APPENDIX D: CO_2 CALCULATIONS

Power Generation via Coal			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Coal	252,631,348	kWh/year	Based on 49% of electricity generated by NSPI in 2021
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Coal Generated Electricity	1.0251	kg CO_2e/kWh	[Source: USEIA, 2022]
Conversion Factor	0.001	t CO_2e/kWh	1 kg = 0.001 Tonnes
Emissions	258,977.20	t CO_2e/year	B5*B8*B9
Power Generation via Oil			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Oil	56,713,160	kWh/year	Based on 11% of electricity generated by NSPI in 2021
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Oil Generated Electricity	1.1068	kg CO_2e/kWh	[Source: USEIA, 2022]
Conversion Factor	0.001	t CO_2e/kWh	1 kg = 0.001 Tonnes
Emissions	62,768.14	t CO_2e/year	B14*B17*B18
Power Generation via Natural Gas			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Natrual Gas	56,713,160	kWh/year	Based on 11% of electricity generated by NSPI in 2021
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Natural Gas Generated Electricity	0.4400	kg CO_2e/kWh	[Source: USEIA, 2022]
Conversion Factor	0.001	t CO_2e/kWh	1 kg = 0.001 Tonnes
Emissions	24,952.92	t CO_2e/year	B23*B26*B27
Power Generation via Wind			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Wind	149,516,512	kWh/year	Based on 29% of electricity generated by NSPI in 2021
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0	t CO_2e/kWh	
Emissions	0	t CO_2e/year	
Total Emissions	346,698.25	t CO_2e/year	B10+B19+B28

	User input data
	Compiled data

Turbine Fabrication			
Parameter/Variable	Value	Unit	Comments
Turbine Steel	540,000	kg/Turbine	Based on weights provided in NREL's 2015 Report [NREL, 2017]
	540.00	tonne/Turbine	1 kg = 0.001 Tonnes
Emission Factors			
Parameter/Variable	Value	Unit	Comments
General Steel	2.6	kg CO_2e/kg	Provided by RES (2022) [RES, personnal communication, January 13, 2023]
Conversion Factor	0.001	t CO_2e/kg	1 kg = 0.001 Tonnes
Emissions	44,928.00	t CO_2e	B5*B9*B10*29(WT)
Turbine Transportation			
Parameter/Variable	Value	Unit	Comments
Transportation Vehicule			
Heavy Duty Truck (Diesel)	1	ea	
Distance Travelled	19,707.60	km	From SuperPort to Wind Turbine Laydowns (includes all the WT components for all 29 WT).
Freight Weight	45.00	tonne	Estimate of each component; 540 tonnes/12 components
Marine Cargo and Containers (Diesel)	1	ea	
Distance Travelled	325,177	km	From Asia to Superport, NS (includes 29 WT).
Freight Weight	540.00	tonne	Cell B6
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Heavy Duty Truck	135	g CO_2e/tonne·km	Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d]
Conversion Factor	0.000001	t CO_2e/tonne·km	1 g = 0.000001 Tonnes
Emissions	119.72	t CO_2e/year	B16*B17*B18*B24*B25
Marine Cargo and Containers (Diesel)	15.1	g CO_2e/tonne·km	Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d]
Conversion Factor	0.000001	t CO_2e/tonne·km	1 g = 0.000001 Tonnes
Emissions	2,651.49	t CO_2e/year	B20*B21*B27*B28
Concrete Tower Foundation and Pedestal			
Parameter/Variable	Value	Unit	Comments
Concrete Production Quantity	1,425,000	kg	Based on a volume of 570 m^3 (per WT foundation) and density of 2,500 kg/m^3
	1,425	tonne	1 kg = 0.001 Tonnes
	20	tonne/truckload	
Concrete Transportation			
Concrete Truck	71.25	ea	Each WT pad requires 140 truckloads of concrete at 18 tonnes each [Source: Kenter, 2017]
Distance Travelled (freight)	1,798.90	km	Based on one-way trip from Concrete Supplier to each Wind Turbine Pad
Distance Travelled (no freight)	1,798.90	km	Based on one-way trip from each Wind Turbine Pad to Concrete Suplier
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Concrete Production	300	g CO_2e/kg	0.3 kg CO_2e/kg [Source: GHGenius v5.0d].
Concrete Truck (freight)	135	g CO_2e/tonne·km	Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d]
Concrete Truck (no freight)	1,106	g CO_2e/km	Emissions for calculating GHGs where the volume of fuel consumed is unknown but the distance travelled is known [Source: GHGenius v5.0d].
Conversion Factor	0.000001	t CO_2e/tonne·km	1 g = 0.000001 Tonnes
Concrete Production Emissions	12,397.50	t CO_2e/year	B33*B42*B45*29(WT)
Concrete Truck (freight) Emissions	346.06	t CO_2e/year	B35*B38*B37*B43*B45
Concrete Truck (no freight) Emissions	141.76	t CO_2e/year	B39*B37*B44*B45
Total Concrete Tower Foundation and Pedestal	12,885.32	t CO_2e/year	B46+B47+B48
Total Emissions (Construction Phase)	60,584.54	t CO_2e	B11+B26+B29+B49

User input data
Compiled data

Wind Energy			
Parameter/Variable	Value	Unit	Comments
Qantity of Power Generation via Wind	515,574,180	kWh/year	See Equation
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0	t CO_2e/kWh	
Emissions	0	t CO_2e/year	B5*B8
Maintenance			
Parameter/Variable	Value	Unit	Comments
Nacelle Components Replacement	10,200	kg/Turbine	15% of Nacelle [Source: Padey et al., 2012], Based on Vestas V90, Nacelle weight = 68,000 kg [National Wind Watch, u.d.]
Blade Replacement	12,700	kg/Turbine	[Source: Padey et al., 2012] Based on Gamesa G87, Blade assembly weight = 38,100 kg [National Wind Watch, u.d.]
Emission Factors			
Parameter/Variable	Value	Unit	Comments
General Steel	2.6	kg CO_2e/kg	Provided by RES (2022) [RES, personnal communication, January 13, 2023]
Conversion Factor	0.001	t CO_2e/kg	1 kg = 0.001 Tonnes
Emissions	59.54	t CO_2e/turbine	(B13+B14)*B17*B18
Total Emissions	1726.66	t CO_2e	(B9+B19)*29(WT)

$$kWh = 29WT \times \frac{4.5MW}{Turbine} \times \frac{365days}{year} \times \frac{24hours}{day} \times 0.451 \times \frac{1000kW}{MW} = 515{,}574{,}180kWh/year$$

User input data
Compiled data

APPENDIX E: GROUNDWATER WELLS

Well Number	Address	Community	County	Date Inserted	Well Depth (m)	Casing Depth (m)	Bedrock Depth (m)	Static (m)	Yield (Lpm)	Elevation (m)	Well Type	Water Use	Easting	Northing
2302	Monastery Landfill	Tracadie Road	Guysborough	2000-07-26	91.35	18.27		16.75	2.27	134	Drilled	Industrial	615725	5038582
2307	Dump	Tracadie Road	Guysborough	2000-07-28	92.87	18.27	15.22		2.27	134	Drilled	Domestic	615725	5038582
42218		Upper Big Tracadie	Antigonish	2004-06-23	68.51		15.22		6.81	50	Drilled	Domestic	610797	5047138
42248		Upper Big Tracadie	Antigonish	2004-11-23	86.78	20.40	20.40		3.40	120	Drilled	Domestic	609623	5045800
52466	Highway #16	Tracadie Road	Guysborough	2005-09-02	60.90	12.18	2.44		1.14	134	Drilled	Domestic	615725	5038582
71280	Mattie Settlement Road (Highway #16)	Upper Big Tracadie	Antigonish	2007-11-08	44.15	12.18	8.53	6.09	45.40	38	Drilled	Domestic	610758	5047420
91251	Lincolnville Loop	Lincolnville	Guysborough	2009-08-21	121.80	12.18	0.61	12.18	6.81	160	Drilled	Public (not municipal)	613434	5040292
650127	School	Lincolnville	Guysborough	1965-03-10	83.74	6.09	1.83	1.83	31.78	160	Drilled	Not Provided	613500	5040500
720163	Grosvenor	Mattie Settlement	Antigonish	1972-06-24	28.93	15.83	14.01	4.57	18.16	126	Drilled	Domestic	615500	5051500
730123		Lincolnville	Guysborough	1973-10-06	98.96	9.14	7.31	51.76	18.16	160	Drilled	Domestic	613500	5040500
730324		Lincolnville	Guysborough	1973-06-03	52.68	6.70	2.74	1.52	2.27	160	Drilled	Domestic	613500	5040500
740291		Lincolnville	Guysborough	1974-07-26	74.91	6.39	4.87	2.13	2.27	160	Drilled	Domestic	613500	5040500
760122		Lincolnville	Guysborough	1976-01-04	52.37	6.70	3.04	1.22	803.58	160	Drilled	Domestic	613500	5040500
760125		Lincolnville	Guysborough	1976-01-07	44.76	6.70	1.83	3.04	13.62	160	Drilled	Domestic	613500	5040500
760130		Lincolnville	Guysborough	1976-06-15	29.54		0.91	3.04	6.81	160	Drilled	Domestic	613500	5040500
760171		Lincolnville	Guysborough	1976-06-01	44.76	6.70	2.44	3.04	4.54	160	Drilled	Domestic	613500	5040500
760172		Lincolnville	Guysborough	1976-06-02	44.76	6.70	3.65	2.13	4.54	160	Drilled	Domestic	613500	5040500
760193		Lincolnville	Guysborough	1976-06-14	39.89	6.70	5.79	6.09	4.54	160	Drilled	Domestic	613500	5040500
760213		Lincolnville	Guysborough	1976-05-27	90.44	6.70	4.87	3.04	4.54	160	Drilled	Domestic	613500	5040500
770132		Lincolnville	Guysborough	1977-03-18	89.83	6.70	2.13	3.65	2.27	160	Drilled	Domestic	613500	5040500
780760			Digby	1978-12-31						147	Drilled	Not Provided	626064	5043622
790092		Lincolnville	Guysborough	1979-08-09	69.12	7.31	5.18	4.57	27.24	142	Drilled	Domestic	613079	5041831
790108		Upper Big Tracadie	Antigonish	1979-05-11	66.99	10.35	8.22	0.91	6.81	104	Drilled	Domestic	609744	5046402
790115		Upper Big Tracadie	Antigonish	1979-01-26	80.69	21.32	18.27	2.74	54.48	104	Drilled	Domestic	609744	5046402
832072	610 East River Road, New Glasglow	Guysborough	Guysborough	1983-03-17	87.39	9.44	5.48	19.79	4.54	160	Drilled	Domestic	613500	5040500
842169		Lincolnville	Guysborough	1984-10-24	54.81	13.09			45.40	160	Drilled	Domestic	613500	5040500
871360	Merlin Road, Monestary	Upper Big Tracadie	Antigonish	1987-10-02	42.63	15.22	8.53	4.57	45.40	124	Drilled	Domestic	609500	5046500
882340		Lincolnville	Guysborough	1988-06-22	76.12	6.09	4.26		13.62	160	Drilled	Domestic	613500	5040500
911639		Lincolnville	Guysborough	1991-05-30	60.90	12.18	0.91	7.61	9.08	160	Drilled	Domestic	613500	5040500
911675	2555 Wood Avenue	Upper Big Tracadie	Antigonish	1991-07-25	42.63	12.79	10.35	9.14	36.32	41	Drilled	Domestic	610500	5047500
920870		Lincolnville	Guysborough	1992-03-05	66.99	9.44	4.26	9.14	13.62	160	Drilled	Domestic	613500	5040500
922214		Lincolnville	Guysborough	1992-09-16	57.86	6.09	0.91			156	Drilled	Not Provided	613124	5040971
952518		Lincolnville	Guysborough	1995-12-20	60.90	6.09	4.26		6.81	160	Drilled	Domestic	613500	5040500
961859		Upper Big Tracadie	Antigonish	1996-11-04	66.99	28.93	26.49	7.61	2.27	124	Drilled	Domestic	609500	5046500
962768		Lincolnville	Guysborough	1996-01-19	60.90	6.09	3.04		9.08	160	Drilled	Domestic	613500	5040500
962786	Lincolnville Road	Lincolnville	Guysborough	1996-08-31	66.99	6.39	3.04	2.44	9.08	160	Drilled	Domestic	613500	5040500
972553		Lincolnville	Guysborough	1997-10-23	66.99	6.09	3.04	5.48	9.08	160	Drilled	Domestic	613500	5040500
972691	RR#2 Havre Boucher Grosvenor	Mattie Settlement	Antigonish	1997-09-23	44.76	6.09	0.91	1.52	13.62	127	Drilled	Domestic	614500	5051500
Statistics			**Minimum**	**1965-03-10**	**28.93**	**6.09**	**0.61**	**0.91**	**1.14**	**38.00**				
			Maximum	**2009-08-21**	**121.80**	**28.93**	**26.49**	**51.76**	**803.58**	**160.00**				
			Average	**n/a**	**65.29**	**10.50**	**6.43**	**7.06**	**35.88**	**139.79**				

