Wetland Evaluation

7301 Flewellyn Road, Ottawa

Part of Lot 14 & 15, Concession 9
City of Ottawa

April 17, 2024

Prepared By:

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1.0. Introduction

Thomas Phillips has retained BCH Environmental Consulting Inc. to undertake a Wetland Evaluation and Delineation of portions of the Provincially Significant Gouldbourn Wetland Complex within Part of Lot 14 and 15, Concession 9, City of Ottawa. The Wetland Evaluation was undertaken by a certified wetland evaluator using the Ontario Wetland Evaluation System Southern Manual 4th Edition, 2022.

The purpose of the Wetland Delineation and Evaluation was to determine the significance of the Wetland Complex onsite and to review the boundary. Wetland Units were identified and assessed by inferring wetland boundaries through review of aerial photographs and satellite imagery and confirmed during field investigations. The determination of wetland boundaries was based on the presence of accepted wetland flora species representing a minimum of 50% of the cover in the area, and the presence of hydric or nearly hydric soil.

It is important to note that Wetland Complexes and Complexing wetlands are no longer a component of The Wetland Evaluation (Consultation on the proposed changes to the OWES took place from October 25, 2022 to November 24, 2022). This report will reflect that.

The following sections identify the Evaluation Criteria, Study Area and location, methodology, scoring record, and results of the delineation and evaluation, as well as species occurrence lists.

1.1. Methods and Collection of Information

Potential Species in the general area were identified from Field Work, Ministry of Natural Resources and Forestry databases, the Department of Fisheries and Ocean databases, the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas, iNaturalist and the Global Biodiversity Information Facility.

See Table 1 for a summary of field surveys of the site and adjacent lands. Staff qualifications are available in Appendix F. BCH felt only 2 visits were necessary because this site has been heavily studied by BCH Staff while employed at Bowfin Environmental Consulting Inc. and for collection of information necessary to complete the MECP permits report (which required turtle and Whip-poor-will monitoring to determine the success of the overall benefit work). For the monitoring approximately 14 site visits were conducted annually for 5 years (completed in 2023), and plant species present were recorded in the reports. From the available information, and BCH staffs time on the site with previous employer, it was determined that no further field work would be necessary.

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TABLE 1: Summary of Field Surveys

DATE	TIME	AIR TEMP. (°C)	WIND (Beaufort Scale)	CLOUD COVER / PRECIPITATION	STAFF
October 20, 2023	0945h-1230h	14	Light Air	Overcast	S.St.Pierre C.Fontaine
March 18, 2024	0800h-1330h	-4	Light Air	Clear Skies	C.Fontaine

Wetland communities were described utilising the Ontario Wetland Evaluation System Southern Manual (MNRF 2022). Additionally delineation utilises the same methods.
Soil sampling and analysis followed the methods described in the Field Manual for Describing Soils in Ontario, 4th Edition (OCSRE 1993).

Observed species were recorded for each individual community. The plants utilized in the descriptions are the most abundant specimens observed. A complete observed species list is provided in Appendix D. Plants that could not be identified in the field were collected for a more detailed examination. Nomenclature used in this report follows the Southern Ontario Vascular Plant List (Bradley, 2013) which aligns with the Integrated Taxonomic Information System (ITIS).

2.0. Study Area and Location

The wetland in question has been identified as being within the Provincially Significant Goulbourn Wetland Complex (Dillon Consulting 2016). As per the current OWES assessment practices, the wetland present within the subject lands will no longer be complexed with the surrounding wetlands. Figure 1 shows the portions of the Goulbourn Wetland Complex that will be actively assessed within this report.

This portion of the currently designated PSW is entirely located within the jurisdiction of the Rideau Valley Conservation Authority (RVCA). The wetland that was assessed is within the City of Ottawa, covering an area of approximately 74.58 ha. The location of the Wetland in a regional context is included in Figure 1. The entire wetland in question is located within portions of the following lots and concessions: Lot 14 & 15, Concession 8; Lot 13, 14 & 15 Concession 9; Lot 13 & 14, Concession 10, City of Ottawa. Due to private property and lack of permission this study is limited to the subject lands and portions of the wetlands that could be accessed (Table 2; 7301 Flewellyn Road, Ottawa, Part of Lot 14, Concession 9). Portions of the subject lands are designated as Rural and Environmental Protection (EP3). All revised boundary delineation and wetland assessment will be limited to the subject lands and the portions that access could be achieved (Table 2). The 2016 Gouldbourn Wetland Complex Re-delineation of Wetland Summary Report produced by Dillon Consulting for the City of Ottawa did not contain any field work within the portion of the wetland that this report is currently reviewing. This report had access to approximately 22% of the wetland, the remaining communities were derived from air photo, Dillon Consulting 2016, LIO, MRNF and from roadside and over the fence observations. Access to a vast majority of the area wasn't granted so we utilised the best available information.

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The wetland consisted of one wetland unit with multiple dominant forms as described in Table 2 – Wetland Areas and Dominant Vegetation Forms and identified in Appendix B - Wetland Data Summary Form. Detailed wetland maps are provided in Figure 1. Within the subject lands the Dominant Vegetation Forms were determined from field visits, outside of the subject lands the forms where inferred from adjacent communities, and satellite imagery.

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Table 2: Wetland Areas and Dominate Vegetation Forms

Wetland Unit	Polygon Number	Area (ha)	Fractional Area	Soil Type	Wetland Type	Site Type	Dominant Form	Vegetation Form	Number of Forms	Polygone Label	Source
A	S1	5.26	0.07	Mesic	Swamp	Palustrine	h	h	N/A	hS1-A:h*	LIO, Satellite Imagery
A	S2	6.02	0.08	Mesic	Swamp	Palustrine	h	h, c	N/A	hS2-A:h*c	LIO, Satellite Imagery
A	S3	7.37	0.10	Mesic/Loam	Swamp	Palustrine	h	h	N/A	hS3-A:h*	LIO, Satellite Imagery
A	S4	11.23	0.15	Mesic/Loam	Swamp	Palustrine	h	h,c	N/A	hS4-A:h*c	LIO, Satellite Imagery
A	S5	12.25	0.16	Loam	Swamp	Palustrine	c/ts	c, h, ts	4	hS5-A:c*h, ts	Field Visit / LIO, Satellite Imagery
A	S6	4.44	0.06	Silt/Loam	Swamp	Palustrine	ts	ts, dh	2	hS6-A:ts*dh	Field Visit
A	S7	28.01	0.38	Loam	Swamp	Palustrine	h	h,c,ts,dh	4	hS7-A:h*c,ts,dh	LIO, Satellite Imagery

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3.0. Delineation

The determination of wetland boundaries was based on the presence of accepted wetland flora species (remnant and inferred) representing a minimum of 50% of the cover in the area, and the presence of hydric or nearly hydric soil. Results of the soils analysis are present in table 3. Figure 1 depicts the delineation of the wetland within the subject lands completed during the field visits.

Table 3 - Soil Samples (Effective Layer Highlighted)

SITE	SAMPLE DEPTH (cm)	DEPTH TO MOTTLING (cm)	DEPTH TO GLEY (cm)	HORIZON	DEPTH OF HORIZON (cm)	SOIL TYPE	MOISTURE REGIME
1	65	40	NOT OBSERVED	A	0	Loam	Moist (5)
				B	32	Very Fine Sandy Clay Loam	
2	14	NOT OBSERVED	NOT OBSERVED	A	0	Silt Loam	

Soils analysis determined the moisture regime within the tall shrub swamp (Community S6) to be Moist (5) (two soil sites were located within this community; soils sampling for the other communities was determined to be unnecessary). The Ontario Wetland Evaluation System (OMNR 2022) classifies wetlands as those areas with hydric soils, which have a Moisture Regime of 6 or higher, and nearly hydric soils which have a Moisture Regime of 5. Under this classification this swamp did contain hydric or nearly hydric soil, which under the Ontario Wetland Evaluation System would be considered wetlands.

