to 60 km from settlement | 12 | 8 | 4 |
| >60 km from nearest settlement | 5 | 2 | 0 |

Proximity to Human Settlement Score
*(maximum 40 points)* 26

## 2.6 OWNERSHIP

| | |
|---|---|
| FA of wetland held by or held under a legal contract by a conservation body (as defined by the *Conservation Land Act*) for wetland protection | ____ x 10 = ____ |
| FA of wetland occurring in provincially or nationally protected areas (e.g., parks and conservation reserves) | ____ x 10 = ____ |
| FA of wetland area in Crown/public ownership, not as above | ____ x 8 = ____ |
| FA of wetland area in private ownership, not as above | 1.0 x 4 = 4 |

Source of information: _____

Ownership Score *(maximum 10 points)* 4

## 2.7 SIZE (SOCIAL COMPONENT)

Total Size of Wetland = 10.7 ha  Sum of scores from Subcomponents 2.1, 2.2, and 2.5 = 0,0,26 = 26

*Circle the appropriate score from the table below.*

Total for Size Dependent Social Features

| | <31 | 31-45 | 46-60 | 61-75 | 76-90 | 91-105 | 106-120 | 121-135 | 136-150 | >150 |
|---|---|---|---|---|---|---|---|---|---|---|
| <2 ha | 1 | 2 | 4 | 8 | 10 | 12 | 14 | 14 | 14 | 15 |
| 2-4 | 1 | 2 | 4 | 8 | 12 | 13 | 14 | 14 | 15 | 16 |
| 5-8 | 2 | 2 | 5 | 9 | 13 | 14 | 15 | 15 | 16 | 16 |
| 9-12 | 3 | 3 | 6 | 10 | 14 | 15 | 15 | 16 | 17 | 17 |
| 13-17 | 3 | 4 | 7 | 10 | 14 | 15 | 16 | 16 | 17 | 17 |
| 18-28 | 4 | 5 | 8 | 11 | 15 | 16 | 16 | 17 | 17 | 18 |
| 29-37 | 5 | 7 | 10 | 13 | 16 | 17 | 18 | 18 | 19 | 19 |
| 38-49 | 5 | 7 | 10 | 13 | 16 | 17 | 18 | 18 | 19 | 20 |
| 50-62 | 5 | 8 | 11 | 14 | 17 | 17 | 18 | 19 | 20 | 20 |
| 63-81 | 5 | 8 | 11 | 15 | 17 | 18 | 19 | 20 | 20 | 20 |
| 82-105 | 6 | 9 | 11 | 15 | 18 | 18 | 19 | 20 | 20 | 20 |
| 106-137 | 6 | 9 | 12 | 16 | 18 | 19 | 20 | 20 | 20 | 20 |
| 138-178 | 6 | 9 | 13 | 16 | 18 | 19 | 20 | 20 | 20 | 20 |
| 179-233 | 6 | 9 | 13 | 16 | 18 | 20 | 20 | 20 | 20 | 20 |
| 234-302 | 7 | 9 | 13 | 16 | 18 | 20 | 20 | 20 | 20 | 20 |
| 303-393 | 7 | 9 | 14 | 17 | 18 | 20 | 20 | 20 | 20 | 20 |
| 394-511 | 7 | 10 | 14 | 17 | 18 | 20 | 20 | 20 | 20 | 20 |
| 512-665 | 7 | 10 | 14 | 17 | 18 | 20 | 20 | 20 | 20 | 20 |
| 666-863 | 7 | 10 | 14 | 17 | 19 | 20 | 20 | 20 | 20 | 20 |
| 864-1123 | 8 | 12 | 15 | 17 | 19 | 20 | 20 | 20 | 20 | 20 |
| 1124-1460 | 8 | 12 | 15 | 17 | 19 | 20 | 20 | 20 | 20 | 20 |
| 1461-1898 | 8 | 13 | 15 | 18 | 19 | 20 | 20 | 20 | 20 | 20 |
| 1899-2467 | 8 | 14 | 16 | 18 | 20 | 20 | 20 | 20 | 20 | 20 |
| >2467 | 8 | 14 | 16 | 18 | 20 | 20 | 20 | 20 | 20 | 20 |

Total Size Score (Social Component) 3

## 2.8 ABORIGINAL VALUES AND CULTURAL HERITAGE

*Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points.*

*Full documentation of sources must be attached to the data record.*

### 2.8.1 Aboriginal Values

| | |
|---|---|
| Significant | = 30 pts |
| Not Significant | = 0 |
| Unknown | = (0) |

Additional Comments/Notes: Unknown - heavily disturbed / private

### 2.8.2 Cultural Heritage

| | |
|---|---|
| Significant | = 30 pts |
| Not Significant | = 0 |
| Unknown | = (0) |

Additional Comments/Notes: Private - No public access.

**Aboriginal Values/Cultural Heritage Score**
*(maximum 30 points)* 0

## 3.0 HYDROLOGICAL COMPONENT

## 3.1 FLOOD ATTENUATION

*Check one of the following options.*

- [ ] If wetland is a coastal wetland, ➡ score 0 points for this section.
- [ ] If wetland is entirely isolated in site type, ➡ score 100 points automatically.
- [x] Wetland not as above – proceed through 'steps' A through F below.