APPENDIX F: WATERBODIES AND WATERCOURSES

Watercourse ID	Watercourse Type	Bank Full Width (m)	Wetted Width (m)	Water Depth (cm)	Dominant Substrate Type	Drainage Direction	Aquatic Habitat	In Stream Cover/ Vegetation	Dominant Riparian Habitat	Fish Bearing Potential	Evidence of Alteration	Other Observations
WC1	Small Permanent	2.14	1.85	13	Boulder	Northwest	Riffle, flat, and pool habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Hardwood	Possible, although beaver dam upstream would provide a barrier to fish passage to further headwaters.	None observed.	A beaver dam and wetland were observed upstream
WC2	Intermittent	1.87	1.47	10	Other	North	NA - water levels too low.	Boudlers = Trace Overhanging vegetation = Trace Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Hardwood	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Watercourse was nearly dry at time of field assessment, but likely has significant water during rainy period or in the spring
WC3	Small Permanent	2.30	1.80	21	Gravel	South	Run and riffle habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = Trace Undercut banks = None Instream vegetation = Trace	Graminoids	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Watercourse shows signs of periodic flooding based on riparian characteristcs.
WC4	Small Permanent	1.30	0.46	5	Fines and Muck	East	Other habitat characteristics	Boudlers = None Overhanging vegetation = None Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Graminoids	Unlikely because culvert elevation is too high, causing obstruction and low water levels.	Yes, culvert installation for road crossing.	Watercourse was not flowing at time of field assessment. But water was present.
WC5	Ephemeral	1.32	1.09	18	Fines and Muck	North	Pool and other habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Moderate Undercut banks = None Instream vegetation = Abundant	Graminoids	Possible. Culvert present and may provide barrier to fish passage.	Yes, culvert installation for road crossing.	Watercourse and fen complex that connects to another delineated wetland.
WC6	Small Permanent	3.21	2.78	17	Fines and Muck	Southeast	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = None	Hardwood	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Fringe wetland surrounded watercourse. Further upstream was a large wetland area.
WC7	Ephemeral	0.89	0.56	4	NA	East	NA	NA	NA	NA	Yes, culvert installation for road crossing.	NA
WC8	Intermittent	2.06	1.58	12	Fines and Muck	East	Flat habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Hardwood	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Slow moving. Plenty of woody debris.
WC9	Small Permanent	1.12	0.21	4	Gravel	East	Flat habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = None Undercut banks = None Instream vegetation = Abundant	Hardwood	Unlikely due to the nature of the feature. Watercourse had minimal water, and a partially blocked culvert.	Yes, culvert installation for road crossing.	Watercourse oiginates from surface/road drainage ditch on east side of road. Watercourse flows into wetland west of road boundary
WC10	Small Permanent	2.54	1.78	14	Gravel	West	Riffle habitat characteristics	Boudlers = Moderate Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = None Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Quite a bit of wash-out from the road.
WC11	Large Permanent	4.45	4.12	16	Boulder	North	Riffle habitat characteristics	Boudlers = Abundant Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible. Bridge present but unlikely to impact fish passage	Yes, clear span bridge structure for road crossing.	A small river intersects with a road. The river has some minor riffles with a substrate comprised of mostly boulder and fine materials.

Watercourse ID	Watercourse Type	Bank Full Width (m)	Wetted Width (m)	Water Depth (cm)	Dominant Substrate Type	Drainage Direction	Aquatic Habitat	In Stream Cover/ Vegetation	Dominant Riparian Habitat	Fish Bearing Potential	Evidence of Alteration	Other Observations
WC12	Ephemeral	1.48	0.00	0	Fines and Muck	South	Flat habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Hardwood	Unlikely. Watercourse was dried up during field assessment. Culvert present.	Yes, culvert installation for road crossing.	Watercourse was dry at the time of field assessment
WC13	Small Permanent	1.67	1.23	14	Fines and Muck	East	Flat habitat characteristics	Boudlers = Trace Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Trace Undercut banks = Trace Instream vegetation = None	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Culvert is sunking and barely visable. Still appears functioning.
WC14	Small Permanent	2.42	1.13	11	Fines and Muck	East	Riffle habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible	None observed	A small watercourse with low water levels and minimal flow at time of field assessment.
WC15	Small Permanent	1.42	0.89	15	Cobble	West	Pool and riffle habitat characteristics	Boudlers = None Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Abundant	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Just upstream is a wetland complex, and further downstream are several pool features.
WC16	Small Permanent	1.37	1.14	7	Fines and Muck	West	Riffle habitat characteristics	Boudlers = None Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Moderate Undercut banks = None Instream vegetation = Moderate	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, two culverts for road crossing present. The newer culvert did not seem to be functioning.	NA
WC17	Small Permanent	1.75	1.52	6	Fines and Muck	West	Riffle habitat characteristics	Boudlers = Moderate Overhanging vegetation = Trace Small woody debris = Trace Deep pools = None Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	NA
WC18	Small Permanent	1.20	0.60	7	Fines and Muck	East	Flat habitat characteristics	Boudlers = None Overhanging vegetation = Trace Small woody debris = Trace Deep pools = None Undercut banks = None Instream vegetation = Trace	Herbaceous	Unlikely due to the nature of the feature. Watercourse is small and culvert is present.	Yes, culvert installation for road crossing.	Lots of frogs were seen by field crew
WC19	Small Permanent	2.10	1.10	14	Fines and Muck	East	Flat habitat characteristics	Boudlers = None Overhanging vegetation = None Small woody debris = Trace Deep pools = Trace Undercut banks = Trace Instream vegetation = Abundant	Herbaceous	Unlikely due to the nature of the feature. Watercourse is small and culvert is present.	Yes, culvert installation for road crossing.	Watercourse, wetland complex.
WC20	Large Permanent	5.62	2.92	12	Fines and Muck	West	Pool, riffle and run habitat	Boudlers = Moderate Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Trace Undercut banks = Trace Instream vegetation = Trace	Softwood	Possible. Culvert present but unlikely to impact fish passage	Yes, two large culverts present, covered by land bridge.	Watercourse presents braided features along east side of bridge.
WC21	Small Permanent	1.40	1.45	35	NA	South	Run and pool habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = Abundant Instream vegetation = Trace	Graminoids	Possible	Yes, culvert installation for road crossing.	Watercourse contains undercut banks on one side only.
WC22	Small Permanent	1.25	1.12	9	NA	North	NA	NA	NA	NA	Yes, culvert installation for road crossing.	NA

Watercourse ID	Watercourse Type	Bank Full Width (m)	Wetted Width (m)	Water Depth (cm)	Dominant Substrate Type	Drainage Direction	Aquatic Habitat	In Stream Cover/ Vegetation	Dominant Riparian Habitat	Fish Bearing Potential	Evidence of Alteration	Other Observations
WC23	Small Permanent	1.00	0.80	10	NA	West	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = None Undercut banks = Trace Instream vegetation = Abundant	Graminoids	Possible	Yes, culvert installation for road crossing.	NA
WC24	Small Permanent	2.50	2.00	20	NA	North	Pool, riffle, run, and flat habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = Moderate Instream vegetation = Trace	Herbaceous	Possible	Yes, culvert installation for road crossing.	Watercourse contains steady moving clear water, great potential for fish. A new culvert was recently installed
WC25	Small Permanent	1.35	1.04	13	Gravel	West	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Trace Undercut banks = Moderate Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Small, but well established. Slow moving, undercut banks, predominantly gravel substrate.
WC26	Small Permanent	1.20	1.00	20	NA	West	Pool, flat and meander characteristics	Boudlers = Trace Overhanging vegetation = Abundant Small woody debris = Moderate Deep pools = Trace Undercut banks = Moderate Instream vegetation = Moderate	Herbaceous	Unknown	Yes, culvert installation for road crossing.	NA
WC27	Small Permanent	1.12	0.43	11	Fines and Muck	South	Pool, flat and meander characteristics	Boudlers = Trace Overhanging vegetation = Trace Small woody debris = Moderate Deep pools = Trace Undercut banks = None Instream vegetation = Moderate	Herbaceous	Possible.	None observed.	NA
WC28	Small Permanent	3.12	2.61	16	Rubble	South	Riffle habitat characteristics	Boudlers = Moderate Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Trace	Hardwood	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Watercourse contains fringe wetland on north side that extends 25 meters outside of assessment boundary.
WC29	Small Permanent	2.50	2.10	20	NA	South	Riffle, run, pool and cascade habitat characteristics	Boudlers = Moderate Overhanging vegetation = Abundant Small woody debris = Abundant Deep pools = None Undercut banks = Moderate Instream vegetation = Abundant	Shrub	No, barrier to fish passage observed	Logging machinery trails	NA
WC30	Large Permanent	5.30	5.30	61	NA	South	flat and meander habitat characteristics	Boudlers = None Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = Trace Undercut banks = Moderate Instream vegetation = Moderate	Graminoids	Yes, fish observed	Logging machinery trails	Cannot reach or clearly see most of the substrate due to depth of water, but using banks as indicator, appears to primarily be fines and muck.
WC31	Small Permanent	1.42	0.75	12	NA	East	Riffle, run, pool and cascade habitat characteristics	Boudlers = Moderate Overhanging vegetation = Abundant Small woody debris = Abundant Deep pools = None Undercut banks = Moderate Instream vegetation = Abundant	Softwood	Possible.	None observed.	NA
WC32	Small Permanent	2.78	2.34	14	Gravel	North	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Well established. Wide, but not deep. Well shaded.