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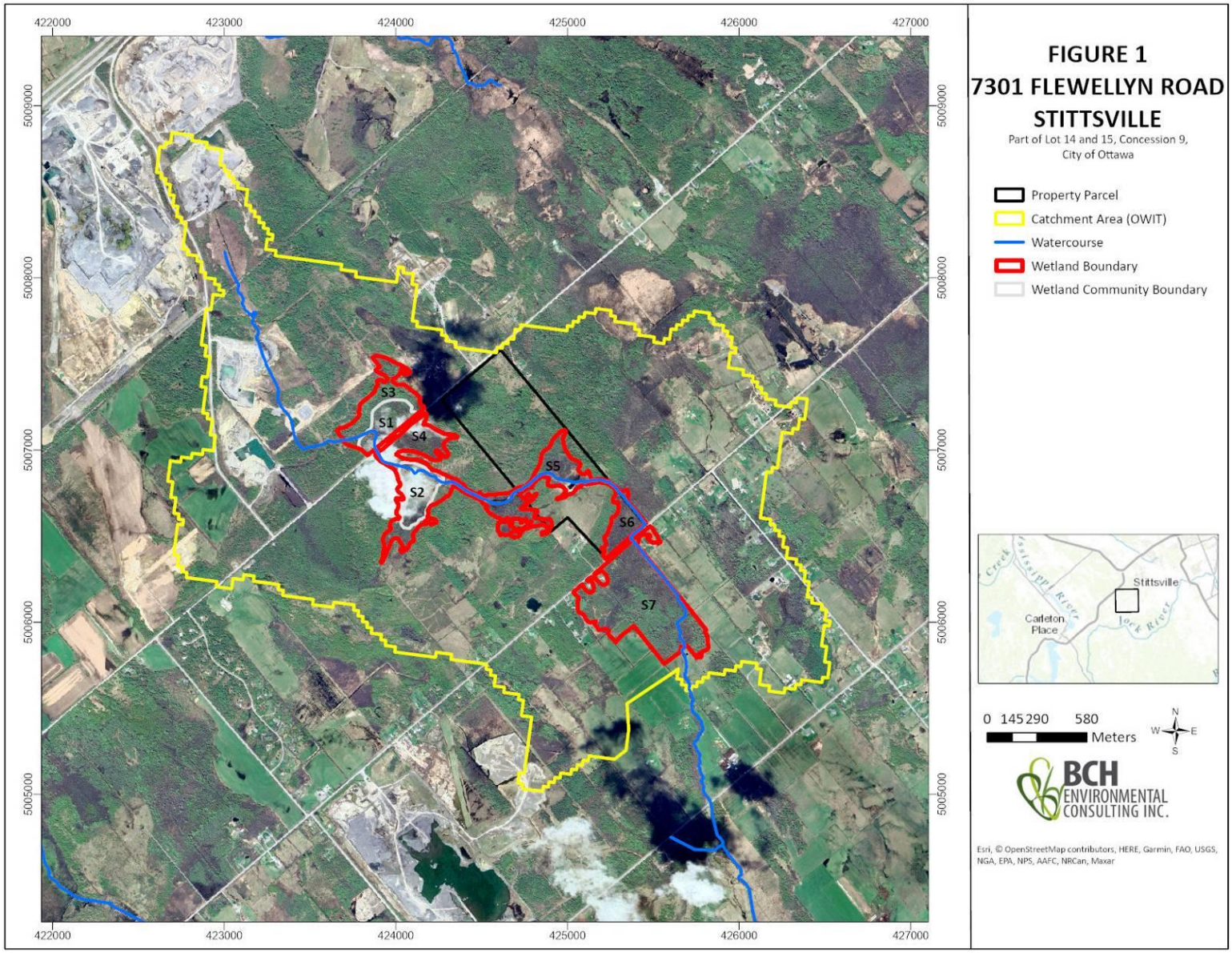

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4.0. Evaluation Criteria

The determination of wetland significance is based on the scoring criteria by using the OWES that has been approved by the Ministry of Natural Resources and Forestry (MNRF). For the purposes of this Wetland Evaluation, the Southern Ontario manual includes direction for evaluation of four components of the wetland including biological, social, hydrological and special features. Each component is assigned a numerical score, which cannot exceed 250 points in any category. The overall wetland score is based on a maximum of 1,000 points.

A wetland is classified as provincially significant if it meets either of the following two (2) criteria:

1. The wetland achieves a total score of 600 or more points, or
2. The wetland achieves a score of 200 or more points in either the Biological component or the Special Features component.

5.0. Wetland Evaluation

The Wetland Evaluation was undertaken by certified wetland evaluator using the procedures identified in the OWES. Scoring for this wetland considers four main categories:

- Biological - The biological component summarizes ecological and biological values of the wetland.
- Social - The social component evaluates values of the wetland for recreational, economic and educational purposes.
- Hydrological - The hydrological component evaluates flood attenuation and benefits to local water quality.
- Special Features - The special features component includes scoring for significant wildlife, fish habitat, and rare species.

It is important to note that a wetland evaluation is not a complete inventory of biological or physical features. Wetland community boundaries outside of the subject lands are based on inferred boundaries obtained through the evaluation of aerial imagery, biological lists, Rideau Valley Conservation Authority, Dillon Consulting 2016, Land Information Ontario and MRNF. Wetland community boundaries within the subject lands are based on works completed by BCH Environmental Consulting during the Fall of 2023 and early spring of 2024. Within the subject lands, sample areas within each wetland community where verified during field investigations.

It is also possible for wetlands to change and mature over time resulting in either an increase or decrease to wetland size and functions, as well as a change in biological communities, wildlife populations and utilization of the wetland. For this reason, wetland evaluations are considered open files and subject to re-evaluation and score alteration over time.

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5.1. Biological Component

The Wetland contains one wetland type (swamp). One wetland unit was identified totaling approximately 74.58 ha in size. Within this wetland, 7 communities with dominant vegetation forms were identified. The wetland was dominated by swamp (100%). As per the agricultural information atlas and field sampling soil composition was 73% loam and 27% organic. The wetland site type was entirely Palustrine at 100% of the fractional area.

The habitat surrounding the wetland is dominated by forest, roads, and open space (cleared areas).

BCH completed 2 visits, only 2 visits were necessary because this site has been heavily studied; by BCH Staff while employed at Bowfin Environmental Consulting Inc. and for collection of information necessary to complete the MECP permits report (which required turtle and Whip-poor-will monitoring to determine the success of the overall benefit work). For the monitoring approximately 14 site visits were conducted annually for 5 years (completed in 2023), and plant species present were recorded in the reports. From the available information, and BCH staffs time on the site with previous employer, it was determined that no further field work would be necessary.

The 2016 Gouldbourn Wetland Complex Re-delineation of Wetland Summary Report produced by Dillon Consulting for the City of Ottawa, did not contain any field work within the portion of the wetland that this report is currently reviewing. This report had access to approximately 22% of the wetland, the remaining communities were derived from air photo, Dillon Consulting 2016, LIO, MRNF and from roadside and over the fence observations. Access to a vast majority of the area wasn't granted so we utilised the best available information.

See Appendix C – Wetland Evaluation Data and Scoring Record for scoring records and further information regarding the Biological Component.

5.2. Social Component

Field observations identified the presence of a couple of fur bearing mammals observed through tracks and scat. The Wetland does not provide opportunities for nature enjoyment as well as ecosystem study for members of local communities, tourists, or schools. During the entirety of the field investigations no other people were observed utilising the wetland. A long term monitoring program to meet the requirements from MECP authorization applied for by the previous owner takes place within the property.

The Wetland is located within the City of Ottawa and close to nearby community (Stittsville).

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See Appendix C - Wetland Evaluation Data and Scoring Record for scoring records and further information regarding the Social Component.

5.3. Hydrological Component

The wetland units were identified through the field investigation and satellite imagery. The catchment area for local tributaries was delineated using Ontario Watershed Information Tool (MRNF). The catchment area is shown in Figure 1.

See Appendix C - Wetland Evaluation Data and Scoring Record for scoring records and further information regarding the Hydrological Component.

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5.4. Special Features Component

Special features include rare species and important wildlife habitats. Information from field surveys and through review of reference material for the subject lands and surrounding areas was utilised to determine scoring for this section (see Appendix D – Observed Species).

Provincially significant species that have been found to potential occur within this Wetland included Eastern Wood-Pewee, Golden-winged Warbler, Wood Thrush and Whip-poor-will. Plant surveys and bat cavity surveys have ruled out the potential for provincially significant plants and bats.

Provincially Significant Turtles were found to not be present within the wetland, this information was present in MECP permit monitoring reports provided by J.F. Sabourin and Associates Inc. For the monitoring, approximately 14 site visits (turtle and WPWI) were conducted annually for 5 years (completed in 2023). The only turtle habitat present within the wetland is the Blanding's Turtle Overall Benefit Area (OBA) created as a condition for the MECP permits. This area was the focus of the turtle monitoring reports. Prior to the creation of the OBA BCH staff employed at the time by Bowfin had conducted multiple turtle searches in this wetland yielding no results. Do to the extensiveness of the turtle surveys and based on how recently they have been conducted, it was determined that turtles are not utilising this wetland. NHIC did identify turtles in the area but this is most likely attributed to the presence of Blanding's turtles north of the wetland in question but not within this wetland.