(A) Total wetland area = 10.7 ha

(B) Size of wetland's catchment = 32.0 ha

(C) Size of other detention areas in catchment = 0 ha

(D) Total area of upstream detention areas = {A + C } = 10.7 ha

(E) Upstream Detention Factor = {(A/D) x 2} = 1.0 (maximum 1.0)

(F) Attenuation Factor = {(A/B) x 10} = 1.0 (maximum 1.0)

Flood Attenuation Final Score = {(E + F) /2) x 100 = 100

**Flood Attenuation Score** *(maximum 100 points)* 100

## 3.2 WATER QUALITY IMPROVEMENT

### 3.2.1 Short Term Water Quality Improvement

**Step 1:** Determination of maximum initial score

| | |
|---|---|
| | Wetland on one of the 5 defined large lakes or 5 major rivers (Go to Step 5A) |
| ✓ | All other wetlands (Go through Steps 2, 3, 4, and 5B) |

**Step 2:** Determination of Watershed Improvement Factor (WIF)

*Calculation of WIF is based on the fractional area (FA) of each site type that makes up the total area of the wetland.*

(FA = area of site type/total area of wetland)

| | | | | |
|---|---|---|---|---|
| FA of isolated wetland | = | | x 0.5 = | |
| FA of riverine wetland | = | | x 1.0 = | |
| FA of palustrine wetland with no inflow | = | 1.0 | x 0.7 = | 0.7 |
| FA of palustrine wetland with inflows | = | | x 1.0 = | |
| FA of lacustrine on lake shoreline | = | | x 0.2 = | |
| FA of lacustrine at lake inflow or outflow | = | | x 1.0 = | |

Sum (*WIF cannot exceed 1.0*) 0.7

**Step 3:** Determination of Catchment Land Use Factor (LUF)

*(Choose the first category that fits upstream land use in the catchment.)*

| | | |
|---|---|---|
| | Over 50% agricultural and/or urban | = 1.0 |
| | Between 30 and 50% agricultural and/or urban | = 0.8 |
| ✓ | Over 50% forested or other natural vegetation | = (0.6) |

LUF *(maximum 1.0)* 0.6

**Step 4:** Determination of Pollutant Uptake Factor (PUF)

*Calculation of PUF is based on the fractional area (FA) of each vegetation type that makes up the total area of the wetland. Base assessment on the dominant vegetation form for each community except where dead trees or shrubs dominate. In that case base assessment on the dominant live vegetation type.*

(FA = area of vegetation type/total area of wetland)

| | | | | |
|---|---|---|---|---|
| FA of wetland with live trees, shrubs, herbs or mosses (c, h, ts, ls, gc, m) | 0.67 | = x | 0.75 = | 0.5 |
| FA of wetland with emergent, submergent or floating vegetation (re, be, ne, su, f, ff) | 0.33 | = x | 1.0 = | 0.33 |
| FA of wetland with little or no vegetation (u) | | = x | 0.5 = | 0 |

Sum (*PUF cannot exceed 1.0*) 0.83

Step 5: Calculation of final score

| | | |
|---|---|---|
| | Wetland on defined 5 major lakes or 5 major rivers | 0 |
| ✓ | All other wetlands – calculate as follows | |
| | Initial score | 60 |
| | Watershed Improvement Factor (WIF) | 0.7 |
| | Land Use Factor (LUF) | 0.6 |
| | Pollutant Uptake Factor (PUF) | 0.83 |
| | Final score: 60 x WIF x LUF x PUF = | 20.92 |

Short Term Water Quality Improvement Score
*(maximum 60 points)* 21

## 3.2.2 Long Term Nutrient Trap

Step 1:

| | |
|---|---|
| | Wetland on defined 5 major lakes or 5 major rivers = 0 points |
| ✓ | All other wetlands (Proceed to Step 2) |

Step 2: Choose only one of the following settings that best describes the wetland being evaluated

| | | |
|---|---|---|
| | Wetland located in a river mouth | = 10 pts |
| | Wetland is a bog, fen, or swamp with more than 50% of the wetland being covered with organic soil | = 10 |
| | Wetland is a bog, fen, or swamp with less than 50% of the wetland being covered with organic soil | = 3 |
| | Wetland is a marsh with more than 50% of the wetland covered with organic soil | = 3 |
| | None of the above | = 0 |

Long Term Nutrient Trap Score
*(maximum 10 points)* 0

## 3.2.3 Groundwater Discharge

*Circle the characteristics that best describe the wetland being evaluated and then sum the scores. If the sum exceeds 30 points, assign the maximum score of 30). Note: for wetland type, wetland type scored does not have to the dominant type in the wetland.*

| Wetland Characteristics | Potential for Discharge | | |
|---|---|---|---|
| | None to Little | Some | High |
| Wetland type | Bog = 0 | Swamp/Marsh = 2 | Fen = 5 |
| Topography | Flat/rolling = 0 | Hilly = 2 | Steep = 5 |
| Wetland area: Upslope catchment area | Large (>50%) = 0 | Moderate (5-50%) = 2 | Small (<5%) = 5 |
| Lagg development | None found = 0 | Minor = 2 | Extensive = 5 |
| Seeps | None = 0 | ≤ 3 seeps = 2 | > 3 seeps = 5 |
| Surface marl deposits | None = 0 | ≤ 3 sites = 2 | > 3 sites = 5 |
| Iron precipitates | None = 0 | ≤ 3 sites = 2 | > 3 sites = 5 |
| Located within 1 km of a major aquifer | N/A = 0 | N/A = 0 | Yes = 10<br>No = 0 |

Additional Comments/Notes:
Area: Upslope Catchment = 10.72 : 32.0 (~33%)

| Groundwater Discharge Score *(maximum 30 points)* | 4 |
|---|---|

## 3.3 CARBON SINK

*Check only one of the following:*

| | | | |
|---|---|---|---|
| | Bog, fen or swamp with more than 50% coverage by organic soil | = | 5 pts |
| | Bog, fen or swamp with between 10 to 50% coverage by organic soil | = | 2 |
| | Marsh with more than 50% coverage by organic soil | = | 3 |
| ✓ | Wetlands not in one of the above categories | = | 0 |

Source of information:

| | |
|---|---|
| Carbon Sink Score *(maximum 5 points)* | 0 |

## 3.4 SHORELINE EROSION CONTROL

*From the wetland vegetation map determine the dominant vegetatino type within the erosion zone for lacustrine and riverine site type areas only. Score according to the factors listed below.*

Step 1:

| | | | |
|---|---|---|---|
| 0 | Wetland entirely isolated or palustrine | = | 0 pts |
| | Any part of the wetland is riverine or lacustrine | = | Go to step 2 |