Watercourse ID	Watercourse Type	Bank Full Width (m)	Wetted Width (m)	Water Depth (cm)	Dominant Substrate Type	Drainage Direction	Aquatic Habitat	In Stream Cover/ Vegetation	Dominant Riparian Habitat	Fish Bearing Potential	Evidence of Alteration	Other Observations
WC33	Small Permanent	2.00	1.50	30	NA	East	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = Trace Instream vegetation = None	Softwood	Possible	Yes, culvert installation for road crossing.	NA
WC34	Small Permanent	1.45	1.02	14	Rubble	North	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Moderate	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	NA
WC35	Large Permanent	3.14	2.67	17	Rubble	North	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Abundant Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Due to limitations of GPS, the drawn watercourse flowpath may not be accurate
WC36	Large Permanent	6.75	6.24	37	Fines and Muck	South	Pool, run, riffle and flat characteristics	Boudlers = Trace Overhanging vegetation = Trace Small woody debris = Trace Deep pools = Abundant Undercut banks = Trace Instream vegetation = Trace	Hardwood	Possible. Bridge present but unlikely to impact fish passage	Yes, clear span bridge structure for road crossing.	Due to limitations of GPS, the drawn watercourse flowpath may not be accurate
WC37	Intermittent	1.02	0.12	0	NA	East	Flat habitat characteristics	Boudlers = Abundant Overhanging vegetation = Abundant Small woody debris = Abundant Deep pools = None Undercut banks = Trace Instream vegetation = Moderate	Shrub	No, barrier to fish passage observed	Yes, clear span bridge structure for road crossing.	Water level low, dry in some areas
WC38	Small Permanent	1.28	1.13	21	Fines and Muck	South	Riffle habitat characteristics	Boudlers = Trace Overhanging vegetation = Moderate Small woody debris = Trace Deep pools = Trace Undercut banks = Trace Instream vegetation = Moderate	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Watercourse likely formed as drainage of wetland habitat.
WC39	Small Permanent	1.74	1.42	11	Boulder	South	Riffle habitat characteristics	Boudlers = Moderate Overhanging vegetation = Trace Small woody debris = None Deep pools = None Undercut banks = Trace Instream vegetation = Trace	Herbaceous	Possible. Culvert present but unlikely to impact fish passage	Yes, culvert installation for road crossing.	Watercourse likely turns into wetland beyond assessment boundary

Photo 1. A representative photo of WC1.

Photo 2. Evidence of a beaver dam along WC1.

Photo 3. A representative photo of WC2.

Photo 4. Evidence of a culvert along WC2.

Photo 5. A representative photo of WC3. Culvert not pictured.

Photo 6. A representative photo of WC4.

Photo 7. Evidence of a culvert along WC4.

Photo 8. A representative photo of WC5.

Photo 9. Evidence of a culvert along WC5.

Photo 10. A representative photo of WC6. Culvert not pictured.

No photo available for WC7.

Photo 11. A representative photo of WC8.

Photo 12. Evidence of a culvert along WC8.

Photo 13. A representative photo of WC9.

Photo 14. Evidence of a culvert along WC9.

Photo 15. A representative photo of WC10.

Photo 16. Evidence of a culvert along WC10.

Photo 17. A representative photo of WC11.

Photo 18. Evidence of a bridge along WC11.

Photo 19. A representative photo of WC12. Culvert not pictured.

Photo 20. A representative photo of WC13.

Photo 21. Evidence of a culvert along WC13.

Photo 22. A representative photo of WC14. Culvert not pictured.

Photo 23. A representative photo of WC15. Culvert not pictured.

Photo 24. A representative photo of WC16.

Photo 25. Evidence of a culvert along WC16.

Photo 26. A representative photo of WC17.

Photo 27. Evidence of a culvert along WC17.

Photo 28. A representative photo of WC18.

Photo 29. Evidence of a culvert along WC18.

Photo 30. A representative photo of WC19. Culvert not pictured.

Photo 31. A representative photo of WC20.

Photo 32. Evidence of alteration along WC20.

Photo 33. A representative photo of WC21.

No photo available for WC22.

Photo 34. A representative photo of WC23.

Photo 35. Evidence of a culvert along WC23.

Photo 36. A representative photo of WC24.

Photo 37. Evidence of a culvert along WC24.

Photo 38. A representative photo of WC25.

Photo 39. Evidence of a culvert along WC25.

Photo 40. A representative photo of WC26. Culvert not pictured.

No photo available for WC27.	 Photo 41. A representative photo of WC28.
 Photo 42. Evidence of a culvert along WC28.	 Photo 43. A representative photo of WC29.
 Photo 44. A representative photo of WC30.	*No photo available for WC31.*

Photo 45. A representative photo of WC32.

Photo 46. Evidence of a culvert along WC32.

Photo 47. A representative photo of WC33.

Photo 48. Evidence of a culvert along WC33.

No photo available for WC34.

Photo 49. A representative photo of WC35.

Photo 50. Evidence of a culvert along WC35.

Photo 51. A representative photo of WC36.

Photo 52. Evidence of a bridge along WC36.

Photo 53. A representative photo of WC37.

Photo 54. Evidence of a bridge along WC37.

Photo 55. A representative photo of WC38.

Photo 56. Evidence of a culvert along WC38.

Photo 57. A representative photo of WC39.

Photo 58. Evidence of a culvert along WC39.

APPENDIX G: ACCDC REPORT

DATA REPORT 7532: Mulgrave, NS

Prepared 20 December 2022
by C. Robicheau, Conservation Data Analyst

CONTENTS OF REPORT

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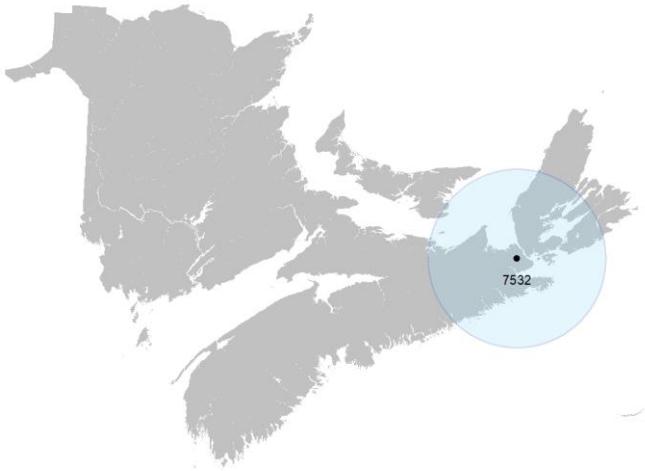
- 4.1 Fauna
- 4.2 Flora
- 4.3 Location Sensitive Species
- 4.4 Source Bibliography

5.0 Rare Species within 100 km
- 5.1 Source Bibliography



Map 1. A 100 km buffer around the study area

1.0 PREFACE

The Atlantic Canada Conservation Data Centre (AC CDC; www.accdc.com) is part of a network of NatureServe data centres and heritage programs serving 50 states in the U.S.A, 10 provinces and 1 territory in Canada, plus several Central and South American countries. The NatureServe network is more than 30 years old and shares a common conservation data methodology. The AC CDC was founded in 1997, and maintains data for the jurisdictions of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Although a non-governmental agency, the AC CDC is supported by 6 federal agencies and 4 provincial governments, as well as through outside grants and data processing fees.

Upon request and for a fee, the AC CDC queries its database and produces customized reports of the rare and endangered flora and fauna known to occur in or near a specified study area. As a supplement to that data, the AC CDC includes locations of managed areas with some level of protection, and known sites of ecological interest or sensitivity.

1.1 DATA LIST

Included datasets:

Filename	Contents
MulgraveNS_7532ob.xls	Rare or legally-protected Flora and Fauna in your study area
MulgraveNS_7532ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
MulgraveNS_7532msa.xls	Managed and Biologically Significant Areas in your study area

1.2 RESTRICTIONS

The AC CDC makes a strong effort to verify the accuracy of all the data that it manages, but it shall not be held responsible for any inaccuracies in data that it provides. By accepting AC CDC data, recipients assent to the following limits of use:

a) Data is restricted to use by trained personnel who are sensitive to landowner interests and to potential threats to rare and/or endangered flora and fauna posed by the information provided.
b) Data is restricted to use by the specified Data User; any third party requiring data must make its own data request.
c) The AC CDC requires Data Users to cease using and delete data 12 months after receipt, and to make a new request for updated data if necessary at that time.
d) AC CDC data responses are restricted to the data in our Data System at the time of the data request.
e) Each record has an estimate of locational uncertainty, which must be referenced in order to understand the record's relevance to a particular location. Please see attached Data Dictionary for details.
f) AC CDC data responses are not to be construed as exhaustive inventories of taxa in an area.
g) The absence of a taxon cannot be inferred by its absence in an AC CDC data response.

1.3 ADDITIONAL INFORMATION

The accompanying Data Dictionary provides metadata for the data provided.

Please direct any additional questions about AC CDC data to the following individuals:

Plants, Lichens, Ranking Methods, All other Inquiries	Sean Blaney	Senior Scientist / Executive Director	(506) 364-2658	sean.blaney@accdc.ca
Animals (Fauna)	John Klymko	Zoologist	(506) 364-2660	john.klymko@accdc.ca
Data Management, GIS	James Churchill	Conservation Data Analyst / Field Biologist		james.churchill@accdc.ca
Billing	Jean Breau	Financial Manager / Executive Assistant	(506) 364-2657	jean.breau@accdc.ca

Questions on the biology of Federal Species at Risk can be directed to AC CDC: (506) 364-2658, with questions on Species at Risk regulations to: Samara Eaton, Canadian Wildlife Service (NB and PE): (506) 364-5060 or Julie McKnight, Canadian Wildlife Service (NS): (902) 426-4196.

New Brunswick. For information about rare taxa, protected areas, game animals, deer yards, old growth forests, archeological sites, fish habitat etc., or to determine if location-sensitive species (section 4.3) occur near your study site, please contact Hubert Askanas, Energy and Resource Development: (506) 453-5873.

Nova Scotia. For information about Species at Risk or general questions about Nova Scotia location-sensitive species please contact the Biodiversity Program at biodiversity@novascotia.ca. For questions about protected areas, game animals, deer yards, old growth forests, archeological sites, fish habitat etc., or to determine if location-sensitive species (section 4.3) occur near your study site please contact a Regional Biologist:

DIGB, ANNA, KING	Emma Vost	(902) 670-8187	Emma.Vost@novascotia.ca
SHEL, YARM	Sian Wilson	(902) 930-2978	Sian.Wilson@novascotia.ca
QUEE, LUNE	Peter Kydd	(902) 523-0969	Peter.Kydd@novascotia.ca
HALI, HANT	Shavonne Meyer	(902) 893-0816	Shavonne.Meyer@novascotia.ca
Central Region	Jolene Laverty	(902) 324-8953	Jolene.Laverty@novascotia.ca
COLC, CUMB	Kimberly George	(902) 890-1046	Kimberly.George@novascotia.ca
ANTI, GUYS	Harrison Moore	(902) 497-4119	Harrison.Moore@novascotia.ca
INVE, VICT	Maureen Cameron-MacMillan	(902) 295-2554	Maureen.Cameron-MacMillan@novascotia.ca
CAPE, RICH, PICT	Elizabeth Walsh	(902) 563-3370	Elizabeth.Walsh@novascotia.ca

Prince Edward Island. For information about rare taxa, protected areas, game animals, fish habitat etc., please contact Garry Gregory, PEI Department of Environment, Energy and Climate Action: (902) 569-7595.