See Appendix C - Wetland Evaluation Data and Scoring Record for scoring records and further information regarding the Special Features Component.

6.0. Wetland Evaluation Score

The scoring of the Wetland Complex can be found below:

- Biological Component: 90
- Social Component: 102
- Hydrological Component: 195
- Special Features Component: 124
- Total: 511

The data scoring record can be found in Appendix C - Wetland Evaluation Data and Scoring Record.

7.0. Conclusion

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Based on the results of the wetland evaluation, the Wetland is classified as evaluated non-provincially significant on the basis that a total score was 511 which is less than the required 600 points and less than 200 points was achieved in the Biological component and the Special Features component. Non-Significance of the Wetland was determined through all aspects of the wetland evaluation including species at risk and provincially significant species as well as the significance for recreational activities, ecosystem study, long-term research and educational purposes.

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APPENDIX A – HISTORICAL IMAGERY

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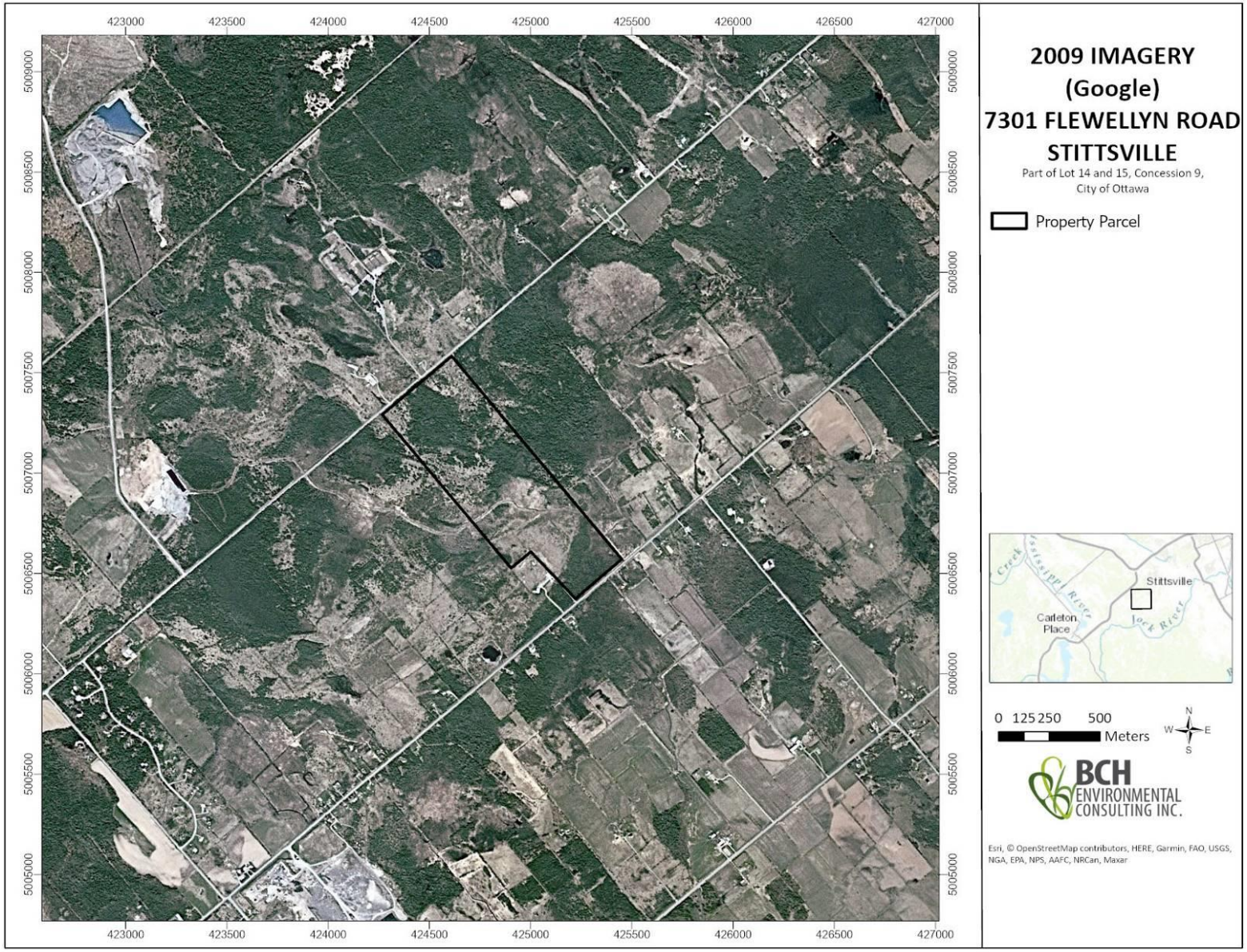

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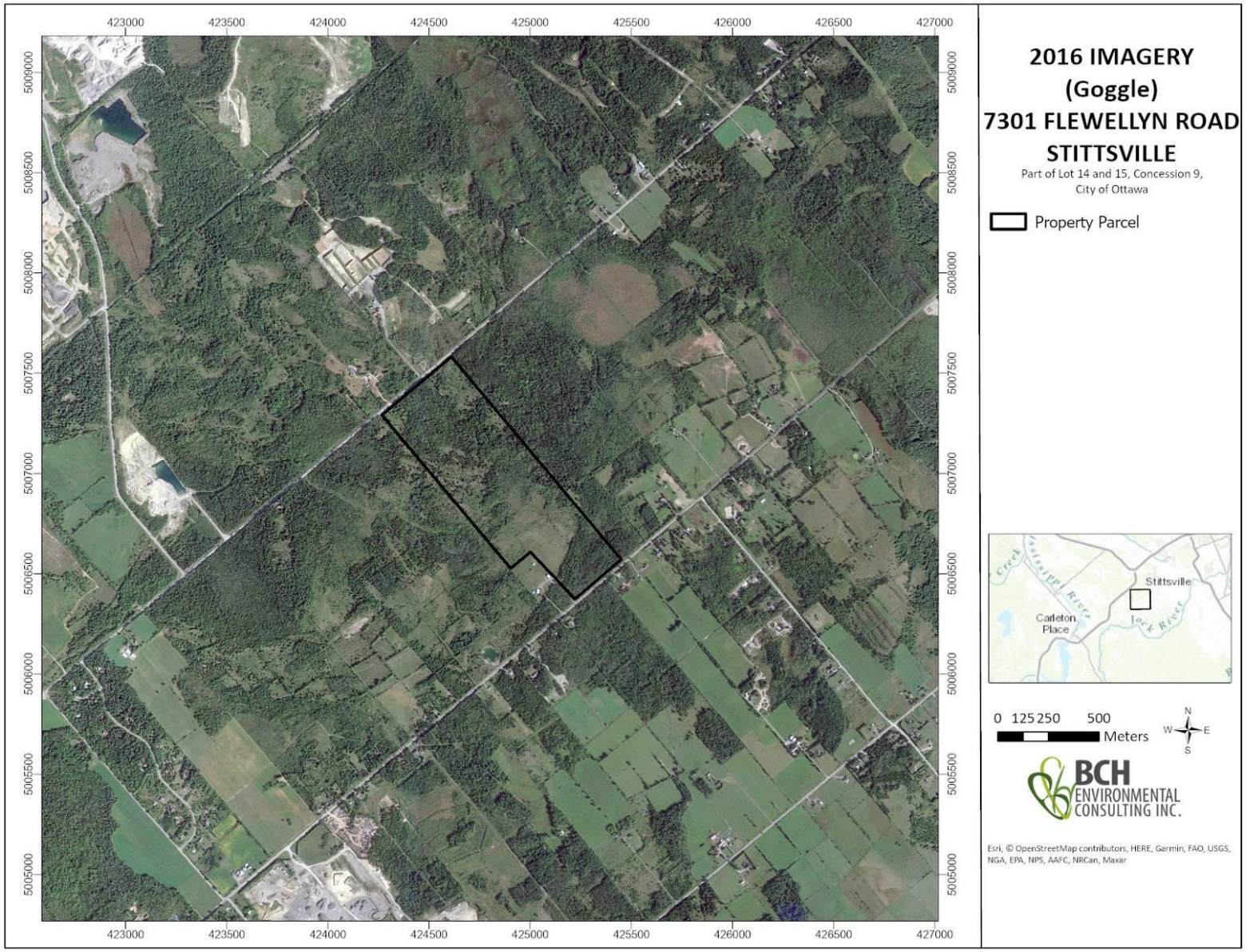