Step 2: *Choose the one characteristic that best describes the shoreline vegetation (see page 109 for description of "shoreline".)*

| | | | |
|---|---|---|---|
| | Trees and shrubs | = | 15 pts |
| | Emergent vegetation | = | 8 |
| | Submergent vegetation | = | 6 |
| | Other shoreline vegetation | = | 3 |
| | No vegetation | = | 0 |

| | |
|---|---|
| Shoreline Erosion Control Score *(maximum 15 points)* | 0 |

## 3.5 GROUNDWATER RECHARGE

### 3.5.1 Site Type

| | | | |
|---|---|---|---|
| Wetland > 50% lacustrine (by area) or located on one of the five major rivers | | = 0 pts | |
| Wetland not as above. Calculate final score as follows: | | | |
| ■ FA of isolated or palustrine wetland | = | x 50 = | 1.0 |
| ■ FA of riverine wetland | = | x 20 = | |
| ■ FA of lacustrine wetland (not dominant site type) | = | x 0 = | |
| | | | |

Groundwater Recharge/Wetland Site Type Score *(maximum 50 points)* 50

### 3.5.2 Soil Recharge Potential

*Circle only one choice that **best** describes the soils in **the area surrounding the wetland** being evaluated (the soils within the wetland are not scored here).*

| Dominant Wetland Type | Group A, B, C (sands, gravels, loams) | Group D (clays, substrates in high water tables, shallow substrates over impervious materials such as bedrock) |
|---|---|---|
| Lacustrine or major river | 0 | 0 |
| Isolated | 10 | 5 |
| Palustrine | 7 | (4) |
| Riverine (not on a major river) | 5 | 2 |

Groundwater Recharge/Wetland Soil Recharge Potential Score *(maximum 10 points)* 4

# 4.0 SPECIAL FEATURES COMPONENT

## 4.1 RARITY

### 4.1.1 Wetland Types

| Ecodistrict | Rarity within the Landscape (4.1.1.1) | Rarity of Wetland Type (4.1.1.2) | | | |
|---|---|---|---|---|---|
| | | Marsh | Swamp | Fen | Bog |
| 6E-1 | 60 | 40 | 0 | 80 | 80 |
| 6E -2 | 60 | 40 | 0 | 80 | 80 |
| 6E-4 | 60 | 40 | 0 | 80 | 80 |
| 6E-5 | 20 | 40 | 0 | 80 | 80 |
| 6E-6 | 40 | 20 | 0 | 80 | 80 |
| 6E-7 | 60 | 10 | 0 | 80 | 80 |
| 6E-8 | 20 | 20 | 0 | 80 | 80 |
| 6E-9 | 0 | 20 | 0 | 80 | 80 |
| 6E-10 | 20 | 0 | 20 | 80 | 80 |
| 6E-11 | 0 | 30 | 0 | 80 | 80 |
| 6E-12 | 0 | 30 | 0 | 60 | 80 |
| 6E-13 | 60 | 10 | 0 | 80 | 80 |
| 6E-14 | 40 | 20 | 0 | 40 | 80 |
| 6E-15 | 40 | 0 | 0 | 80 | 80 |
| 6E-16 | 60 | 20 | 0 | 80 | 60 |
| 6E-17 | 40 | 10 | 0 | 30 | 80 |
| 7E-1 | 60 | 0 | 60 | 80 | 80 |
| 7E-2 | 60 | 0 | 0 | 80 | 80 |
| 7E-3 | 60 | 00 | 0 | 80 | 80 |
| 7E-4 | 80 | 0 | 0 | 80 | 80 |
| 7E-5 | 60 | 20 | 0 | 80 | 80 |
| 7E-6 | 80 | 30 | 0 | 80 | 80 |

#### 4.1.1.1 Rarity within the Landscape

*Choose appropriate score from 2nd column above.*

Score *(maximum 80 points)* 8

#### 4.1.1.2 Rarity of Wetland Type

*Score is cumulative, based on presence/absence. Circle all appropriate scores from above table and sum.*

Score *(maximum 80 points)* 30

## 4.1.2 Species

### 4.1.2.1 Provincially Significant Animal Species – NHIC tracked.

| Common Name | Scientific Name | Activity | Dates Observed | Info Source |
|---|---|---|---|---|
| Western Chorus Frog | Pseudacris triseriata | calling | 26 April 2022 | field surveys – FN |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Additional Notes/Comments: only a few individuals calling during frog surveys

| | | | | | |
|---|---|---|---|---|---|
| One species = 50 pts | 9 species = 140 pts | 17 species = 160 pts |
| 2 species = 80 | 10 species = 143 | 18 species = 162 |
| 3 species = 95 | 11 species = 146 | 19 species = 164 |
| 4 species = 105 | 12 species = 149 | 20 species = 166 |
| 5 species = 115 | 13 species = 152 | 21 species = 168 |
| 6 species = 125 | 14 species = 154 | 22 species = 170 |
| 7 species = 130 | 15 species = 156 | 23 species = 172 |
| 8 species = 135 | 16 species = 158 | 24 species = 174 |
| | | 25 species = 176 |

*Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)*

| Provincially Significant Animal Species |
|---|
| *(no maximum)* 50 |

### 4.1.2.2 Provincially Significant Plant Species

| Common Name | Scientific Name | Activity | Dates Observed | Info Source |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | NONE | | |
| | | | | |
| | | | | |
| | | | | |

Additional Notes/Comments:

| | | |
|---|---|---|
| One species = 50 pts | 9 species = 140 pts | 17 species = 160 pts |
| 2 species = 80 | 10 species = 143 | 18 species = 162 |
| 3 species = 95 | 11 species = 146 | 19 species = 164 |
| 4 species = 105 | 12 species = 149 | 20 species = 166 |
| 5 species = 115 | 13 species = 152 | 21 species = 168 |
| 6 species = 125 | 14 species = 154 | 22 species = 170 |
| 7 species = 130 | 15 species = 156 | 23 species = 172 |
| 8 species = 135 | 16 species = 158 | 24 species = 174 |
| | | 25 species = 176 |

*Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)*

| Provincially Significant Plant Species |
|---|
| *(no maximum)* 0 |

## 4.1.2.3 Regionally Significant Species

| Common Name | Scientific Name | Activity | Dates Observed | Info Source |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | None | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | |
|---|---|---|
| One species= 20 pts | 4 species = 45 pts | 7 species = 58 pts |
| 2 species = 30 | 5 species = 50 | 8 species = 61 |
| 3 species = 40 | 6 species = 55 | 9 species = 64 |
| | | 10 species = 67 |