2.0 RARE AND ENDANGERED SPECIES

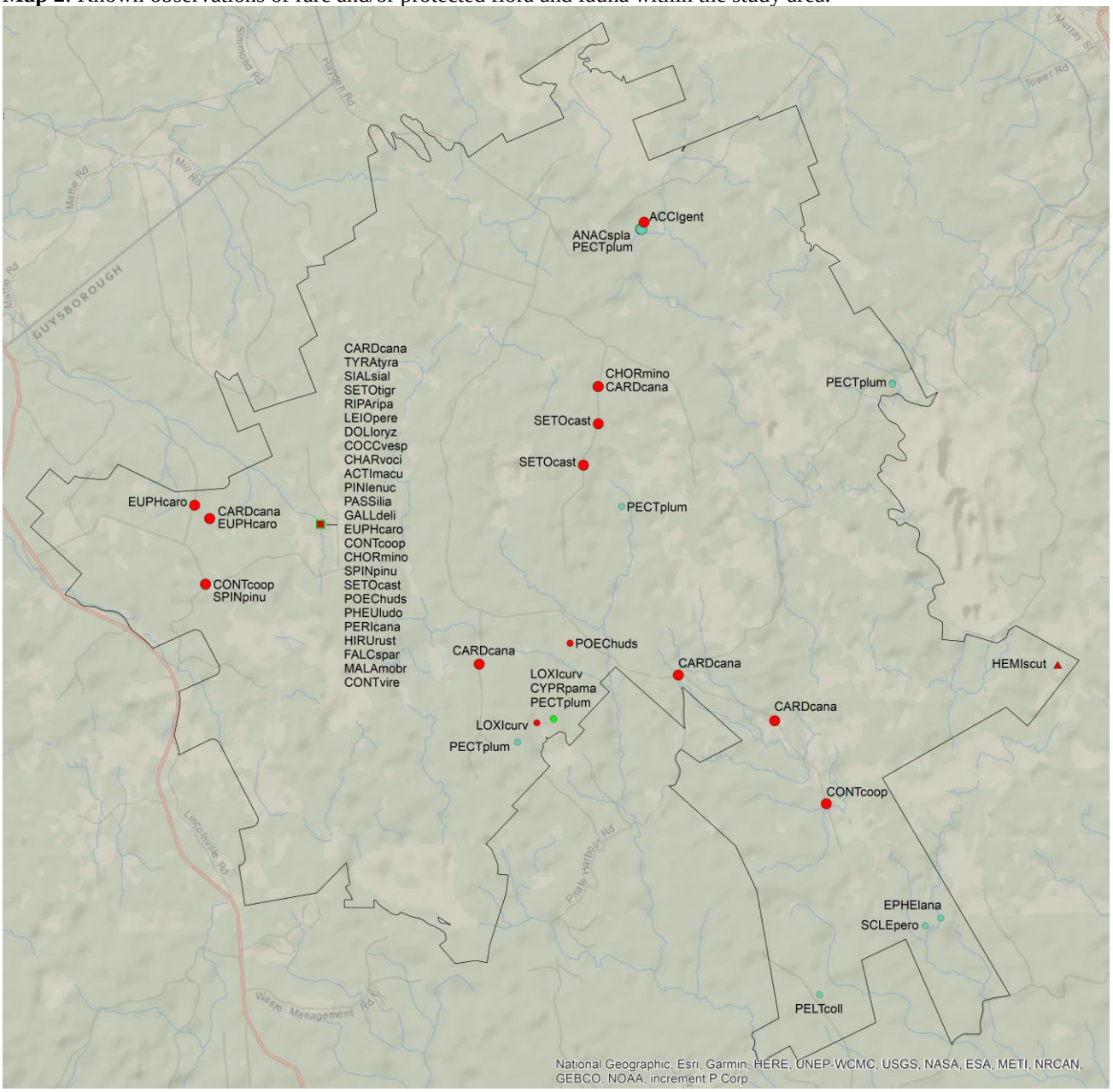
2.1 FLORA

The study area contains 2 records of 2 vascular and 10 records of 5 nonvascular flora (Map 2 and attached: *ob.xls), excluding 'location-sensitive' species.

2.2 FAUNA

The study area contains 84 records of 27 vertebrate and no records of invertebrate fauna (Map 2 and attached data files - see 1.1 Data List), excluding 'location-sensitive species'. Please see section 4.3 to determine if 'location-sensitive' species occur near your study site.

Map 2: Known observations of rare and/or protected flora and fauna within the study area.



RESOLUTION

- 4.7 within 50s of kilometers
- 4.0 within 10s of kilometers
- 3.7 within 5s of kilometers
- 3.0 within kilometers
- 2.7 within 500s of meters
- 2.0 within 100s of meters
- 1.7 within 10s of meters

HIGHER TAXON

- vertebrate fauna
- invertebrate fauna
- vascular flora
- nonvascular flora

3.0 SPECIAL AREAS

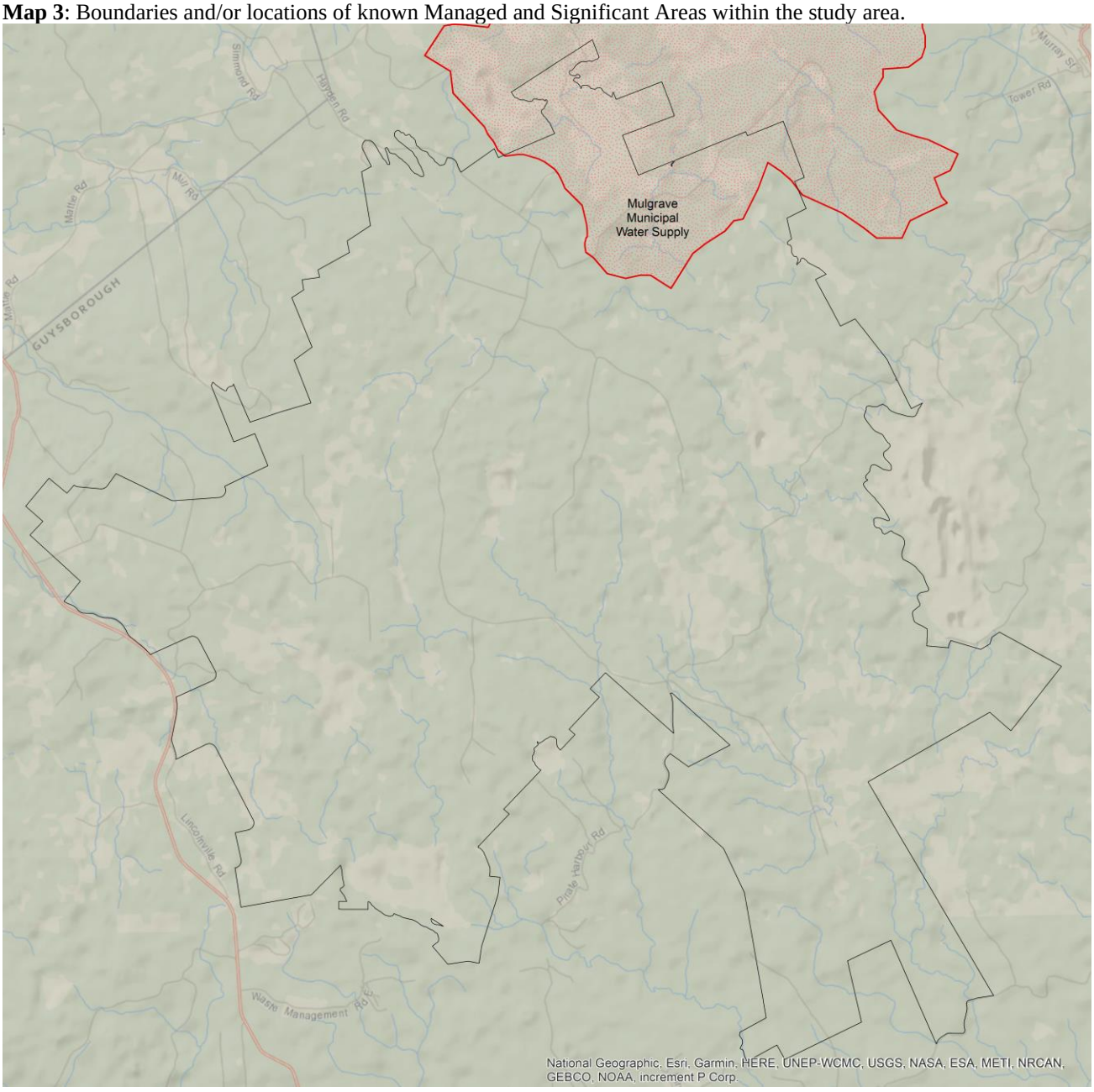
3.1 MANAGED AREAS

The GIS scan identified one managed area in the vicinity of the study area (Map 3 and attached file: *ma*.xls).

3.2 SIGNIFICANT AREAS

The GIS scan identified no biologically significant sites in the vicinity of the study area (Map 3 and attached file: *sa*.xls).

Map 3: Boundaries and/or locations of known Managed and Significant Areas within the study area.



4.0 RARE SPECIES LISTS

Rare and/or endangered taxa (excluding "location-sensitive" species, section 4.3) within the study area listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (± the precision, in km, of the record). [P] = vascular plant, [N] = nonvascular plant, [A] = vertebrate animal, [I] = invertebrate animal, [C] = community. Note: records are from attached files *ob.xls/*ob.shp only.

4.1 FLORA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	*Pectenia plumbea*	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	6	0.6 ± 0.0
N	*Sclerophora peronella (Atlantic pop.)*	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S3S4	1	6.5 ± 0.0
N	*Anacamptodon splachnoides*	a Moss				S2	1	4.3 ± 0.0
N	*Ephebe lanata*	Waterside Rockshag Lichen				S3	1	6.6 ± 0.0
N	*Peltigera collina*	Tree Pelt Lichen				S3	1	6.6 ± 0.0
P	*Malaxis monophyllos var. brachypoda*	North American White Adder's-mouth				S1	1	4.1 ± 7.0
P	*Cypripedium parviflorum var. makasin*	Small Yellow Lady's-Slipper				S2	1	2.5 ± 0.0

4.2 FAUNA

	Scientific *Name*	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened	Endangered	S2B	2	4.1 ± 7.0
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	5	4.1 ± 7.0
A	*Hirundo rustica*	Barn Swallow	Special Concern	Threatened	Endangered	S3B	3	4.1 ± 7.0
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Endangered	S3B	13	1.9 ± 0.0
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Threatened	Threatened	S3B	3	2.2 ± 0.0
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	6	4.1 ± 7.0
A	*Dolichonyx oryzivorus*	Bobolink	Special Concern	Threatened	Vulnerable	S3B	2	4.1 ± 7.0
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	1	4.1 ± 7.0
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	4	4.1 ± 7.0
A	*Hemidactylium scutatum*	Four-toed Salamander	Not At Risk			S3	1	6.1 ± 0.0
A	*Sialia sialis*	Eastern Bluebird	Not At Risk			S3B	1	4.1 ± 7.0
A	*Accipiter gentilis*	Northern Goshawk	Not At Risk			S3S4	1	4.4 ± 0.0
A	*Perisoreus canadensis*	Canada Jay				S3	3	4.1 ± 7.0
A	*Poecile hudsonicus*	Boreal Chickadee				S3	8	1.4 ± 0.0
A	*Spinus pinus*	Pine Siskin				S3	5	4.1 ± 7.0
A	*Charadrius vociferus*	Killdeer				S3B	2	4.1 ± 7.0
A	*Tyrannus tyrannus*	Eastern Kingbird				S3B	1	4.1 ± 7.0
A	*Pheucticus ludovicianus*	Rose-breasted Grosbeak				S3B	3	4.1 ± 7.0
A	*Falco sparverius*	American Kestrel				S3B,S4S5M	2	4.1 ± 7.0
A	*Gallinago delicata*	Wilson's Snipe				S3B,S5M	2	4.1 ± 7.0
A	*Pinicola enucleator*	Pine Grosbeak				S3B,S5N,S5M	2	4.1 ± 7.0
A	*Setophaga tigrina*	Cape May Warbler				S3B,SUM	1	4.1 ± 7.0
A	*Loxia curvirostra*	Red Crossbill				S3S4	2	2.6 ± 0.0
A	*Setophaga castanea*	Bay-breasted Warbler				S3S4B,S4S5M	7	1.2 ± 0.0
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	2	4.1 ± 7.0
A	*Leiothlypis peregrina*	Tennessee Warbler				S3S4B,S5M	1	4.1 ± 7.0
A	*Passerella iliaca*	Fox Sparrow				S3S4B,S5M	1	4.1 ± 7.0

4.3 LOCATION SENSITIVE SPECIES

The Department of Natural Resources in each Maritimes province considers a number of species "location sensitive". Concern about exploitation of location-sensitive species precludes inclusion of precise coordinates in this report. Those intersecting your study area are indicated below with "YES".