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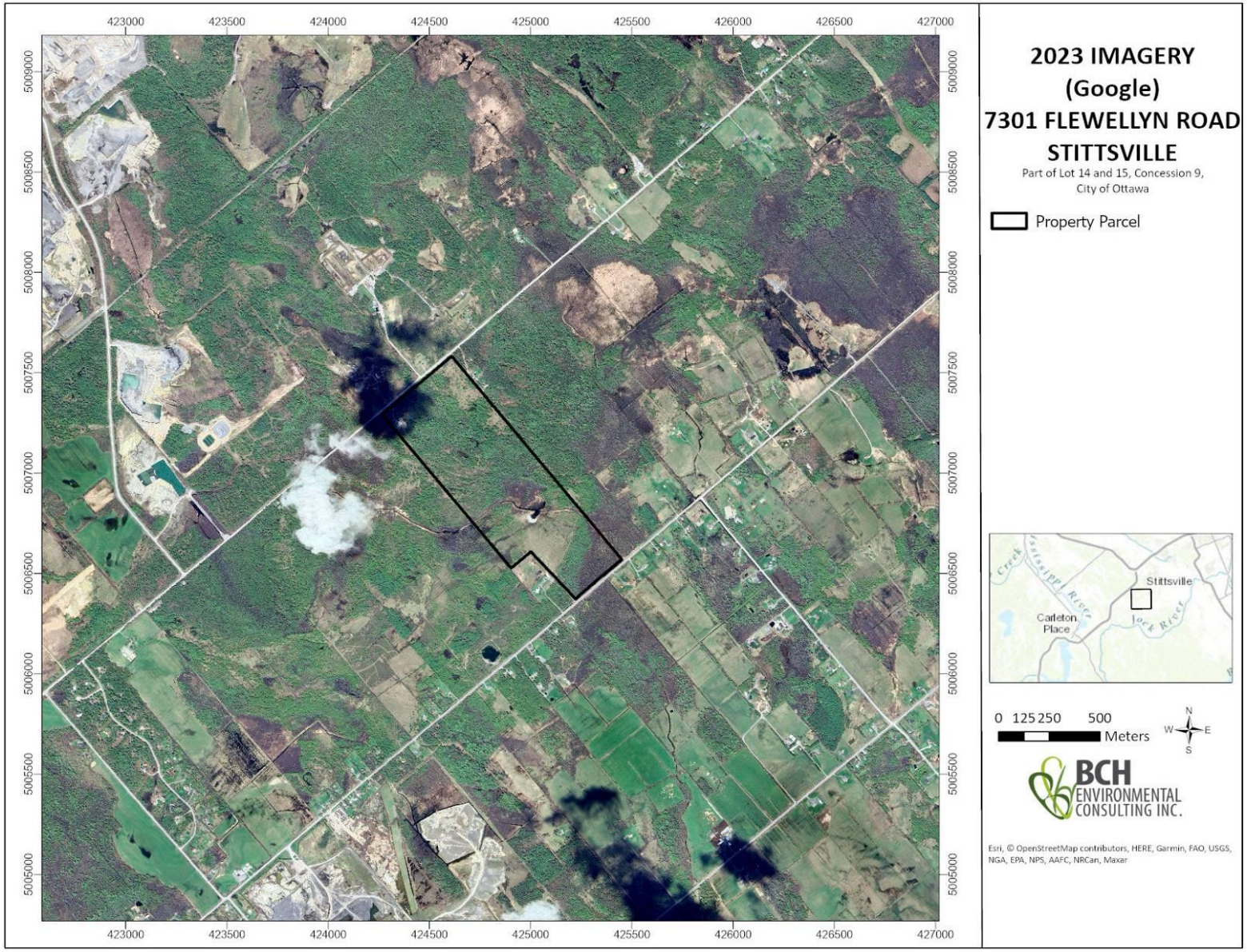

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APPENDIX B – WETLAND DATA SUMMARY FORM

Map Code	Field Code	GPS Coordinate	Dominant Form	Forms	# Forms	Dominant Species	Area	% Open Water			Open Water (ha)	Soil	Site Type	Fish Habitat			
								Low Est.	High Est.	Mean Est.				% Fish Habitat	Area (ha)	Habitat Type	Key Veg. Group
S1	hS1-A:h*		h	h	N/A	No Access	5.26	1	2	1.5	0.05	Mesic	Swamp	1.5	0.05	PF	N/A
S2	hS2-A:h*c		h	h, c	N/A	No Access	6.02	1	3	2	0.12	Mesic	Swamp	2	0.12	PF	N/A
S3	hS3-A:h*		h	h	N/A	No Access	7.37	1	2	1.5	0.05	Mesic/Loam	Swamp	1.5	0.05	PF	N/A
S4	hS4-A:h*c		h	h,c	N/A	No Access	11.23	1	2	1.5	0.11	Mesic/Loam	Swamp	1.5	0.11	PF	N/A
S5	hS5-A:c*h, ts		c/ts	c, h, ts	3		12.25	6	8	7	0.92	Loam	Swamp	7	0.92	PF	1
S6	hS6-A:ts*dh		ts	ts, dh	2	glossy buckthorn	4.44	2	4	3	0.16	Silt/Loam	Swamp	3	0.16	PF	1
S7	hS7-A:h*c,ts,dh		h	h,c,ts,dh	N/A	No Access	28.01	1	2	1.5	0.35	Loam	Swamp	1.5	0.35	PF	N/A

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APPENDIX C

–WETLAND EVALUATION DATA AND SCORING RECORD

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WETLAND EVALUATION DATA AND SCORING RECORD

Wetland Name: Portions of the Goulbourn Wetland Complex

Geographic Location (municipality, lot/concession, etc):
Part of Lot 14 and 15, Concession 9, City of Ottawa

Map / Photo Locational Reference (e.g., latitude/longitude, NTS map, UTM):
18 T 425326 5006561 (UTM NAD83)

Eco-District: 6E-11 (Smith Falls)

Wetland Size (hectares): 74.58

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Vegetation Form	FA
h	0.94
c	
dh	
dc	
ts	0.06
ls	
ds	
gc	
m	
ne	
be	
re	
ff	
f	
su	
u	

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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).

PortionsGoulbourn Wetland Complex

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	0.73	x 22	= 16.06
Silt/Marl:		x	=
Limestone:		x	=
Sand:		x	=
Humic/Mesic:	0.27	x 11	= 2.97
Fibric:		x	=
Granite:		x	=
Total			19.03

GDD/Soils Score *(maximum 30 points)* 19

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1.1.2 Wetland Type

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

	Fractional Area		Score
Bog		x 3 =	
Fen		x 6 =	
Swamp	1	x 8 =	8
Marsh		x 15 =	
Total		=	8

Wetland Type Score *(maximum 15 points)* 8

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	x 2 =	2
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

Site Type Score *(maximum 5 points)* 2

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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) 9

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)

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

Total # of communities with 1-3 forms		Total # of communities with 4-5 forms		Total # of communities with 6 or more forms	
1 =	1.5 pts	1 =	2 pts	1 =	3 pts
2 =	2.5	2 =	3.5	2 =	5
3 =	3.5	3 =	5	3 =	7
4 =	4.5	4 =	6.5	4 =	9
5 =	5	5 =	7.5	5 =	10.5
6 =	5.5	6 =	8.5	6 =	12
7 =	6	7 =	9.5	7 =	13.5
8 =	6.5	8 =	10.5	8 =	15
9 =	7	9 =	11.5	9 =	16.5
10 =	7.5	10 =	12.5	10 =	18
11 =	8	11 =	13	11 =	19
+ 0.5 for each additional community = 5.5		+ 0.5 for each additional community = 2		+ 1.0 for each additional community =	

Vegetation Communities Score
(maximum 45 points) 8

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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.

	row crop
	pasture
	abandoned agricultural land
✓	deciduous forest
✓	coniferous forest
✓	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
✓	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) 4

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:
0.72m from other portions of the Gouldbourn Complex PSW