*For each significant species over 10 in wetland, add 1 point.*

**Regionally Significant Species Score**
*(no maximum score)* 0

## 4.1.2.4 Locally Significant Species

| Common Name | Scientific Name | Activity | Dates Observed | Info Source |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | None | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | |
|---|---|---|
| One species= 10 pts | 4 species = 31 pts | 7 species = 43 pts |
| 2 species = 17 | 5 species = 38 | 8 species = 45 |
| 3 species = 24 | 6 species = 41 | 9 species = 47 |
| | | 10 species = 49 |

*For each significant species over 10 in wetland, add 1 point.*

**Locally Significant Species Score**
*(no maximum score)* 0

## 4.2 SIGNIFICANT FEATURES AND HABITATS

### 4.2.1 Colonial Waterbirds

*Record all available information. Score the highest applicable category. Include additional information as possible (e.g., nest locations, etc).*

| Activity | Species | Info Source | Points |
|---|---|---|---|
| Currently nesting | Ø | | = 50 |
| Known to have nested within the past 5 years | Ø | | = 25 |
| Active feeding area (great blue heron excluded) | Ø | | = 15 |
| None known | | | = 0 |

Additional Notes/Comments: Results of Extensive surveys. — FN.

Colonial Waterbird Nesting Score
*(maximum 50 points)* Ø

### 4.2.2 Winter Cover for Wildlife

*Score highest appropriate category. Include rationale/sources of information.*

| | | | |
|---|---|---|---|
| | Provincially significant | = | 100 pts |
| | Significant in Ecoregion | = | 50 |
| | Significant in Ecodistrict | = | 25 |
| | Locally significant | = | 10 |
| | Little or poor winter cover | = | 0 |

Species/habitat/vegetation community scored *(e.g., winter deer cover in hemlock swamp, S3 and S4b)*:

— deer yard surveys completed. — FN

Source of information: — deer yard surveys. — see EIS/NER

Winter Cover for Wildlife Score
*(maximum 100 points)* Ø

### 4.2.3 Waterfowl Staging and/or Moulting Areas

*Check highest level of significance for both staging and moulting; add scores for staging and for moulting together for final score. However, maximum score for evaluation under this section is 150 points.*

| | Staging | Moulting |
|---|---|---|
| Nationally/internationally significant | = 150 pts | = 150 pts |
| Provincially significant | = 100 | = 100 |
| Significant in the Ecoregion | = 50 | = 50 |
| Significant in Ecodistrict | = 25 | = 25 |
| Known to occur | = 10 | = 10 |
| Not possible/Unknown | = 0 | = 0 |

Species/habitat/vegetation community scored *(e.g., approx 20 mallards in W3)*:

Ø

Source of information: Surveys from NER/EIS - FN

Waterfowl Staging/Moulting Score
*(maximum 150 points)* Ø

### 4.2.4 Waterfowl Breeding

*Check highest level of significance.*

| | | |
|---|---|---|
| | Nationally/internationally significant | = 150 pts |
| | Provincially significant | = 100 |
| | Significant in the Ecoregion | = 50 |
| | Significant in Ecodistrict | = 25 |
| | Habitat Suitable | = 10 |
| | Habitat not suitable | = 0 |

Species/habitat/vegetation community scored *(e.g., mallard in W3)*: None observed

Source of information: Surveys from NER/EIS - FN

Waterfowl Breeding Score
*(maximum 150 points)* 10

### 4.2.5 Migratory Passerine, Shorebird or Raptor Stopover Area

*Check highest level of significance.*

| | | |
|---|---|---|
| | Nationally / internationally significant | = 150 pts |
| | Provincially significant | = 100 |
| | Significant in Ecoregion | = 50 |
| | Significant in Ecodistrict | = 25 |
| | Known to occur | = 10 |
| | Not possible / Unknown | = 0 |

Species/habitat/vegetation community scored: some migrants likely to occur.

Source of information: Surveys from NER/EIS - FN

Passerine, Shorebird or Raptor Stopover Score
*(maximum 100 points)* 10

## 4.2.6 Fish Habitat

### 4.2.6.1 Spawning and Nursery Habitat

Area Factors for Low Marsh, High Marsh and Swamp Communities.

| No. of ha of Fish Habitat | Area Factor |
|---|---|
| < 0.5 ha | 0.1 |
| 0.5 – 4.9 | 0.2 |
| 5.0 – 9.9 | 0.4 |
| 10.0 – 14.9 | 0.6 |
| 15.0 – 19.9 | 0.8 |
| 20.0 + | 1.0 |

Step 1:

| | | |
|---|---|---|
| ☑ | Fish habitat is not present within the wetland | Go to Step 7, Score 0 points |
| ☐ | Fish habitat is present within the wetland | Go to Step 2 |

Step 2: *Choose only one option*

| | | |
|---|---|---|
| ☐ | Significance of the spawning and nursery habitat within the wetland is known | Go to Step 3 |
| ☐ | Significance of the spawning and nursery habitat within the wetland is not known | Go through Steps 4, 5 and 6 |

Step 3: *Select the highest appropriate category below, attach documentation:*

| | |
|---|---|
| Significant in Ecoregion | Go to Step 7, Score 100 points |
| Significant in Ecodistrict | Go to Step 7, Score 50 points |
| Locally Significant Habitat (5.0+ ha) | Go to Step 7, Score 25 points |
| Locally Significant Habitat (<5.0 ha) | Go to Step 7, Score 15 points |

Source of information: Surveys from NER/EIS. -FN

Step 4: Low Marsh = the 'permanent' marsh area, from the existing water line out to the outer boundary of the wetland.

| | | |
|---|---|---|
| ☐ | Low marsh not present | Go to Step 5 |
| ☐ | Low marsh present | Continue through Step 4, scoring as noted below |

***Scoring of Low Marsh:***

1. Check the appropriate **Vegetation Group** (see Appendix 7) for each Low Marsh community. (Based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community.)
2. Sum the areas (ha) of the vegetation communities assigned to each **Vegetation Group**.
3. Use these areas to assign an **Area Factor** (from Table 7) for each checked **Vegetation Group**.
4. Multiply the **Area Factor** by the **Multiplication Factor** for each row to calculate **Score**.
5. Sum all numbers in Score column to get **Total Score for Low Marsh**.