Nova Scotia

Scientific *Name*	Common Name	SARA	Prov Legal Prot	Known within the Study Site?
Fraxinus nigra	**Black Ash**		**Threatened**	**YES**
Emydoidea blandingii	*Blanding's Turtle - Nova Scotia pop.*	Endangered	Endangered	No
Glyptemys insculpta	Wood Turtle	Threatened	Threatened	No
Falco peregrinus pop. 1	Peregrine Falcon - anatum/tundrius pop.	Special Concern	Vulnerable	No
Bat hibernaculum or bat species occurrence		[Endangered][1]	[Endangered][1]	No

1 *Myotis lucifugus* (Little Brown Myotis), *Myotis septentrionalis* (Long-eared Myotis), and *Perimyotis subflavus* (Tri-colored Bat or Eastern Pipistrelle) are all Endangered under the Federal Species at Risk Act and the NS Endangered Species Act.

4.4 SOURCE BIBLIOGRAPHY

The recipient of these data shall acknowledge the AC CDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

# recs	CITATION
46	Lepage, D. 2014. Maritime Breeding Bird Atlas Database. Bird Studies Canada, Sackville NB, 407,838 recs.
32	Erskine, A.J. 1992. Maritime Breeding Bird Atlas Database. NS Museum & Nimbus Publ., Halifax, 82,125 recs.
5	Neily, T.H. & Pepper, C. 2020. Nova Scotia SMP lichen surveys 2020. Mersey Tobeatic Research Institute.
3	iNaturalist. 2020. iNaturalist Data Export 2020. iNaturalist.org and iNaturalist.ca, Web site: 128728 recs.
3	LaPaix, R.W.; Crowell, M.J.; MacDonald, M.; Neily, T.D.; Quinn, G. 2017. Stantec Nova Scotia rare plant records, 2012-2016. Stantec Consulting.
3	Neily, T.H. 2017. Nova Scotia lichen records. Mersey Tobeatic Research Institute.
2	Pepper, C. 2021. Rare bird, plant and mammal observations in Nova Scotia, 2017-2021.
1	Benjamin, L.K. (compiler). 2001. Significant Habitat & Species Database. Nova Scotia Dept of Natural Resources, 15 spp, 224 recs.
1	Nova Scotia Dept Natural Resources, Forestry Branch. 2007. Restricted & Limited Use Land Database (RLUL). , http://www.gov.ns.ca/natr/FORESTRY/rlul/downloadrlul.htm.
1	Pronych, G. & Wilson, A. 1993. Atlas of Rare Vascular Plants in Nova Scotia. Nova Scotia Museum, Halifax NS, I:1-168, II:169-331. 1446 recs.

5.0 RARE SPECIES WITHIN 100 KM

A 100 km buffer around the study area contains 22864 records of 134 vertebrate and 580 records of 50 invertebrate fauna; 4672 records of 228 vascular and 3338 records of 121 nonvascular flora (attached: *ob100km.xls).

Taxa within 100 km of the study site that are rare and/or endangered in the province in which the study site occurs (including “location-sensitive” species). All ranks correspond to the province in which the study site falls, even for out-of-province records. Taxa are listed in order of concern, beginning with legally listed taxa, with the number of observations per taxon and the distance in kilometers from study area centroid to the closest observation (± the precision, in km, of the record).

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Myotis lucifugus*	Little Brown Myotis	Endangered	Endangered	Endangered	S1	60	11.0 ± 0.0	NS
A	*Salmo salar pop. 4*	Atlantic Salmon - Eastern Cape Breton population	Endangered			S1	32	20.6 ± 0.0	NS
A	*Salmo salar pop. 6*	Atlantic Salmon - Nova Scotia Southern Upland population	Endangered			S1	28	13.7 ± 1.0	NS
A	*Eubalaena glacialis*	North Atlantic Right Whale	Endangered	Endangered		S1	1	78.6 ± 1.0	NS
A	*Charadrius melodus melodus*	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	794	14.9 ± 0.0	NS
A	*Sterna dougallii*	Roseate Tern	Endangered	Endangered	Endangered	S1B	71	33.7 ± 7.0	NS
A	*Dermochelys coriacea pop. 2*	Leatherback Sea Turtle - Atlantic population	Endangered	Endangered		S1S2N	2	11.5 ± 0.0	NS
A	*Antrostomus vociferus*	Eastern Whip-Poor-Will	Threatened	Threatened	Threatened	S1?B	3	39.7 ± 7.0	NS
A	*Catharus bicknelli*	Bicknell's Thrush	Threatened	Threatened	Endangered	S1B	7	47.1 ± 7.0	NS
A	*Asio flammeus*	Short-eared Owl	Threatened	Special Concern		S1B	5	41.9 ± 0.0	NS
A	*Glyptemys insculpta*	Wood Turtle	Threatened	Threatened	Threatened	S2	3889	12.5 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	*Riparia riparia*	Bank Swallow	Threatened	Threatened	Endangered	S2B	709	4.1 ± 7.0	NS
A	*Chaetura pelagica*	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S1M	564	20.1 ± 7.0	NS
A	*Limosa haemastica*	Hudsonian Godwit	Threatened			S2S3M	7	36.3 ± 0.0	NS
A	*Acipenser oxyrinchus*	Atlantic Sturgeon	Threatened			S2S3N	1	98.6 ± 0.0	NS
A	*Hydrobates leucorhous*	Leach's Storm-Petrel	Threatened			S3B	55	11.3 ± 0.0	NS
A	*Tringa flavipes*	Lesser Yellowlegs	Threatened			S3M	264	16.2 ± 0.0	NS
A	*Anguilla rostrata*	American Eel	Threatened			S3N	1	52.1 ± 0.0	NS
A	*Sturnella magna*	Eastern Meadowlark	Threatened	Threatened		SHB	2	33.7 ± 7.0	NS
A	*Hylocichla mustelina*	Wood Thrush	Threatened	Threatened		SUB	10	17.1 ± 7.0	NS
A	*Salmo salar pop. 12*	Atlantic Salmon - Gaspe - Southern Gulf of St. Lawrence population	Special Concern			S1	23	11.7 ± 1.0	NS
A	*Passerculus sandwichensis princeps*	Ipswich Sparrow	Special Concern	Special Concern		S1B	2	55.2 ± 7.0	NS
A	*Bucephala islandica*	Barrow's Goldeneye	Special Concern	Special Concern		S1N,SUM	5	87.8 ± 4.0	NS
A	*Euphagus carolinus*	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2B	212	4.1 ± 7.0	NS
A	*Balaenoptera physalus*	Fin Whale	Special Concern	Special Concern		S2S3	2	75.5 ± 0.0	NS
A	*Morone saxatilis pop. 1*	Striped Bass - Southern Gulf of St. Lawrence population	Special Concern			S2S3N	1	36.1 ± 1.0	NS
A	*Histrionicus histrionicus pop. 1*	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S2S3N,SUM	30	25.7 ± 16.0	NS
A	*Chelydra serpentina*	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	76	29.8 ± 0.0	NS
A	*Hirundo rustica*	Barn Swallow	Special Concern	Threatened	Endangered	S3B	804	4.1 ± 7.0	NS
A	*Cardellina canadensis*	Canada Warbler	Special Concern	Threatened	Endangered	S3B	592	1.9 ± 0.0	NS
A	*Chordeiles minor*	Common Nighthawk	Special Concern	Threatened	Threatened	S3B	225	2.2 ± 0.0	NS
A	*Contopus cooperi*	Olive-sided Flycatcher	Special Concern	Threatened	Threatened	S3B	988	4.1 ± 7.0	NS
A	*Dolichonyx oryzivorus*	Bobolink	Special Concern	Threatened	Vulnerable	S3B	399	4.1 ± 7.0	NS
A	*Coccothraustes vespertinus*	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N,S3M	609	4.1 ± 7.0	NS
A	*Podiceps auritus*	Horned Grebe	Special Concern	Special Concern		S3N,SUM	7	23.4 ± 0.0	NS
A	*Contopus virens*	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	485	4.1 ± 7.0	NS
A	*Phocoena phocoena*	Harbour Porpoise	Special Concern			S4	1	11.8 ± 0.0	NS
A	*Chrysemys picta picta*	Eastern Painted Turtle	Special Concern	Special Concern		S4	2	45.7 ± 1.0	NS
A	*Fulica americana*	American Coot	Not At Risk			S1B	1	69.8 ± 0.0	NS
A	*Chlidonias niger*	Black Tern	Not At Risk			S1B	3	24.5 ± 0.0	NS
A	*Falco peregrinus pop. 1*	Peregrine Falcon - anatum/tundrius	Not At Risk	Special Concern	Vulnerable	S1B,SUM	5	11.9 ± 7.0	NS
A	*Sorex dispar*	Long-tailed Shrew	Not At Risk			S2	4	61.6 ± 0.0	NS
A	*Aegolius funereus*	Boreal Owl	Not At Risk			S2?B,SUM	7	22.1 ± 0.0	NS
A	*Lynx canadensis*	Canada Lynx	Not At Risk		Endangered	S2S3	34	30.7 ± 1.0	NS
A	*Hemidactylium scutatum*	Four-toed Salamander	Not At Risk			S3	19	6.1 ± 0.0	NS
A	*Megaptera novaeangliae*	Humpback Whale	Not At Risk			S3	2	11.8 ± 0.0	NS
A	*Sterna hirundo*	Common Tern	Not At Risk			S3B	518	11.1 ± 7.0	NS
A	*Sialia sialis*	Eastern Bluebird	Not At Risk			S3B	17	4.1 ± 7.0	NS
A	*Buteo lagopus*	Rough-legged Hawk	Not At Risk			S3N	6	12.1 ± 4.0	NS
A	*Accipiter gentilis*	Northern Goshawk	Not At Risk			S3S4	146	4.4 ± 0.0	NS
A	*Lagenorhynchus acutus*	Atlantic White-sided Dolphin	Not At Risk			S3S4	4	11.8 ± 0.0	NS
A	*Ammospiza nelsoni*	Nelson's Sparrow	Not At Risk			S3S4B	103	11.1 ± 7.0	NS
A	*Calidris canutus rufa*	Red Knot rufa subspecies - Tierra del Fuego / Patagonia wintering population	E,SC	Endangered	Endangered	S2M	20	23.5 ± 0.0	NS
A	*Morone saxatilis*	Striped Bass	E,SC			S2S3B,S2S3N	5	36.1 ± 0.0	NS
A	*Alces alces americana*	Moose			Endangered	S1	105	36.2 ± 0.0	NS
A	*Picoides dorsalis*	American Three-toed Woodpecker				S1?	7	28.6 ± 0.0	NS
A	*Uria aalge*	Common Murre				S1?B	1	48.7 ± 0.0	NS
A	*Passerina cyanea*	Indigo Bunting				S1?B,SUM	4	21.6 ± 0.0	NS
A	*Nycticorax nycticorax*	Black-crowned Night-heron				S1B	2	39.7 ± 7.0	NS