Proximity to other Wetlands Score
(maximum 8 points) 8

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1.2.5 Interspersion

Number of Intersections = 77

✓	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)* 12

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)* 8

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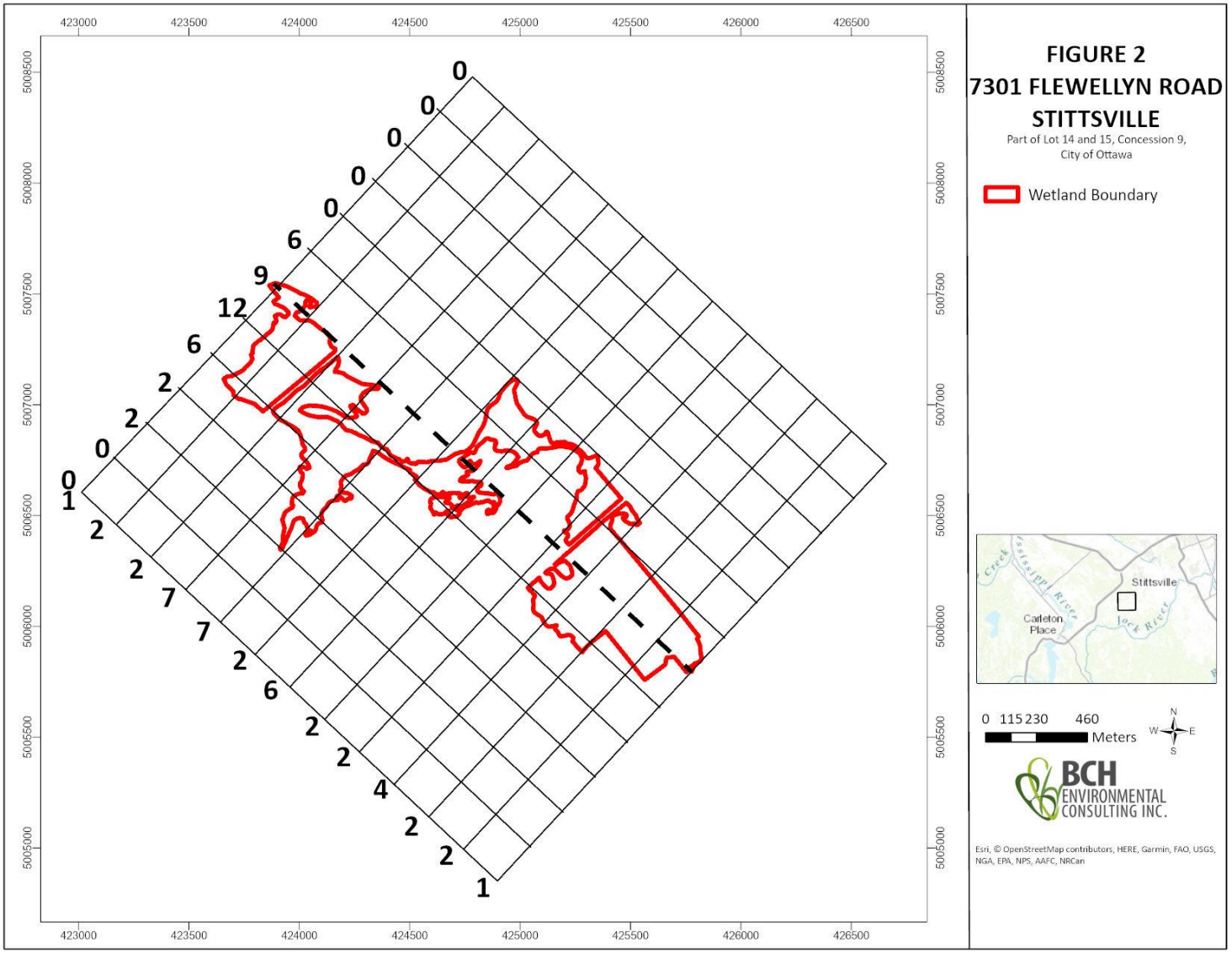

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1.3 SIZE (BIOLOGICAL COMPONENT)

Total Size of Wetland = 74.58 ha

Sum of scores from Biodiversity Subcomponent

1.2.1
+ 1.2.2
+ 1.2.3
+ 1.2.4
+ 1.2.5
+ 1.2.6

50

Circle the appropriate score from the table below.

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<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) 10

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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: 70.41ha

	< 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:
Field Observation and Satelitte Imagery

Wood Products Score *(maximum 18 points)* 9

2.1.2 Wild Rice

Check only one.

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

Source of information:
Field Observation and Satelitte Imagery

Wild Rice Score *(maximum 6 points)* 0

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2.1.3 Commercial Baitfish

Check only one.

✓	Present	=	12 pts
	Absent	=	0
	Fishing not permitted	=	0

Source of information:
Field Observation

Commercial Fish Score *(maximum 12 points)* 12

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.	Beaver	Field Observation
2.	Coyote	Field Observation
3.	Muskrat	Field Observation
4.	Bear	Field Observation
5.	Raccoon	Field Observation
6.	Red Squirrel	Field Observation

Furbearer Score *(maximum 12 points)* 12

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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: Converation with property owners

Nature: Converation with property owners

Fishing: No viable lakes/rivers/stream for fishing (field visit)

Recreational Activities Score
(maximum 80 points) 8

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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:
Channel is regularly maintained, by dredging activity and removal of beaver dams

Source of information:
Field Observation and Communication with Property Owner

Absence of Human Disturbance Score
(maximum 7 points) 4

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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:

Source of information:
Communication with the Property Owner

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:

Source of information:
Field Observation and Communication with Property Owner

Facilities and Programs Score
(maximum 8 points) 0

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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
	No research or reports	=	0

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

Long term monitoring program present within this wetland, to meet the requirments of MECP authorization required by the previous owner.

Research and Studies Score
(maximum 12 points) 12

2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT

Name of Settlement: Stitsville (Ottawa)

Distance of wetland from settlement: 3.12km

Population of settlement: 48,990 (Source: City of Ottawa)

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

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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 x 4 = 4

Source of information:
LIO, FIELD VISIT, GEOOttawa

Ownership Score *(maximum 10 points)* 4

2.7 SIZE (SOCIAL COMPONENT)

Total Size of Wetland = 74.58 ha Sum of scores from Subcomponents 2.1, 2.2, and 2.5 = 67

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) 15

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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:

2.8.2 Cultural Heritage

Significant	= 30 pts
Not Significant	= 0
Unknown	= 0

Additional Comments/Notes:

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

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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 = 74.58 ha

(B) Size of wetland's catchment = 747.81 ha

(C) Size of other detention areas in catchment = 16.27 ha

(D) Total area of upstream detention areas = {A + C } = 90.85 ha

(E) Upstream Detention Factor = {(A/D) x 2} = 1 (maximum 1.0)

(F) Attenuation Factor = {(A/B) x 10} = 1 (maximum 1.0)

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

Flood Attenuation Score *(maximum 100 points)* 100

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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	=		x 0.7 =	
FA of palustrine wetland with inflows	=	1	x 1.0 =	1
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*) 1

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)	=	x 0.75	=	0.75
FA of wetland with emergent, submergent or floating vegetation (re, be, ne, su, f, ff)	=	x 1.0	=	
FA of wetland with little or no vegetation (u)	=	x 0.5	=	

Sum *(PUF cannot exceed 1.0)* 0.75

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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)	1
	Land Use Factor (LUF)	0.6
	Pollutant Uptake Factor (PUF)	0.75
	Final score: 60 x WIF x LUF x PUF =	27

Short Term Water Quality Improvement Score
(maximum 60 points) 27

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) 3

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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 No = 0

Additional Comments/Notes:

Groundwater Discharge Score
(maximum 30 points) 6

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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:
LIO, Agricultural Information Atlas, Field Visit

Carbon Sink Score
(maximum 5 points) 2

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:

✓	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

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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 =	50
■ 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)* 7

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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)* 0

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)* 0

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4.1.2 Species

4.1.2.1 Provincially Significant Animal Species

Common Name	Scientific Name	Activity	Dates Observed	Info Source
Eastern Wood-pewee	Contopus virens	N/A	N/A	OBBA
Golden-winged Warbler	Vermivora chrysoptera	N/A	N/A	NHIC/OBBA
Wood Thrush	Hylocichla mustelina	N/A	N/A	NHIC/OBBA
Eastern Whip-poor-will	Antrostomus vociferus	N/A	N/A	NHIC/OBBA

Additional Notes/Comments:

Provincially Significant Turtles where found to not be present within the wetland information was present in MECP permit monitoring reports provided by J.F. Sabourin and Associates Inc.