**Scoring for Presence of Key Vegetation Groups – Low Marsh**

| Vegetation Group Number | Vegetation Group Name | Present as a Dominant Form (check) | Total Area (ha) | Area Factor (from Table 7) | Multiplication Factor | Score |
|---|---|---|---|---|---|---|
| 1 | Tallgrass | | | | 6 | |
| 2 | Shortgrass-Sedge | | | | 11 | |
| 3 | Cattail-Bulrush-Burreed | | | | 5 | |
| 4 | Arrowhead-Pickerelweed | | | | 5 | |
| 5 | Duckweed | | | | 2 | |
| 6 | Smartweed-Waterwillow | | | | 6 | |
| 7 | Waterlily-Lotus | | | | 11 | |
| 8 | Waterweed-Watercress | | | | 9 | |
| 9 | Ribbongrass | | | | 10 | |
| 10 | Coontail-Naiad-Watermilfoil | | | | 13 | |
| 11 | Narrowleaf Pondweed | | | | 5 | |
| 12 | Broadleaf Pondweed | | | | 8 | |
| | | | | | | |

Total Score for Low Marsh (*maximum 75 points*)

Continue to Step 5

Step 5: High Marsh = the 'seasonal' marsh area, from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.

| | | |
|---|---|---|
| ☐ | High marsh not present | Go to Step 6 |
| ☐ | High marsh present | Continue through Step 5, scoring as noted below |

***Scoring of High Marsh:***

1. Check the appropriate **Vegetation Group** (see Appendix 7) for each High Marsh community. (Based on the one most clearly dominant plant species of the dominant form in each High Marsh vegetation community.)
2. Sum the areas (ha) of the vegetation communities assigned to each **Vegetation Group**.
3. Use these areas to assign an **Area Factor** (from Table 7) for each checked **Vegetation Group**.
4. Multiply the **Area Factor** by the **Multiplication Factor** for each row to calculate **Score**.
5. Sum all numbers in Score column to get **Total Score for High Marsh**.

Scoring for Presence of Key Vegetation Groups – High Marsh

| Vegetation Group Number | Vegetation Group Name | Present as a Dominant Form (check) | Total Area (ha) | Area Factor (from Table 7) | Multiplication Factor | Score |
|---|---|---|---|---|---|---|
| 1 | Tallgrass | | | | 6 | |
| 2 | Shortgrass-Sedge | | | | 11 | |
| 3 | Cattail-Bulrush-Burreed | | | | 5 | |
| 4 | Arrowhead-Pickerelweed | | | | 5 | |
| | Total Score for High Marsh (*maximum 25 points*) | | | | | |

Continue to Step 6

Step 6:

| | | |
|---|---|---|
| | Swamp containing fish habitat not present | Go to Step 7 |
| | Swamp containing fish habitat present | Continue through Step 6, scoring as follows |

***Scoring of Swamp:***

1. Determine the total area (ha) of seasonally flooded swamp communities within the wetland containing fish habitat and record below.
2. Determine the total area (ha) of permanently flooded swamp communities within the wetland containing fish habitat and record below.
3. Use these areas to assign an **Area Factor** (from Table 7).
4. Multiply the Area Factor by the **Multiplication Factor** for each row to calculate **Score**.
5. Sum all numbers in Score column to get **Total Score for Swamp**.

**Scoring Swamps for Fish Habitat (Seasonally flooded; Permanently flooded)**

| Swamp Containing Fish Habitat | Present (check) | Total Area (ha) | Area Factor (from Table 7) | Multiplication Factor | Score |
|---|---|---|---|---|---|
| Seasonally Flooded Swamp | | | | 10 | |
| Permanently Flooded Swamp | | | | 10 | |
| | | | Total Score for Swamp (*maximum 20 points*) | | |

Continue to Step 7

Step 7: CALCULATION OF FINAL SCORE

NOTE: Scores for Steps 4, 5 and 6 are only recorded if Steps 1 and 3 have not been scored.

A. Score from Step 1 (fish habitat not present) = 2
B. Score from Step 3 (significance known) = ____
C. Score from Step 4 (Low Marsh) = ____
D. Score from Step 5 (High Marsh) = ____
E. Score from Step 6 (Swamp) = ____

Calculation of Final Score for Spawning and Nursery Habitat = A or B or Sum of C, D, and E

| Score for Spawning and Nursery Habitat *(maximum 100 points)* 2 |
|---|

## 4.2.6.2 Migration and Staging Habitat

Step 1:

| | | |
|---|---|---|
| [X] | Staging or Migration Habitat is not present in the wetland | Go to Step 4, Score 0 points |
| [ ] | Staging or Migration Habitat is present in the wetland, significance of the habitat is known | Go to Step 2 |
| [ ] | Staging or Migration Habitat is present in the wetland, significance of the habitat is not known. | Go to Step 3 |

Step 2: Select the highest appropriate category below. Ensure that documentation is attached to the data record.

| | | |
|---|---|---|
| [ ] | Significant in Ecoregion | Score 25 points in Step 4 |
| [ ] | Significant in Ecodistrict | Score 15 points in Step 4 |
| [ ] | Locally Significant | Score 10 points in Step 4 |
| [ ] | Fish staging and/or migration habitat present, but not as above | Score 5 points in Step 4 |

Source of information: NER/EIS - FW

Step 3: Select the highest appropriate category below based on presence of the designated site type (i.e. does not have to be the dominant site type). Refer to Site Types recorded earlier (section 1.1.3). Attach documentation.