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A	*Oxyura jamaicensis*	Ruddy Duck				S1B	3	43.9 ± 0.0	NS
A	*Myiarchus crinitus*	Great Crested Flycatcher				S1B	1	78.9 ± 3.0	NS
A	*Mimus polyglottos*	Northern Mockingbird				S1B	20	11.1 ± 7.0	NS
A	*Toxostoma rufum*	Brown Thrasher				S1B	4	22.7 ± 0.0	NS
A	*Charadrius semipalmatus*	Semipalmated Plover				S1B,S4M	291	16.0 ± 0.0	NS
A	*Calidris minutilla*	Least Sandpiper				S1B,S4M	168	14.8 ± 0.0	NS
A	*Anas acuta*	Northern Pintail				S1B,SUM	6	29.8 ± 1.0	NS
A	*Vireo gilvus*	Warbling Vireo				S1B,SUM	6	25.8 ± 7.0	NS
A	*Vespertilionidae sp.*	bat species				S1S2	90	10.2 ± 0.0	NS
A	*Pooecetes gramineus*	Vesper Sparrow				S1S2B,SUM	7	25.8 ± 7.0	NS
A	*Microtus chrotorrhinus*	Rock Vole				S2	10	61.6 ± 0.0	NS
A	*Vireo philadelphicus*	Philadelphia Vireo				S2?B,SUM	12	36.2 ± 0.0	NS
A	*Alca torda*	Razorbill				S2B	10	69.0 ± 0.0	NS
A	*Fratercula arctica*	Atlantic Puffin				S2B	8	49.6 ± 0.0	NS
A	*Empidonax traillii*	Willow Flycatcher				S2B	8	35.6 ± 7.0	NS
A	*Molothrus ater*	Brown-headed Cowbird				S2B	49	18.6 ± 7.0	NS
A	*Spatula clypeata*	Northern Shoveler				S2B,SUM	2	53.9 ± 0.0	NS
A	*Mareca strepera*	Gadwall				S2B,SUM	2	26.2 ± 7.0	NS
A	*Piranga olivacea*	Scarlet Tanager				S2B,SUM	10	53.4 ± 0.0	NS
A	*Calidris alba*	Sanderling				S2N,S3M	134	28.6 ± 0.0	NS
A	*Martes americana*	American Marten			Endangered	S2S3	6	65.2 ± 1.0	NS
A	*Asio otus*	Long-eared Owl				S2S3	26	11.9 ± 7.0	NS
A	*Rallus limicola*	Virginia Rail				S2S3B	10	13.3 ± 0.0	NS
A	*Rissa tridactyla*	Black-legged Kittiwake				S2S3B	8	11.1 ± 3.0	NS
A	*Petrochelidon pyrrhonota*	Cliff Swallow				S2S3B	188	11.1 ± 7.0	NS
A	*Phalacrocorax carbo*	Great Cormorant				S2S3B,S2S3N	144	11.1 ± 3.0	NS
A	*Cathartes aura*	Turkey Vulture				S2S3B,S4S5M	2	48.3 ± 0.0	NS
A	*Setophaga pinus*	Pine Warbler				S2S3B,S4S5M	3	12.0 ± 0.0	NS
A	*Bucephala clangula*	Common Goldeneye				S2S3B,S5N,S5M	182	6.0 ± 7.0	NS
A	*Icterus galbula*	Baltimore Oriole				S2S3B,SUM	31	11.9 ± 7.0	NS
A	*Pluvialis dominica*	American Golden-Plover				S2S3M	27	36.3 ± 0.0	NS
A	*Numenius phaeopus hudsonicus*	Whimbrel				S2S3M	69	36.3 ± 0.0	NS
A	*Perisoreus canadensis*	Canada Jay				S3	560	4.1 ± 7.0	NS
A	*Poecile hudsonicus*	Boreal Chickadee				S3	1189	1.4 ± 0.0	NS
A	*Spinus pinus*	Pine Siskin				S3	478	4.1 ± 7.0	NS
A	*Salvelinus fontinalis*	Brook Trout				S3	54	19.6 ± 0.0	NS
A	*Synaptomys cooperi*	Southern Bog Lemming				S3	4	61.6 ± 0.0	NS
A	*Pekania pennanti*	Fisher				S3	6	41.1 ± 0.0	NS
A	*Calcarius lapponicus*	Lapland Longspur				S3?N,SUM	1	37.5 ± 0.0	NS
A	*Spatula discors*	Blue-winged Teal				S3B	98	15.9 ± 7.0	NS
A	*Charadrius vociferus*	Killdeer				S3B	199	4.1 ± 7.0	NS
A	*Tringa semipalmata*	Willet				S3B	632	11.1 ± 7.0	NS
A	*Sterna paradisaea*	Arctic Tern				S3B	98	18.2 ± 7.0	NS
A	*Coccyzus erythropthalmus*	Black-billed Cuckoo				S3B	54	17.1 ± 7.0	NS
A	*Tyrannus tyrannus*	Eastern Kingbird				S3B	98	4.1 ± 7.0	NS
A	*Pheucticus ludovicianus*	Rose-breasted Grosbeak				S3B	342	4.1 ± 7.0	NS
A	*Alosa pseudoharengus*	Alewife				S3B	33	24.3 ± 0.0	NS
A	*Somateria mollissima*	Common Eider				S3B,S3M,S3N	496	11.3 ± 0.0	NS
A	*Tringa melanoleuca*	Greater Yellowlegs				S3B,S4M	342	11.4 ± 0.0	NS
A	*Falco sparverius*	American Kestrel				S3B,S4S5M	296	4.1 ± 7.0	NS
A	*Gallinago delicata*	Wilson's Snipe				S3B,S5M	604	4.1 ± 7.0	NS
A	*Setophaga striata*	Blackpoll Warbler				S3B,S5M	118	11.1 ± 7.0	NS
A	*Cardellina pusilla*	Wilson's Warbler				S3B,S5M	144	11.6 ± 0.0	NS

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A	*Pinicola enucleator*	Pine Grosbeak				S3B,S5N,S5M	156	4.1 ± 7.0	NS
A	*Setophaga tigrina*	Cape May Warbler				S3B,SUM	159	4.1 ± 7.0	NS
A	*Branta bernicla*	Brant				S3M	1	25.7 ± 16.0	NS
A	*Pluvialis squatarola*	Black-bellied Plover				S3M	216	16.2 ± 0.0	NS
A	*Arenaria interpres*	Ruddy Turnstone				S3M	102	11.9 ± 0.0	NS
A	*Calidris pusilla*	Semipalmated Sandpiper				S3M	228	16.2 ± 0.0	NS
A	*Calidris melanotos*	Pectoral Sandpiper				S3M	30	37.1 ± 0.0	NS
A	*Limnodromus griseus*	Short-billed Dowitcher				S3M	131	37.1 ± 0.0	NS
A	*Chroicocephalus ridibundus*	Black-headed Gull				S3N	22	40.3 ± 0.0	NS
A	*Picoides arcticus*	Black-backed Woodpecker				S3S4	107	6.0 ± 7.0	NS
A	*Loxia curvirostra*	Red Crossbill				S3S4	97	2.6 ± 0.0	NS
A	*Botaurus lentiginosus*	American Bittern				S3S4B,S4S5M	212	8.1 ± 0.0	NS
A	*Setophaga castanea*	Bay-breasted Warbler				S3S4B,S4S5M	417	1.2 ± 0.0	NS
A	*Actitis macularius*	Spotted Sandpiper				S3S4B,S5M	756	4.1 ± 7.0	NS
A	*Leiothlypis peregrina*	Tennessee Warbler				S3S4B,S5M	427	4.1 ± 7.0	NS
A	*Passerella iliaca*	Fox Sparrow				S3S4B,S5M	151	4.1 ± 7.0	NS
A	*Mergus serrator*	Red-breasted Merganser				S3S4B,S5M,S5N	182	6.0 ± 7.0	NS
A	*Calidris maritima*	Purple Sandpiper				S3S4N	30	13.8 ± 10.0	NS
A	*Lanius borealis*	Northern Shrike				S3S4N	8	48.8 ± 1.0	NS
A	*Morus bassanus*	Northern Gannet				SHB	60	12.3 ± 0.0	NS
A	*Leucophaeus atricilla*	Laughing Gull				SHB	4	40.7 ± 0.0	NS
A	*Progne subis*	Purple Martin				SHB	4	49.6 ± 0.0	NS
I	*Bombus bohemicus*	Ashton Cuckoo Bumble Bee	Endangered	Endangered	Endangered	S1	9	37.1 ± 5.0	NS
I	*Danaus plexippus*	Monarch	Endangered	Special Concern	Endangered	S2?B,S3M	62	18.2 ± 0.0	NS
I	*Alasmidonta varicosa*	Brook Floater	Special Concern	Special Concern	Threatened	S3	8	19.4 ± 0.0	NS
I	*Bombus terricola*	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	87	34.4 ± 0.0	NS
I	*Coccinella transversoguttata richardsoni*	Transverse Lady Beetle	Special Concern		Endangered	SH	1	59.2 ± 2.0	NS
I	*Papilio brevicauda bretonensis*	Short-tailed Swallowtail				S1	4	82.2 ± 2.0	NS
I	*Polygonia satyrus*	Satyr Comma				S1?	1	80.4 ± 2.0	NS
I	*Euphyes bimacula*	Two-spotted Skipper				S1S2	2	41.9 ± 0.0	NS
I	*Boloria chariclea*	Arctic Fritillary				S1S2	2	86.2 ± 2.0	NS
I	*Haematopota rara*	Shy Cleg				S1S3	1	60.8 ± 0.0	NS
I	*Tharsalea dorcas*	Dorcas Copper				S2	31	44.4 ± 0.0	NS
I	*Tharsalea dospassosi*	Maritime Copper				S2	1	57.5 ± 0.0	NS
I	*Satyrium acadica*	Acadian Hairstreak				S2	4	98.3 ± 2.0	NS
I	*Neurocordulia michaeli*	Broad-tailed Shadowdragon				S2	26	55.8 ± 0.0	NS
I	*Somatochlora septentrionalis*	Muskeg Emerald				S2	8	84.3 ± 0.0	NS
I	*Margaritifera margaritifera*	Eastern Pearlshell				S2	86	11.9 ± 0.0	NS
I	*Pantala hymenaea*	Spot-Winged Glider				S2?B	2	62.3 ± 1.0	NS
I	*Nymphalis l-album*	Compton Tortoiseshell				S2S3	2	86.2 ± 2.0	NS
I	*Aglais milberti*	Milbert's Tortoiseshell				S2S3	3	83.5 ± 2.0	NS
I	*Lanthus vernalis*	Southern Pygmy Clubtail				S2S3	8	42.7 ± 0.0	NS
I	*Somatochlora williamsoni*	Williamson's Emerald				S2S3	8	88.3 ± 0.0	NS
I	*Alasmidonta undulata*	Triangle Floater				S2S3	5	36.3 ± 0.0	NS
I	*Naemia seriata*	Seaside Lady Beetle				S3	1	41.6 ± 0.0	NS
I	*Iphthiminus opacus*	Cloudy Darkling Beetle				S3	1	45.8 ± 0.0	NS
I	*Monochamus marmorator*	Balsam Fir Sawyer				S3	2	56.7 ± 0.0	NS
I	*Satyrium calanus*	Banded Hairstreak				S3	1	91.4 ± 2.0	NS
I	*Callophrys lanoraieensis*	Bog Elfin				S3	1	95.0 ± 1.0	NS
I	*Strymon melinus*	Gray Hairstreak				S3	2	41.2 ± 1.0	NS
I	*Phanogomphus descriptus*	Harpoon Clubtail				S3	16	28.6 ± 0.0	NS
I	*Ophiogomphus aspersus*	Brook Snaketail				S3	5	28.6 ± 0.0	NS
I	*Ophiogomphus mainensis*	Maine Snaketail				S3	14	52.4 ± 0.0	NS