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) 105

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4.1.2.2 Provincially Significant Plant Species

Common Name	Scientific Name	Activity	Dates Observed	Info Source
None Found				

Additional Notes/Comments:

Provincially Significant Turtles where found to not be present within the wetland information was present in MECP permit monitoring reports provided by J.F. Sabourin and Associates Inc.

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

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4.1.2.3 Regionally Significant Species

Common Name	Scientific Name	Activity	Dates Observed	Info Source
None Found				

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 Found				

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

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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			= 50
Known to have nested within the past 5 years			= 25
Active feeding area (great blue heron excluded)			= 15
None known		LIO, NHIC, FIELD VISITS	= 0

Type text here

Additional Notes/Comments:

Colonial Waterbird Nesting Score
(maximum 50 points) 0

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)*:

Source of information:
Field Observation

Winter Cover for Wildlife Score
(maximum 100 points) 0

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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)*:

Source of information:
Field Visit

Waterfowl Staging/Moulting Score
(maximum 150 points) 0

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)*:
Ducks and Geese Possible in S4

Source of information:
Field Observation

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:

Source of information:

Field Observation: Significant Wildlife Habitat
Ecoregion Criteria Schedule for: Shorebird Migratory Stopover Areas and Landbird Migratory Stopover Areas

Passerine, Shorebird or Raptor Stopover Score
(maximum 100 points) 0

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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:

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

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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

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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

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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	✓	1.76	0.2	10	0.352
			Total Score for Swamp (*maximum 20 points*)		1

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) = X
B. Score from Step 3 (significance known) = X
C. Score from Step 4 (Low Marsh) = X
D. Score from Step 5 (High Marsh) = X
E. Score from Step 6 (Swamp) = 1

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) 1

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4.2.6.2 Migration and Staging Habitat

Step 1:

☐	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:

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) 5

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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	=	1	x 3 =	3
Marsh	=		x 0 =	
		Total	=	

Ecosystem Age Score *(maximum 25 points)* 3

4.4 GREAT LAKES COASTAL WETLANDS

Choose one only.

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

Great Lakes C al Wetland Score
(maximum 75 points) _____

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GENERAL INFORMATION

Wetland Evaluator(s)

Name: Shaun St Pierre Affiliation: BCH Environmental Consulting Inc.

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: ______

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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 Table Below

Date evaluation completed: March 22, 2024

Estimated time devoted to completing the field survey in person hours: 11

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Weather Conditions

i) at time of field work: See Table Below

ii) summer conditions in general: N/A

DATE	TIME	AIR TEMP. (°C)	WIND (Beaufort Scale)	CLOUD COVER / PRECIPITATION	STAFF
October 20, 2023	0945h-1230h	14	Light Air	Overcast	S.St.Pierre C.Fontaine
March 18, 2024	0800h-1330h	-4	Light Air	Clear Skies	C.Fontaine

NOTE: This Wetland Evaluation Data and Scoring Record should be viewed with the accompanied report which adds additional information and context to some of the decision making:

BCH Environmental Consulting (2024). Wetland Evaluation: 7301 Flewellyn Road, Ottawa. Part of Lot 14 & 15, Concession 9, City of Ottawa.

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WETLAND EVALUATION SCORING RECORD

WETLAND NAME: Portions of the Goulbourn Wetland Complex

1.0 BIOLOGICAL COMPONENT

	1.1	PRODUCTIVITY
19	1.1.1	Growing Degree-Days/Soils
8	1.1.2	Wetland Type
2	1.1.3	Site Type
29		
	1.2	BIODIVERSITY
9	1.2.1	Number of Wetland Types
8	1.2.2	Vegetation Communities
4	1.2.3	Diversity of Surrounding Habitat
12	1.2.4	Proximity to Other Wetlands
8	1.2.5	Interspersion
10	1.2.6	Open Water Type
51		
10	1.3	SIZE (Biological Component)
90		TOTAL (Biological Component)

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2.0 SOCIAL COMPONENT

	2.1	ECONOMICALLY VALUABLE PRODUCTS
9	2.1.1	Wood Products
0	2.1.2	Wild Rice
12	2.1.3	Commerical Baitfish
12	2.1.4	Furbearers
33		Total for Economically Valuable Products
8	2.2	RECREATIONAL ACTIVITIES
	2.3	LANDSCAPE AESTHETICS
0	2.3.1	Distinctness
4	2.3.2	Absence of Human Disturbance
4		Total for Landscape Aesthetics
	2.4	EDUCATION AND PUBLIC AWARENESS
0	2.4.1	Educational Uses
0	2.4.2	Facilities and Programs
12	2.4.3	Research and Studies
12		Total for Education and Public Awareness
26	2.5	PROXIMITY TO AREAS OF HUMAN SETTLEMENT
4	2.6	OWNERSHIP
15	2.7	SIZE (Social Component)
	2.8	ABORIGINAL VALUES AND CULTURAL HERITAGE
0	2.8.1	Aboriginal Values
0	2.8.2	Cultural Heritage
102		TOTAL (Social Component)

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3.0 HYDROLOGICAL COMPONENT

100	3.1 FLOOD ATTENUATION	
	3.2 WATER QUALITY IMPROVEMENT	
27	3.2.1	Short Term Water Quality Improvement
3	3.2.2	Long Term Nutrient Trap
6	3.2.3	Groundwater Discharge
36	Total for Water Quality Improvement	
2	3.3 CARBON SINK	
0	3.4 SHORELINE EROSION CONTROL	
	3.5 GROUNDWATER RECHARGE	
50	3.5.1	Site Type
7	3.5.2	Soil Recharge Potential
57	Total for Groundwater Recharge	
195	TOTAL (Hydrological Component)	

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4.0 SPECIAL FEATURES COMPONENT

4.1 RARITY

4.1.1 Wetlands

0	4.1.1.1 Rarity within the Landscape
0	4.1.1.2 Rarity of Wetland Type
0	Total for Wetland Rarity

4.1.2 Species

105	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
105	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
0	4.2.5 Migratory Passerine, Shorebird or Raptor Stopover Area
	4.2.6 Fish Habitat
1	4.2.6.1 Spawning and Nursery Habitat
5	4.2.6.2 Migration and Staging Habitat
16	Total for Significant Features and Habitats
3	4.3 ECOSYSTEM AGE
0	4.4 GREAT LAKES COASTAL WETLANDS
124	TOTAL FOR SPECIAL FEATURES COMPONENT (*not to exceed 250*)

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SUMMARY OF EVALUATION RESULT

Wetland Portions of the Goulbourn Wetland Complex

90	1.0 TOTAL FOR BIOLOGICAL COMPONENT
102	2.0 TOTAL FOR SOCIAL COMPONENT
195	3.0 TOTAL FOR HYDROLOGICAL COMPONENT
124	4.0 TOTAL FOR SPECIAL FEATURES COMPONENT
511	TOTAL WETLAND SCORE

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APPENDIX D – OBSERVED SPECIES

COMMON NAME	SCIENTIFIC NAME	S RANK	SARA STATUS	SARO STATUS	BRUNTON 2005
Chara sp.					
Tamarack	*Larix laricina*	S5			Common
White Spruce	*Picea glauca*	S5			Common
Eastern White Cedar	*Thuja occidentalis*	S5			Common
Narrowleaf Cattail	*Typha angustifolia*	SNA			Common
Lake Sedge	*Carex lacustris*	S5			Uncommon
Reed Canary Grass	*Phalaris arundinacea*	S5			Common
Softstem Bulrush	*Schoenoplectus tabernaemontani*	S5			Common
Trembling Aspen	*Populus tremuloides*	S5			Common
Speckled Alder	*Alnus incana ssp. rugosa*	S5			Common
White Birch	*Betula papyrifera*	S5			Common
American Elm	*Ulmus americana*	S5			Common
Dwarf Raspberry	*Rubus pubescens*	S5			Common
Goldenrods	*Solidogo sp.*				
Red Maple	*Acer rubrum*	S5			Common
Silver Maple	*Acer saccharinum*	S5			Common
Common Buckthorn	*Rhamnus cathartica*	SNA			Common
Glossy Buckthorn	*Frangula alnus*	SNA			Common
Riverbank Grape	*Vitis riparia*	S5			Common
Purple Loosestrife	*Lythrum salicaria*	SNA			Common
Gray Dogwood	*Cornus racemosa*	S5			Uncommon
Red-osier Dogwood	*Cornus sericea*	S5			Common
White Ash	*Fraxinus americana*	S4			Common
Green Ash	*Fraxinus pennsylvanica*	S4			Common
Spotted Joe Pye Weed	*Eutrochium maculatum*	S5			Common
Grass-leaved Goldenrod	*Euthamia graminifolia*	S5			Common
Pondweeds	*Potamogeton sp.*				
Hawthorns	*Crataegus sp.*				
Sedges					
Willows	*Salix sp.*				
Grasses					
Red Squirrel	*Tamiasciurus hudsonicus*	S5			