| | | |
|---|---|---|
| [ ] | Wetland is riverine at rivermouth or lacustrine at rivermouth | Score 25 points in Step 4 |
| [ ] | Wetland is riverine, within 0.75 km of rivermouth | Score 15 points in Step 4 |
| [ ] | Wetland is lacustrine, within 0.75 km of rivermouth | Score 10 points in Step 4 |
| [ ] | Fish staging and/or migration habitat present, but not as above | Score 5 points in Step 4 |

Step 4: Enter a score from only one of the three above Steps.

| Score for Staging and Migration Habitat *(maximum 25 points)* |
|---|
| 0 |

## 4.3 ECOSYSTEM AGE

| | | Fractional Area | | Score |
|---|---|---|---|---|
| Bog | = | | x 25 = | |
| Fen, on deeper soils; floating mats or marl | = | | x 20 = | |
| Fen, on limestone rock | = | | x 5 = | |
| Swamp | = | 0.67 | x 3 = | 2.0 |
| Marsh | = | 0.33 | x 0 = | 0.0 |
| | Total | | = | 2.0 |

Ecosystem Age Score *(maximum 25 points)* 2

## 4.4 GREAT LAKES COASTAL WETLANDS

*Choose one only.*

| | | | |
|---|---|---|---|
| | Wetland < 10 ha | = | 10 pts |
| | Wetland 10-50 ha | = | 25 |
| | Wetland 51-100 ha | = | 50 |
| | Wetland > 100 ha | = | 75 |

Great Lakes Coastal Wetland Score
*(maximum 75 points)* 0

## GENERAL INFORMATION

Wetland Evaluator(s)

Name: FERGUS NICOLL Affiliation: Golder / WSP

Signature: Fergus Nicoll

(by signing, I confirm that this evaluation has been undertaken and completed in accordance with the Ontario Wetland Evaluation System Southern Manual 4th Edition / Northern Manual 2nd Edition)

Name: GWENDOLYN WEEKS Affiliation: Golder / WSP

Signature: G-Weeks

(by signing, I confirm that this evaluation has been undertaken and completed in accordance with the Ontario Wetland Evaluation System Southern Manual 4th Edition / Northern Manual 2nd Edition)

Name: _____ Affiliation: _____

Signature: _____

(by signing, I confirm that this evaluation has been undertaken and completed in accordance with the Ontario Wetland Evaluation System Southern Manual 4th Edition / Northern Manual 2nd Edition)

Name: _____ Affiliation: _____

Signature: _____

(by signing, I confirm that this evaluation has been undertaken and completed in accordance with the Ontario Wetland Evaluation System Southern Manual 4th Edition / Northern Manual 2nd Edition)

Name: _____ Affiliation: _____

Signature: _____

(by signing, I confirm that this evaluation has been undertaken and completed in accordance with the Ontario Wetland Evaluation System Southern Manual 4th Edition / Northern Manual 2nd Edition)

Date(s) wetland visited (in field): See Attached

Date evaluation completed: March 1, 2023

Estimated time devoted to completing the field survey in person hours: 200+ hours

Weather Conditions

i) at time of field work: various - multiple trips over multiple years

ii) summer conditions in general: " "

# WETLAND EVALUATION SCORING RECORD

WETLAND NAME: _____

## 1.0 BIOLOGICAL COMPONENT

| | |
|---|---|
| | 1.1 PRODUCTIVITY |
| 15 | 1.1.1 Growing Degree-Days/Soils |
| 15 | 1.1.2 Wetland Type |
| 2 | 1.1.3 Site Type |
| 32 | |

| | |
|---|---|
| | 1.2 BIODIVERSITY |
| 13 | 1.2.1 Number of Wetland Types |
| 5 | 1.2.2 Vegetation Communities |
| 5 | 1.2.3 Diversity of Surrounding Habitat |
| 8 | 1.2.4 Proximity to Other Wetlands |
| 18 | 1.2.5 Interspersion |
| 0 | 1.2.6 Open Water Type |
| 49 | |

| | |
|---|---|
| 7 | 1.3 SIZE (Biological Component) |
| 88 | TOTAL (Biological Component) |

## 2.0 SOCIAL COMPONENT

0 2.1 ECONOMICALLY VALUABLE PRODUCTS
- 0 2.1.1 Wood Products
- 0 2.1.2 Wild Rice
- 0 2.1.3 Commerical Baitfish
- 0 2.1.4 Furbearers

0 Total for Economically Valuable Products

0 2.2 RECREATIONAL ACTIVITIES

0 2.3 LANDSCAPE AESTHETICS
- 0 2.3.1 Distinctness
- 1 2.3.2 Absence of Human Disturbance

1 Total for Landscape Aesthetics

0 2.4 EDUCATION AND PUBLIC AWARENESS
- 0 2.4.1 Educational Uses
- 0 2.4.2 Facilities and Programs
- 0 2.4.3 Research and Studies

0 Total for Education and Public Awareness

26 2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

4 2.6 OWNERSHIP

3 2.7 SIZE (Social Component)

0 2.8 ABORIGINAL VALUES AND CULTURAL HERITAGE
- 0 2.8.1 Aboriginal Values
- 0 2.8.2 Cultural Heritage