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I	*Ophiogomphus rupinsulensis*	Rusty Snaketail				S3	36	55.7 ± 0.0	NS
I	*Somatochlora forcipata*	Forcipate Emerald				S3	7	76.4 ± 1.0	NS
I	*Enallagma vernale*	Vernal Bluet				S3	8	23.7 ± 0.0	NS
I	*Polygonia interrogationis*	Question Mark				S3B	25	33.6 ± 0.0	NS
I	*Cecropterus pylades*	Northern Cloudywing				S3S4	22	26.9 ± 0.0	NS
I	*Amblyscirtes hegon*	Pepper and Salt Skipper				S3S4	8	39.3 ± 1.0	NS
I	*Cupido comyntas*	Eastern Tailed Blue				S3S4	1	95.6 ± 0.0	NS
I	*Argynnis aphrodite*	Aphrodite Fritillary				S3S4	7	37.3 ± 2.0	NS
I	*Polygonia faunus*	Green Comma				S3S4	16	37.7 ± 0.0	NS
I	*Oeneis jutta*	Jutta Arctic				S3S4	7	40.2 ± 0.0	NS
I	*Aeshna clepsydra*	Mottled Darner				S3S4	3	16.2 ± 0.0	NS
I	*Aeshna constricta*	Lance-Tipped Darner				S3S4	1	98.1 ± 1.0	NS
I	*Boyeria grafiana*	Ocellated Darner				S3S4	7	58.7 ± 0.0	NS
I	*Gomphaeschna furcillata*	Harlequin Darner				S3S4	3	16.5 ± 0.0	NS
I	*Nannothemis bella*	Elfin Skimmer				S3S4	3	16.5 ± 0.0	NS
I	*Sympetrum danae*	Black Meadowhawk				S3S4	8	24.2 ± 0.0	NS
I	*Amphiagrion saucium*	Eastern Red Damsel				S3S4	11	45.5 ± 0.0	NS
I	*Icaricia saepiolus*	Greenish Blue				SH	1	91.7 ± 2.0	NS
I	*Polygonia gracilis*	Hoary Comma				SH	2	83.5 ± 2.0	NS
N	*Erioderma mollissimum*	Graceful Felt Lichen	Endangered	Endangered	Endangered	S1	47	75.2 ± 0.0	NS
N	*Erioderma pedicellatum (Atlantic pop.)*	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	585	22.9 ± 0.0	NS
N	*Peltigera hydrothyria*	Eastern Waterfan	Threatened	Threatened	Threatened	S1	72	13.9 ± 0.0	NS
N	*Pannaria lurida*	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S2S3	179	44.4 ± 0.0	NS
N	*Anzia colpodes*	Black-foam Lichen	Threatened	Threatened	Threatened	S3	8	68.7 ± 1.0	NS
N	*Fuscopannaria leucosticta*	White-rimmed Shingle Lichen	Threatened			S3	2	95.3 ± 0.0	NS
N	*Pectenia plumbea*	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	533	0.6 ± 0.0	NS
N	*Sclerophora peronella (Atlantic pop.)*	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern		S3S4	15	6.5 ± 0.0	NS
N	*Pseudevernia cladonia*	Ghost Antler Lichen	Not At Risk			S2S3	3	34.7 ± 0.0	NS
N	*Fissidens exilis*	Pygmy Pocket Moss	Not At Risk			S3	7	28.5 ± 0.0	NS
N	*Chaenotheca servitii*	Flexuous Golden Stubble	Data Deficient			S1	1	99.1 ± 1.0	NS
N	*Cinclidium stygium*	Sooty Cupola Moss				S1	2	48.3 ± 0.0	NS
N	*Cyrto-hypnum minutulum*	Tiny Cedar Moss				S1	1	99.0 ± 0.0	NS
N	*Cladonia brevis*	Short Peg Lichen				S1	1	61.4 ± 0.0	NS
N	*Lathagrium cristatum*	Fingered Jelly Lichen				S1	1	64.9 ± 0.0	NS
N	*Polychidium muscicola*	Eyed Mossthorns Woollybear Lichen				S1	1	12.7 ± 0.0	NS
N	*Sticta limbata*	Powdered Moon Lichen				S1	2	40.5 ± 2.0	NS
N	*Dermatocarpon miniatum*	Common Stippleback Lichen				S1	1	94.1 ± 0.0	NS
N	*Peltigera lepidophora*	Scaly Pelt Lichen				S1	2	64.9 ± 0.0	NS
N	*Hypogymnia hultenii*	Powdered Honeycomb Lichen				S1	19	34.9 ± 0.0	NS
N	*Eocalypogeia schusteriana*	Schuster's Pouchwort				S1?	2	89.0 ± 0.0	NS
N	*Brachythecium erythrorrhizon*	Taiga Ragged Moss				S1?	4	89.3 ± 0.0	NS
N	*Conardia compacta*	Coast Creeping Moss				S1?	2	59.6 ± 2.0	NS
N	*Oligotrichum hercynicum*	Hercynian Hair Moss				S1?	3	70.8 ± 0.0	NS
N	*Paludella squarrosa*	Tufted Fen Moss				S1?	1	84.7 ± 5.0	NS
N	*Peltigera malacea*	Veinless Pelt Lichen				S1?	1	34.7 ± 0.0	NS
N	*Buxbaumia minakatae*	Hump-Backed Elves				S1S2	1	89.1 ± 100.0	NS
N	*Hamatocaulis vernicosus*	a Moss				S1S2	1	50.9 ± 0.0	NS
N	*Enchylium bachmanianum*	Bachman's Jelly Lichen				S1S2	1	70.8 ± 0.0	NS
N	*Cladonia labradorica*	Labrador Lichen				S1S2	1	34.0 ± 0.0	NS
N	*Parmeliella parvula*	Poor-man's Shingles Lichen				S1S2	17	23.1 ± 0.0	NS
N	*Barbilophozia lycopodioides*	Greater Pawwort				S1S3	1	70.1 ± 0.0	NS
N	*Odontoschisma sphagni*	Bog-Moss Flapwort				S1S3	1	85.1 ± 0.0	NS

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N	*Peltigera neckeri*	Black-saddle Pelt Lichen				S1S3	4	41.4 ± 0.0	NS
N	*Anacamptodon splachnoides*	a Moss				S2	1	4.3 ± 0.0	NS
N	*Scorpidium scorpioides*	Hooked Scorpion Moss				S2	11	43.5 ± 0.0	NS
N	*Sphagnum platyphyllum*	Flat-leaved Peat Moss				S2	4	44.0 ± 0.0	NS
N	*Sphagnum subnitens*	Lustrous Peat Moss				S2	2	64.8 ± 0.0	NS
N	*Scorpidium cossonii*	CossonΓÇÖs Hook Moss				S2	6	44.3 ± 0.0	NS
N	*Scytinium imbricatum*	Scaly Jellyskin Lichen				S2	1	70.5 ± 0.0	NS
N	*Nephroma arcticum*	Arctic Kidney Lichen				S2	2	69.4 ± 0.0	NS
N	*Nephroma resupinatum*	a lichen				S2	1	26.1 ± 0.0	NS
N	*Riccardia multifida*	Delicate Germanderwort				S2?	1	56.7 ± 0.0	NS
N	*Anomodon viticulosus*	a Moss				S2?	1	59.3 ± 0.0	NS
N	*Atrichum angustatum*	Lesser Smoothcap Moss				S2?	2	41.8 ± 3.0	NS
N	*Drepanocladus polygamus*	Polygamous Hook Moss				S2?	2	62.5 ± 0.0	NS
N	*Pseudocampylium radicale*	Long-stalked Fine Wet Moss				S2?	1	43.5 ± 0.0	NS
N	*Fontinalis sullivantii*	Sullivant's Water Moss				S2?	1	89.1 ± 100.0	NS
N	*Philonotis marchica*	a Moss				S2?	1	89.8 ± 0.0	NS
N	*Platydictya jungermannioides*	False Willow Moss				S2?	3	38.5 ± 0.0	NS
N	*Tortella fragilis*	Fragile Twisted Moss				S2?	7	60.4 ± 0.0	NS
N	*Cyrtomnium hymenophylloides*	Short-pointed Lantern Moss				S2?	1	91.2 ± 0.0	NS
N	*Scorpidium revolvens*	Limprichtia Moss				S2S3	7	43.7 ± 0.0	NS
N	*Moelleropsis nebulosa*	Blue-gray Moss Shingle Lichen				S2S3	33	34.0 ± 0.0	NS
N	*Moelleropsis nebulosa ssp. frullaniae*	Blue-gray Moss Shingle Lichen				S2S3	1	79.3 ± 0.0	NS
N	*Ramalina thrausta*	Angelhair Ramalina Lichen				S2S3	10	9.0 ± 0.0	NS
N	*Collema leptaleum*	Crumpled Bat's Wing Lichen				S2S3	158	44.4 ± 0.0	NS
N	*Usnea rubicunda*	Red Beard Lichen				S2S3	3	41.4 ± 0.0	NS
N	*Ahtiana aurescens*	Eastern Candlewax Lichen				S2S3	3	76.2 ± 6.0	NS
N	*Cetraria muricata*	Spiny Heath Lichen				S2S3	2	38.3 ± 1.0	NS
N	*Cladonia incrassata*	Powder-foot British Soldiers Lichen				S2S3	1	77.9 ± 0.0	NS
N	*Scytinium tenuissimum*	Birdnest Jellyskin Lichen				S2S3	13	38.0 ± 0.0	NS
N	*Parmelia fertilis*	Fertile Shield Lichen				S2S3	5	45.4 ± 0.0	NS
N	*Parmeliopsis ambigua*	Green Starburst Lichen				S2S3	4	37.4 ± 0.0	NS
N	*Usnea mutabilis*	Bloody Beard Lichen				S2S3	1	42.5 ± 0.0	NS
N	*Fuscopannaria sorediata*	a Lichen				S2S3	10	12.6 ± 0.0	NS
N	*Stereocaulon condensatum*	Granular Soil Foam Lichen				S2S3	4	59.0 ± 0.0	NS
N	*Cladonia coccifera*	Eastern Boreal Pixie-cup Lichen				S2S3	4	41.1 ± 0.0	NS
N	*Fissidens taxifolius*	Yew-leaved Pocket Moss				S3	2	59.3 ± 0.0	NS
N	*Anomodon tristis*	a Moss				S3	1	86.2 ± 0.0	NS
N	*Sphagnum contortum*	Twisted Peat Moss				S3	6	42.9 ± 0.0	NS
N	*Tetraplodon angustatus*	Toothed-leaved Nitrogen Moss				S3	2	6.6 ± 0.0	NS
N	*Tetraplodon mnioides*	Entire-leaved Nitrogen Moss				S3	1	44.7 ± 0.0	NS
N	*Rostania occultata*	Crusted Tarpaper Lichen				S3	4	56.9 ± 5.0	NS
N	*Collema nigrescens*	Blistered Tarpaper Lichen				S3	2	90.4 ± 0.0	NS
N	*Solorina saccata*	Woodland Owl Lichen				S3	7	13.2 ± 0.0	NS
N	*Fuscopannaria ahlneri*	Corrugated Shingles Lichen				S3	77	14.7 ± 0.0	NS
N	*Heterodermia squamulosa*	Scaly Fringe Lichen				S3	6	79.0 ± 0.0	NS
N	*Scytinium lichenoides*	Tattered Jellyskin Lichen				S3	13	12.9 ± 0.0	NS
N	*Leptogium milligranum*	Stretched Jellyskin Lichen				S3	1	34.0 ± 0.0	NS
N	*Nephroma bellum*	Naked Kidney Lichen				S3	10	50.4 ± 1.0	NS
N	*Placynthium nigrum*	Common Ink Lichen				S3	1	85.3 ± 10.0	NS
N	*Platismatia norvegica*	Oldgrowth Rag Lichen				S3	143	29.5 ± 0.0	NS
N	*Viridothelium virens*					S3	1	76.5 ± 5.0	NS