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COMMON NAME	SCIENTIFIC NAME	S RANK	SARA STATUS	SARO STATUS	BRUNTON 2005
Beaver	*Castor canadensis*	S5			
Muskrat	*Ondatra zibethicus*	S5			
Coyote	*Canis latrans*	S5			
Black Bear	*Ursus americanus*	S5			
Raccoon	*Procyon lotor*	S5			

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APPENDIX E – PHOTOGRAPHIC RECORD

PHOTO #: 1	
DATE: October 20, 2023	
DESCRIPTION: Community S6	
PHOTO #: 2	
DATE: March 19, 2024	
DESCRIPTION: Community S5 Looking at the Dominate Portion of this Community	

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PHOTO #: 3	
DATE: March 19, 2024	
DESCRIPTION: Community S5 Looking at a Tall Shrub Swamp Inclusion	
PHOTO #: 4	
DATE: March 19, 2024	
DESCRIPTION: Community S5 Looking at a MECP Turtle Compensation Area (Flooded by Beaver Activity)	

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APPENDIX F: QUALIFICATIONS

SHAUN M. ST.PIERRE, B.Sc. Biology

EDUCATION

B.Sc. Biology, Trent University 2007
Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2005
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2004

LANGUAGES

Fluent in French and English

POSITIONS HELD

2018 -	:	BCH Environmental Consulting Inc., Biologist / Owner
2006-2017:		Bowfin Environmental Consulting Inc., Biologist / GIS Specialist / Environmental Site Inspector
2005:		St. Lawrence River Institute of Environmental Sciences, Field Research Assistant
2004:		MNR Kawartha Lakes, Field Research Assistant
2003:		DFO- Experimental Lake Area, Field Research Assistant
2001:		Resource Stewardship S, D &G, Stewardship Ranger

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS

MTO/DFO/OMNR Fisheries Protocol, Ecological Land Classification, Certified in Inventory and Identification Methods for Ontario's Reptiles and Amphibians, North American Benthological Society (NABS) Certified Family Level Taxonomist, Ontario Benthos Biomonitoring Network (OBBN), Ontario Stream Assessment Protocol (OSAP), Certified Ontario Wetland Evaluator (OWES), Butternut Health Assessor (BHA), first aid, CPR, Pleasure Craft Operator Card, Marine Radio Operator, WHMIS, WHSA, Hazard Identification, Assessment and Control, All Terrain Vehicle Riders Course (issued by the Manitoba Safety Council), Water Safety Training (Bronze Cross), Possession / Acquisition Firearms Licence, Ontario Hunter Education Course Certificate, Ontario Trapper Education Course Certificate, Wildlife Chemical Immobilization, Vaccination, and Euthanasia- Certificate of Knowledge, South Lancaster Fish and Game Club (SLFGC; president 2012 and 2013; executive member 2014-2018), Ontario class G driver's license, and Snowmobile License.

EXPERIENCE

Experience in environmental impact assessments, environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, avian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of aquatic invertebrate, collection and identification of fish, fish salvage, fish behavioral studies, winter bat hibernaculum inventories and fisheries inventories including habitat mapping, electroshocking, FWIN and RIN. Other experience include GIS mapping.

Environmental and Fisheries Inspections

- Provided environmental and fisheries inspections for the construction of the Cataraqui Crossing HWY 401- MTO (Kingston, ON).
- Provided environmental and fisheries inspections for the construction of the Three Nations Bridge including surveys for nesting species at risk (Cornwall, ON).
- Provided environmental and fisheries inspections for construction (Ottawa, ON).
- Conducted nest surveys (Kemptville, ON.; Stittsville, ON.; Cornwall, ON.)
- Conducted environmental inspections for the construction of the Clarkson WWTP outfall, Lake Ontario.
- Conducted environmental inspections for the construction of a new bridge crossing Bearbrook Creek along the 417.

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- Provided environmental and fisheries inspections for the blasting and drilling operation for the Burloak Water Purification Tunnel project (Burlington, ON).
- Provided environmental and fisheries inspections for the construction of the Poole Creek Re-alignment/Huntmar Drive Crossing.

Species at Risk Inventories / Monitoring

- Butternut survey and assessment for proposed developments (Brockville, Carleton Place, Carp, Clarence-Rockland, Cornwall, Munster, Hawkesbury, Kemptville, Ottawa, South Lancaster, Smith Falls, Stittsville, Prospect, Vars, Moose Creek, Prescott, Westminster, Renfrew, Battersea, Jones Falls, and Millbrook).
- American Eel surveys using the boat electrofisher on the Mississippi River (Almonte, ON), South Nation River (Casselman, ON) and Ottawa River (Renfrew, ON; Ottawa, ON: Shawville, QC)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- American Ginseng survey for proposed development (Kanata, South Lancaster and Renfrew).
- Whip-poor-will survey for proposed development (Navan, ON; Kemptville, ON; Stittsville, ON; Prescott, ON; Alexandria, ON) and quarries (Avonmore, Moosecreek, Prospect, Stittsville, Kanata, Ottawa)
- Assisted in a Least Bittern survey (Avonmore, ON)
- Conducted turtle surveys: Blanding's turtle, Eastern musk turtle (Carleton Place, ON; Ottawa, ON; Stittsville, ON; Kanata, ON, Prospect, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Bat maternal nesting site surveys (Prescott, ON; Battersea, ON; Prescott, ON; Hawkesbury, ON; Russell, ON)

Aquatic Inventories

- Boat electrofishing along the shoreline of the Ottawa River (Chat Falls, ON) along the shoreline of the Cataraqui River (Kingston, ON), downstream of the Carillion Dam (Pointe-Fortune, QC), Lake St. Francis (South Lancaster, ON), South Nation River (Casselman, ON), Raisin River (Lancaster, ON), and the St. Lawrence River (Cornwall, ON)
- Collecting and data entry for benthic macroinvetebrate community surveys on several watercourses within Ontario including: Bonnechere River (Renfrew, ON), Montreal River (Latchford, ON), Jock River (Ottawa, ON), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributary to Chippewa Creek (North Bay, On) and tributary to the Beaudette River (Alexandria, ON).
- Collecting and data entry for several fish community surveys including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), East Branch of Little Cataraqui Creek (Kingston, ON), Kehoe Ditch (Greely, ON), Lac Opemisca (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), Montreal River (Latchford, ON), tributaries of Lavalle Creek (Carleton Place), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Beaudette River (Alexandria, ON), tributaries to the Bonnechere River (Renfrew, ON), tributaries to the Ottawa River (Carp, ON; Ottawa, ON; Wendover, ON; Clarence-Rockland, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to Hawkesbury Creek (Hawkesbury, ON), Hawkesbury Creek (Hawkesbury , ON), tributary to the St.Lawrence River (Prescott, ON) and tributary to the North Castor River (Greely, ON).
- Mapped fish habitat in many watercourses including: Black Creek (Westminster, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), Kehoe Ditch (Greely, ON), Lac Opemisca/Lac Barlow Bypass channel (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), McKinnons Creek (Navan, ON), Montreal River (Latchford, ON), tributaries of Lavalle Creek (Carleton Place), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to McKinnons Creek (Navan, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the North Castor River (Greely, ON), tributaries to the Ottawa River (Ottawa, ON; Wendover, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to the St.Lawrence River (Prescott, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in YOY sampling on the Raisin River (Lancaster, ON).
- Conducted riverine index netting on the Bonnechere River (Renfrew, ON).