34 TOTAL (Social Component)

## 3.0 HYDROLOGICAL COMPONENT

100 3.1 FLOOD ATTENUATION

3.2 WATER QUALITY IMPROVEMENT

21 3.2.1 Short Term Water Quality Improvement

0 3.2.2 Long Term Nutrient Trap

4 3.2.3 Groundwater Discharge

25 Total for Water Quality Improvement

0 3.3 CARBON SINK

0 3.4 SHORELINE EROSION CONTROL

3.5 GROUNDWATER RECHARGE

50 3.5.1 Site Type

4 3.5.2 Soil Recharge Potential

54 Total for Groundwater Recharge

179 TOTAL (Hydrological Component)

## 4.0 SPECIAL FEATURES COMPONENT

4.1 RARITY

4.1.1 Wetlands

0
30 — 4.1.1.1 Rarity within the Landscape

4.1.1.2 Rarity of Wetland Type

30 — Total for Wetland Rarity

4.1.2 Species

50 — 4.1.2.1 Provincially Significant Animals

0 — 4.1.2.2 Provincially Significant Plants

0 — 4.1.2.3 Regionally Significant Species

0 — 4.1.2.4 Locally Significant Species

50 — Total for Species Rarity

4.2 SIGNIFICANT FEATURES AND HABITATS

0 — 4.2.1 Colonial Waterbirds

0 — 4.2.2 Winter Cover for Wildlife

0 — 4.2.3 Waterfowl Staging and/or Moulting Areas

10 — 4.2.4 Waterfowl Breeding

10 — 4.2.5 Migratory Passerine, Shorebird or Raptor Stopover Area

4.2.6 Fish Habitat

0 — 4.2.6.1 Spawning and Nursery Habitat

0 — 4.2.6.2 Migration and Staging Habitat

20 — Total for Significant Features and Habitats

2 — 4.3 ECOSYSTEM AGE

0 — 4.4 GREAT LAKES COASTAL WETLANDS

102 — TOTAL FOR SPECIAL FEATURES COMPONENT (*not to exceed 250*)

## SUMMARY OF EVALUATION RESULT

Wetland Western Stittsville II

88 1.0 TOTAL FOR BIOLOGICAL COMPONENT

34 2.0 TOTAL FOR SOCIAL COMPONENT

179 3.0 TOTAL FOR HYDROLOGICAL COMPONENT

102 4.0 TOTAL FOR SPECIAL FEATURES COMPONENT

403 TOTAL WETLAND SCORE

Fergus Nicoll
Gwendolyn Weeks
2022/23

## APPENDIX 4 – WETLAND DATA SUMMARY FORM

Complete versions of the data form in this appendix should be attached to the wetland data record and included within the wetland evaluation file.

Wetland Name Western Wetland Stittsville II Page 1 of 1

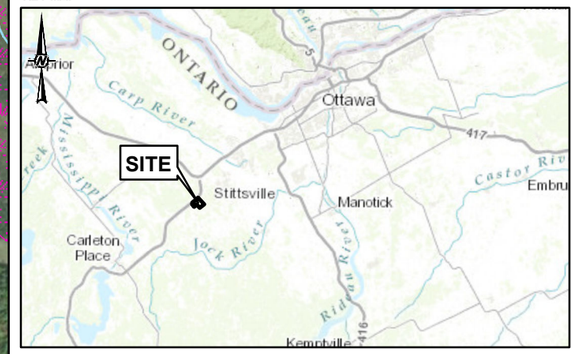
| Map Code | Field Code | GPS Coordinate | Dominant Form | Forms | # Forms | Dominant Species | Area (ha) | % Open Water Low (ha) | % Open Water High Est. % | % Open Water Mean Est. % | Open Water Perm | Soil (ha) | Site Type | Fish Habitat % Fish Habitat | Fish Habitat Area (ha) | Fish Habitat Habitat Type | Fish Habitat Key Veg Group |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M1 | M1 | | re | re, nc gc | 3 | see attached | 3.49 | 0 | 10 | | 0 | | P | 0 | | | |
| S1 | S1 | | c | c, ts, nc | 3 | | 1.56 | 0 | 0 | | 0 | | P | 0 | | | |
| S2 | S2 | | ts | ts, ls nc | 3 | | 3.79 | 0 | 5 | | 0 | | P | 0 | | | |
| S3 | S3 | | c | c, ts nc | 3 | | 0.93 | 0 | 5 | | 0 | | P | 0 | | | |
| S4 | S4 | | ts | ts, c, ls | 3 | | 0.95 | 0 | 5 | | 0 | | P | 0 | | | |
| | | see map | | | | | | | | | | | | | | | |

refer to worksheet

No "permanent" open water

SPRUCE RIDGE RD
SPEEDWAY RD
HWY 7
JINKINSON RD
WESTERN WETLAND
WESTERN WETLAND CATCHMENT
SOUTHERN WETLAND
SOUTHERN WETLAND CATCHMENT
Goulbourn Wetland Complex
Huntley

KEY MAP




SCALE 1:1,000,000

LEGEND

- ROADWAY
- RAIL TRAIL
- WATERCOURSE
- PROVINCIALLY SIGNIFICANT WETLAND (PSW)
- WETLAND (NOT PROVINCIALLY SIGNIFICANT)
- APPROXIMATE TOMLINSON PROPERTY BOUNDARY
- APPROXIMATE STITTSVILLE QUARRY LICENSED AREA
- WETLAND CATCHMENT