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- Assisted in gill netting on Bonnechere River (Renfrew, ON), Lac Barlow (Ouje-Bougoumou, QC), Lac Opemisca (Ouje-Bougoumou, QC), Montreal River (Latchford, ON), and Raisin River (Lancaster, ON).
- Assisted in conducting larvae surveys on Bonnechere River, Hoople Creek, Montreal River and Raisin River,
- Collected walleye eggs from the spawning grounds on the Bonnechere River, Montreal River, Raisin River and Hoople Creek.
- Assisted in the monitoring of a new wetland channel created in the Little Cataraqui River.
- Marsh monitoring program breeding amphibian survey at Stittsville, ON; Cornwall, ON; Kanata, ON; Hoople Creek and the Bonnechere River.
- Assisted in conducting fall walleye index netting for the MNR in Kawartha Lakes
- Conducted turtle surveys (Carleton Place, ON; Ottawa, ON)
- Conducted headwater waters assessment (Kanata, ON; Navan, ON, Ottawa, ON)

Terrestrial Inventories

- Multiple Environmental Impact Assessments across Ontario
- Tree Inventory for construction of the light rail (LRT; Ottawa, ON)
- Winter white-tailed deer survey (Edwardsburgh, ON)
- Plant community inventories for proposed developments, quarries, sand pits and road extensions (Brockville, Carleton Place, Carp, Casselman, Elgin, Griffith, Hamilton, Jessup Falls, Navan, Ottawa, Stittsville, Rockland, Simcoe, Cornwall, Kemptville, Hawkesbury, Smith Falls, Wendover, Moosecreek, Westminster, Prescott, Renfrew, Jones Falls, Michipicoten Island and in Ouje-Bougoumou in QC)

Aquatic Habitat Mapping for Municipal, City Roads and Provincial Highways

- Conducted MTO habitat assessments at Galetta Side Road, Torbolton Road, Kinburn Side Road (Ottawa, ON)
- Conducted MTO habitat assessments at Prince of Wales, Fernbank Road, Fallowfield Road, HWY 115, Arbuckle drain, the Carp river, tributaries to the Carp river and tributaries to Mud creek (Ottawa, ON)
- Conducted MTO habitat assessments at Innes Road, Ottawa, ON.
- Conducted MTO habitat assessments at MacLaren Side Road, Ottawa, ON.

Other

- Fish salvage: Mississippi River (Almonte, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), and tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON)
- Assisted in conducting a winter bat hibernaculum inventory (Plantagenet, ON)
- Field research assistant for the Metalicuus study and EDC study (Experimental Lakes Area, ON)
- Captured, pit tagged, telemetry tagged and tracked Northern Pike (Experimental Lakes Area, ON)
- Construction and maintenance of nature trail (the Cornwall Outdoor Recreational Area, ON)
- Conducted frog deformities surveys (Glengarry, ON)
- Organized youth fishing derbies through SLFGC (2011-2013; South Lancaster)
- Organized the St.Francis Walleye Tournament through SLFGC (2012-2013; South Lancaster)

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CODY J.C FONTAINE, Fisheries and Wildlife Technologist

EDUCATION
Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2012
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2011

LANGUAGES
Fluent in English

POSITIONS HELD
2022: BCH Environmental Consulting Inc., Fisheries and Wildlife Technologist
2014: Bowfin Environmental Consulting Inc., Fisheries and Wildlife Technologist
2009: Raisin Region Conservation Authority, Field Research Assistant

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS
MTO/DFO/OMNR Fisheries Protocol, Environmental Monitoring For Construction Projects Practitioner (EMCPP), Ontario Stream Assessment Protocol (OSAP), Class 2 Electroshocking, first aid, CPR, Pleasure Craft Operator Card, WHMIS, WHSA, Hazard Identification, Assessment and Control, Ice Safety Training, Possession / Acquisition Firearms License, Fish Identification Certificate, Radio Telemetry Certificate, Fish Hatchery Operations Certificate, Ontario Hunter Education Course Certificate, Ontario trapper Education Course Certificate, Ontario class G driver's license.

EXPERIENCE
Experience in environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of fish, fish salvage, bat hibernaculum inventories and fisheries inventories including netting and electroshocking. Other experiences include GIS mapping.

Aquatic Inventories
- Assisted with boat electrofishing along the shoreline of the Ottawa River (Chat Falls and Ottawa, ON), Lake St. Francis (South Lancaster, ON), Bonnechere (Renfrew, ON), Raisin River (Lancaster, ON), Buckhorn Lake (Peterborough, ON) and the St. Lawrence River (Cornwall, ON)
- Assisted in collecting and data entry for several fish community surveys including: Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Ottawa River (Ottawa, ON), tributaries to the Rideau River (Manotick, ON), tributaries to the Castor River (Vars, ON), tributaries to the Otonabee River (Lakefield, ON), tributary to the Madawaska River (Arnprior, ON), tributaries to Kemptville Creek (Kemptville, ON), tributary to Blairs Creek (Clarence Creek, ON), tributaries to South Indian Creek River (Russell, ON) tributaries to the South Nation River (Casselman, ON), tributaries to Fraser Clarke Drain (Nepean, ON), tributaries to the Raisin River (Long Sault, ON), Oliver-Magee drain (South Glengarry, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in collecting walleye eggs from the spawning grounds on the Raisin River.
- Marsh monitoring program breeding amphibian surveys (Stittsville, Lakefield, Cornwall, Long Sault, South Glengarry, Bourget, Manotick and Kanata, ON).
- Conducted turtle surveys (Carleton Place, Ottawa, Cornwall and Lancaster, ON)
- Conducted Headwater Assessments (Ottawa, Stittsville and Manotick, ON)
- Invasive Species Survey (Ottawa, ON)

Species at Risk Inventories / Monitoring

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- Assisted in butternut surveys, inventories and assessments for proposed developments (Carleton Place, Casselman, Cornwall, South Glengarry, Long Sault, Kemptville, Smiths Falls, Ottawa, Stittsville, Peterborough, Lakefield, Brockville, Alfred, Orleans, Kanata and Prescott, ON).
- American Eel surveys using the boat electrofisher on the Ottawa River (Ottawa, ON)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- Conducted tailrace surveys for hydro facilities regarding American eel and lake sturgeon fatalities (Almonte, Renfrew, Ottawa and Fitzroy Harbour, ON)
- Whip-poor-will survey for proposed development (Ottawa, Kemptville, Bourget, Stittsville, Alfred, South Glengarry and Alexandria, ON) and quarries (Ottawa and Cornwall, ON)
- Surveyor for Little Brown bat, Eastern Small Footed Bat and Northern Long Eared Bat surveys at Ernestown Windpark (Ernestown, ON)
- Gray Ratsnake Survey (Smiths Falls and Lakefield, ON)
- Bat Cavity Survey (Lakefield, Smiths Falls, Bourget, Clarence Creek, Casselman, Orleans, Kanata, South Glengarry and Embrun, ON)
- Conducted Least Bittern surveys (Prospect, Alexandria, and Lancaster, ON)
- Conducted Black Tern nest surveys (Alexandria, and Cornwall, ON)
- Conducted turtle surveys: Blanding's turtle, Musk turtle and Northern Map turtle, Painted turtle and Snapping turtle (Carleton Place, Ottawa, Stittsville, Kanata, Rockland, Cornwall, Lakefield, Alfred, Clarence Creek and Lancaster, ON)
- Conducted American Ginseng Survey (Alfred, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Conducted Osprey nest surveys (Cornwall, ON)

Terrestrial Inventories

- Assisted plant community inventories for proposed developments (Ottawa, Cornwall and Prescott, ON)
- Assisted in ELC inventories (Ottawa, Lakefield, Alfred, Kanata, Long Sault, South Glengarry and Peterborough ON)
- Nesting Bird Survey (Stittsville and Brockville ON)
- Large Tree Survey (Carp, Kanata and Orleans, ON)
- Deer and Moose Overwintering Survey (Alfred, ON)

Environmental and Fisheries Inspections

- Assisted in providing environmental and fisheries inspections for construction (Ottawa, ON)
- Assisted in turtle salvage during construction at the Cavanagh Snow Dump (Kanata, ON)

Fish Salvage

- Highway 401 Fish Salvage – Brockville, ON and Prescott, ON (Cruikshank, MTO Contract)
- Other fish salvages: Cardinal Creek (Ottawa, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON), Mississippi River (Almonte, ON), Ottawa River (Ottawa, ON), Tributary to Fraser Clarke Drain (Nepean, ON), tributary to St.Lawrence River (Newington, ON), Davidson Pond (Ottawa, ON),. Hazeldean tributary (Ottawa, ON), tributary to Jock River (Richmond, ON), culvert on Thunder Road (Gloucester, ON), culvert on Dunning Road (Cumberland, ON)

Other

- Organized fishing derby through RRCA (2008-2012; Cornwall, ON)
- Conducted environmental education presentations to many school groups (Cornwall, and Lancaster, ON)
- Tree Planting (2008-2012; Cornwall, ON)