0 100 200 400
1:10,000 METRES

**NOTE(S)**
1. ALL LOCATIONS ARE APPROXIMATE

**REFERENCE(S)**
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
R.W. TOMLINSON LIMITED

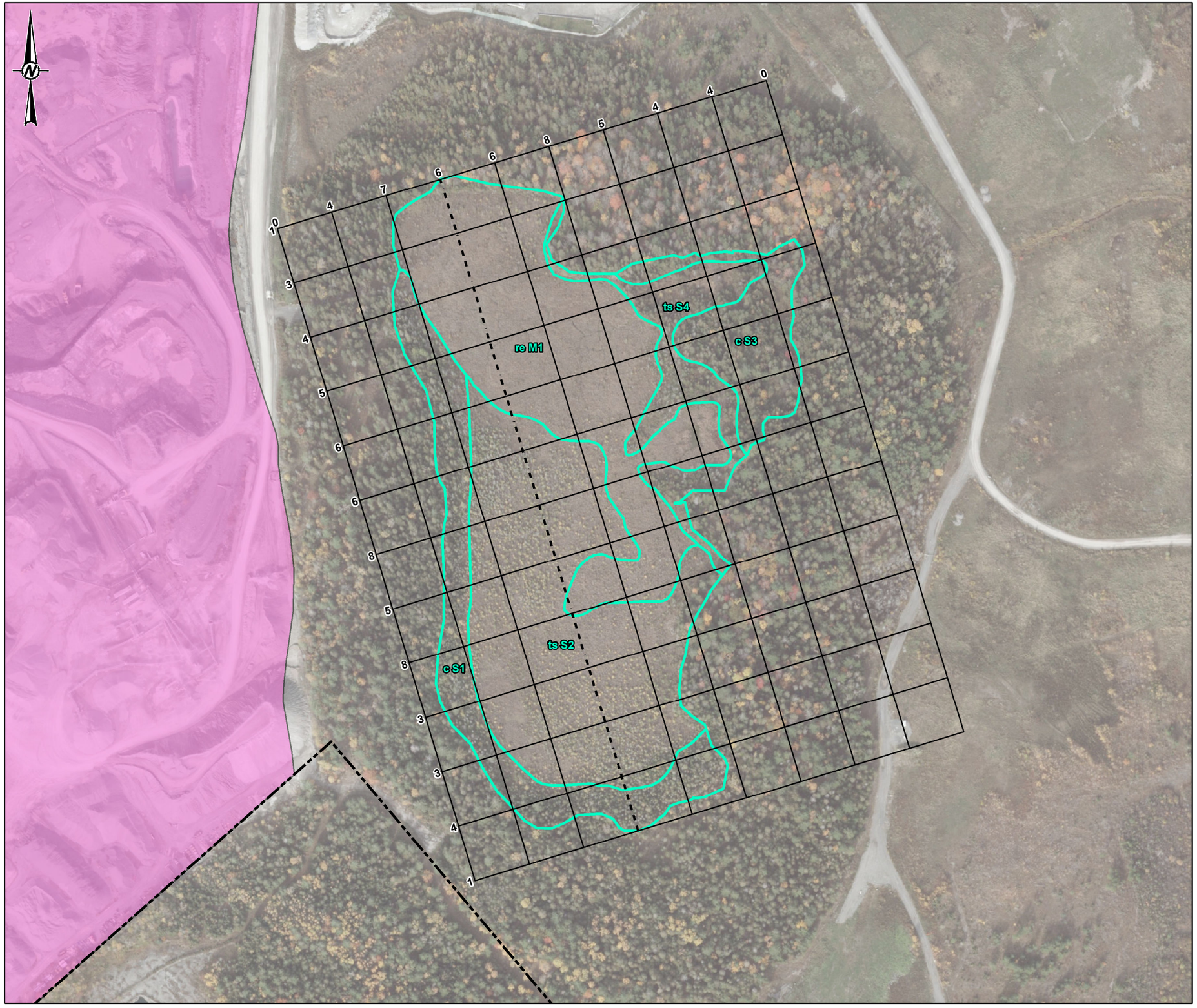
PROJECT
STITTSVILLE II OWES EVALUATION

TITLE
**CATCHMENT AREAS**

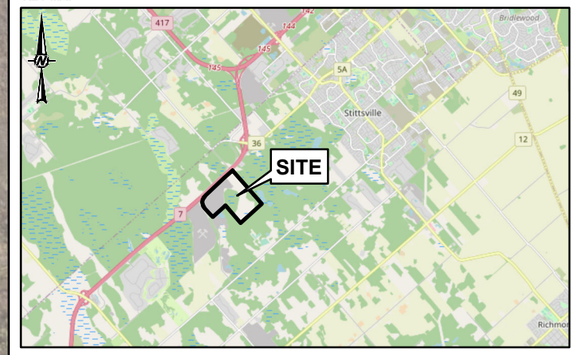
CONSULTANT
wsp

| | |
|---|---|
| YYYY-MM-DD | 2023-03-09 |
| DESIGNED | MR |
| PREPARED | BR |
| REVIEWED | GW |
| APPROVED | KAM |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 19130670 | 0012 | 0 | 1 |




KEY MAP




SCALE 1:200,000

LEGEND

- APPROXIMATE STITTSVILLE QUARRY LICENSED AREA
- APPROXIMATE TOMLINSON PROPERTY BOUNDARY
- WETLAND COMMUNITY

re M1: CATTAIL ROBUST EMERGENT MARSH
c S1: WHITE CEDAR - WHITE SPRUCE CONIFER TREED SWAMP
c S3: CONIFER/TALL SHRUB SWAMP
ts S2: WHITE CEDAR - WILLOW TALL SHRUB SWAMP
ts S4: GLOSSY BUCKTHORN - SPECKLED ALDER TALL SHRUB SWAMP

0 30 60 120
1:3,000 METRES

**REFERENCE(S)**

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2014
2. SERVICE LAYER CREDITS: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
3. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28

CLIENT
R.W. TOMLINSON LIMITED

PROJECT
STITTSVILLE II OWES EVALUATION

TITLE
**INTERSPERSION MAPPING**

CONSULTANT
wsp

| | |
|---|---|
| YYYY-MM-DD | 2020-09-27 |
| DESIGNED | ---- |
| PREPARED | JEM |
| REVIEWED | GW |
| APPROVED | HM |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 19130670 | 0009 | 0 | 1 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

Path: S:\Clients\Tomlinson\Stittsville\19130670\99_PRO\19130670_Tomlinson_Stittsville\Quarry\0009_Western_Wetland_Evaluation\19130670-0009-HN-0001.mxd

**Field Visit Summary**

| Year | Date | Survey Type |
|---|---|---|
| 2021 | 23 February, 7 March | Deer Yard/Winter Wildlife Use Survey |
| | April 15, May 17, June 17 | Amphibian Surveys |
| | April 15, May 17, June 17, June 20 | Turtle Visual Encounter Surveys |
| | April 15, May 17, June 20, August 3, September 19 | Wildlife Visual Encounter Survey |
| | May 30, June 20, July 5 | Breeding Bird Survey |
| | May 30, August 3, September 10 | Plant Community Survey |
| | May 30, July 5, September 19 | Aquatic/Flow Condition Survey |
| | June 17 | Turtle Nesting Survey |
| 2020 | April 28, May 21, June 23 | Amphibian Survey |
| | April 28, May 26, June 9 | Turtle Visual Encounter Survey |
| | May 26, June 9, June 30 | Breeding Bird Survey |
| | April 28, May 26, June 9, June 30, September 17 | Wildlife Visual Encounter Survey |
| | May 26, September 17 | Aquatic Surveys, Plant Community Survey |
| 2018 | April 27, May 7, May 18, May 26, May 30 | Turtle and other Wildlife Visual Encounter Survey |