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N	*Ephebe lanata*	Waterside Rockshag Lichen				S3	1	6.6 ± 0.0	NS
N	*Phaeophyscia pusilloides*	Pompom-tipped Shadow Lichen				S3	5	51.9 ± 0.0	NS
N	*Peltigera collina*	Tree Pelt Lichen				S3	90	6.4 ± 0.0	NS
N	*Cladonia pocillum*	Rosette Pixie-cup Lichen				S3	1	89.0 ± 0.0	NS
N	*Calliergon giganteum*	Giant Spear Moss				S3?	3	62.9 ± 0.0	NS
N	*Mnium stellare*	Star Leafy Moss				S3?	2	89.3 ± 0.0	NS
N	*Sphagnum lindbergii*	Lindberg's Peat Moss				S3?	4	39.1 ± 0.0	NS
N	*Sphagnum riparium*	Streamside Peat Moss				S3?	2	70.8 ± 0.0	NS
N	*Cladonia stygia*	Black-footed Reindeer Lichen				S3?	4	59.4 ± 0.0	NS
N	*Dicranum leioneuron*	a Dicranum Moss				S3S4	1	33.2 ± 0.0	NS
N	*Encalypta ciliata*	Fringed Extinguisher Moss				S3S4	1	12.6 ± 2.0	NS
N	*Encalypta procera*	Slender Extinguisher Moss				S3S4	7	37.7 ± 0.0	NS
N	*Splachnum ampullaceum*	Cruet Dung Moss				S3S4	2	59.9 ± 0.0	NS
N	*Thamnobryum alleghaniense*	a Moss				S3S4	26	83.6 ± 0.0	NS
N	*Schistidium agassizii*	Elf Bloom Moss				S3S4	1	59.1 ± 3.0	NS
N	*Hylocomiastrum pyrenaicum*	a Feather Moss				S3S4	1	74.9 ± 3.0	NS
N	*Enchylium tenax*	Soil Tarpaper Lichen				S3S4	5	48.0 ± 0.0	NS
N	*Sticta fuliginosa*	Peppered Moon Lichen				S3S4	20	30.8 ± 0.0	NS
N	*Arctoparmelia incurva*	Finger Ring Lichen				S3S4	15	46.0 ± 0.0	NS
N	*Scytinium teretiusculum*	Curly Jellyskin Lichen				S3S4	4	38.7 ± 0.0	NS
N	*Leptogium acadiense*	Acadian Jellyskin Lichen				S3S4	40	34.0 ± 0.0	NS
N	*Scytinium subtile*	Appressed Jellyskin Lichen				S3S4	8	45.1 ± 0.0	NS
N	*Chaenotheca brachypoda*	a stubble lichen				S3S4	1	81.5 ± 1.0	NS
N	*Cladonia floerkeana*	Gritty British Soldiers Lichen				S3S4	1	61.7 ± 0.0	NS
N	*Vahliella leucophaea*	Shelter Shingle Lichen				S3S4	31	33.1 ± 0.0	NS
N	*Heterodermia speciosa*	Powdered Fringe Lichen				S3S4	26	41.8 ± 0.0	NS
N	*Leptogium corticola*	Blistered Jellyskin Lichen				S3S4	17	60.4 ± 0.0	NS
N	*Melanohalea olivacea*	Spotted Camouflage Lichen				S3S4	4	74.4 ± 0.0	NS
N	*Parmeliopsis hyperopta*	Gray Starburst Lichen				S3S4	1	37.4 ± 0.0	NS
N	*Parmotrema perlatum*	Powdered Ruffle Lichen				S3S4	1	79.1 ± 0.0	NS
N	*Peltigera hymenina*	Cloudy Pelt Lichen				S3S4	2	27.6 ± 0.0	NS
N	*Sphaerophorus fragilis*	Fragile Coral Lichen				S3S4	1	47.0 ± 0.0	NS
N	*Coccocarpia palmicola*	Salted Shell Lichen				S3S4	763	23.1 ± 0.0	NS
N	*Physcia tenella*	Fringed Rosette Lichen				S3S4	1	81.4 ± 3.0	NS
N	*Anaptychia palmulata*	Shaggy Fringed Lichen				S3S4	72	28.5 ± 0.0	NS
N	*Evernia prunastri*	Valley Oakmoss Lichen				S3S4	6	34.9 ± 0.0	NS
N	*Heterodermia neglecta*	Fringe Lichen				S3S4	62	8.3 ± 0.0	NS
P	*Fraxinus nigra*	Black Ash	Threatened		Threatened	S1S2	134	6.6 ± 0.0	NS
P	*Juncus caesariensis*	New Jersey Rush	Special Concern	Special Concern	Vulnerable	S3	190	58.9 ± 0.0	NS
P	*Floerkea proserpinacoides*	False Mermaidweed	Not At Risk			S2S3	22	21.8 ± 0.0	NS
P	*Salix candida*	Sage Willow			Endangered	S1	47	67.3 ± 0.0	NS
P	*Arnica lonchophylla*	Northern Arnica				S1	1	37.4 ± 7.0	NS
P	*Betula minor*	Dwarf White Birch				S1	1	55.4 ± 0.0	NS
P	*Cardamine dentata*	Toothed Bittercress				S1	4	41.6 ± 0.0	NS
P	*Cochlearia tridactylites*	Limestone Scurvy-grass				S1	12	39.5 ± 0.0	NS
P	*Stellaria crassifolia*	Fleshy Stitchwort				S1	1	49.4 ± 2.0	NS
P	*Hudsonia tomentosa*	Woolly Beach-heath				S1	6	28.4 ± 1.0	NS
P	*Bistorta vivipara*	Alpine Bistort				S1	1	47.4 ± 1.0	NS
P	*Montia fontana*	Water Blinks				S1	2	12.0 ± 3.0	NS
P	*Agalinis tenuifolia*	Slender Agalinis				S1	1	54.9 ± 0.0	NS
P	*Scrophularia lanceolata*	Lance-leaved Figwort				S1	2	12.9 ± 1.0	NS
P	*Carex alopecoidea*	Foxtail Sedge				S1	2	26.3 ± 0.0	NS
P	*Carex granularis*	Limestone Meadow Sedge				S1	21	44.0 ± 0.0	NS
P	*Carex tenuiflora*	Sparse-Flowered Sedge				S1	3	42.0 ± 1.0	NS
P	*Carex tincta*	Tinged Sedge				S1	1	26.3 ± 1.0	NS
P	*Carex viridula ssp.*	Greenish Sedge				S1	1	60.0 ± 0.0	NS

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	brachyrrhyncha								
P	*Carex viridula var. elatior*	Greenish Sedge				S1	58	41.4 ± 0.0	NS
P	*Carex grisea*	Inflated Narrow-leaved Sedge				S1	6	34.8 ± 0.0	NS
P	*Cyperus lupulinus ssp. macilentus*	Hop Flatsedge				S1	15	27.4 ± 0.0	NS
P	*Eleocharis erythropoda*	Red-stemmed Spikerush				S1	4	53.5 ± 0.0	NS
P	*Rhynchospora capillacea*	Slender Beakrush				S1	8	62.4 ± 10.0	NS
P	*Scirpus atrovirens*	Dark-green Bulrush				S1	2	60.0 ± 0.0	NS
P	*Iris prismatica*	Slender Blue Flag				S1	3	51.8 ± 1.0	NS
P	*Triantha glutinosa*	Sticky False-Asphodel				S1	14	67.3 ± 0.0	NS
P	*Malaxis monophyllos var. brachypoda*	North American White Adder's-mouth				S1	1	4.1 ± 7.0	NS
P	*Calamagrostis stricta ssp. inexpansa*	Slim-stemmed Reed Grass				S1	2	34.5 ± 0.0	NS
P	*Elymus hystrix*	Spreading Wild Rye				S1	1	88.1 ± 1.0	NS
P	*Torreyochloa pallida var. pallida*	Pale False Manna Grass				S1	2	99.2 ± 1.0	NS
P	*Potamogeton nodosus*	Long-leaved Pondweed				S1	1	73.2 ± 5.0	NS
P	*Sparganium androcladum*	Branching Bur-Reed				S1	3	43.8 ± 1.0	NS
P	*Dryopteris goldieana*	Goldie's Woodfern				S1	1	84.0 ± 0.0	NS
P	*Equisetum palustre*	Marsh Horsetail				S1	8	55.2 ± 0.0	NS
P	*Solidago hispida*	Hairy Goldenrod				S1?	1	93.0 ± 7.0	NS
P	*Bolboschoenus robustus*	Sturdy Bulrush				S1?	2	83.1 ± 5.0	NS
P	*Allium schoenoprasum*	Wild Chives				S1?	1	98.3 ± 3.0	NS
P	*Allium schoenoprasum var. sibiricum*	Wild Chives				S1?	1	35.9 ± 7.0	NS
P	*Sanicula odorata*	Clustered Sanicle				S1S2	9	36.2 ± 0.0	NS
P	*Ageratina altissima*	White Snakeroot				S1S2	2	35.6 ± 7.0	NS
P	*Cornus suecica*	Swedish Bunchberry				S1S2	2	44.1 ± 0.0	NS
P	*Anemone virginiana var. alba*	Virginia Anemone				S1S2	6	55.3 ± 0.0	NS
P	*Parnassia parviflora*	Small-flowered Grass-of-Parnassus				S1S2	16	59.0 ± 1.0	NS
P	*Carex haydenii*	Hayden's Sedge				S1S2	3	45.3 ± 0.0	NS
P	*Platanthera huronensis*	Fragrant Green Orchid				S1S2	6	47.9 ± 0.0	NS
P	*Calamagrostis stricta ssp. stricta*	Slim-stemmed Reed Grass				S1S2	1	84.8 ± 1.0	NS
P	*Selaginella selaginoides*	Low Spikemoss				S1S2	5	54.8 ± 0.0	NS
P	*Carex vacillans*	Estuarine Sedge				S1S3	3	26.3 ± 0.0	NS
P	*Zizia aurea*	Golden Alexanders				S2	7	27.7 ± 1.0	NS
P	*Rudbeckia laciniata*	Cut-Leaved Coneflower				S2	2	35.6 ± 7.0	NS
P	*Desmodium canadense*	Canada Tick-trefoil				S2	10	92.8 ± 0.0	NS
P	*Anemonastrum canadense*	Canada Anemone				S2	2	15.2 ± 3.0	NS
P	*Ranunculus sceleratus*	Cursed Buttercup				S2	1	84.4 ± 7.0	NS
P	*Comandra umbellata*	Bastard's Toadflax				S2	31	27.0 ± 0.0	NS
P	*Carex gynocrates*	Northern Bog Sedge				S2	16	44.5 ± 0.0	NS
P	*Carex pellita*	Woolly Sedge				S2	7	92.7 ± 0.0	NS
P	*Carex livida*	Livid Sedge				S2	24	31.9 ± 0.0	NS
P	*Juncus greenei*	Greene's Rush				S2	1	28.5 ± 1.0	NS
P	*Juncus alpinoarticulatus ssp. americanus*	Northern Green Rush				S2	11	39.3 ± 1.0	NS
P	*Luzula spicata*	Spiked Woodrush				S2	1	35.0 ± 0.0	NS
P	*Lilium canadense*	Canada Lily				S2	49	22.8 ± 0.0	NS
P	*Cypripedium parviflorum var. pubescens*	Yellow Lady's-slipper				S2	32	10.4 ± 0.0	NS
P	*Cypripedium parviflorum var. makasin*	Small Yellow Lady's-Slipper				S2	17	2.5 ± 0.0	NS

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P	*Cypripedium reginae*	Showy Lady's-Slipper				S2	325	14.7 ± 0.0	NS
P	*Platanthera flava var. herbiola*	Pale Green Orchid				S2	1	10.9 ± 1.0	NS
P	*Bromus latiglumis*	Broad-Glumed Brome				S2	11	22.4 ± 0.0	NS
P	*Cinna arundinacea*	Sweet Wood Reed Grass				S2	24	22.4 ± 0.0	NS
P	*Elymus wiegandii*	Wiegand's Wild Rye				S2	12	24.6 ± 0.0	NS
P	*Sparganium hyperboreum*	Northern Burreed				S2	4	42.0 ± 0.0	NS
P	*Cryptogramma stelleri*	Steller's Rockbrake				S2	17	56.9 ± 0.0	NS
P	*Cuscuta cephalanthi*	Buttonbush Dodder				S2?	6	26.2 ± 7.0	NS
P	*Rumex persicarioides*	Peach-leaved Dock				S2?	1	72.9 ± 0.0	NS
P	*Crataegus submollis*	Quebec Hawthorn				S2?	2	55.0 ± 7.0	NS
P	*Thuja occidentalis*	Eastern White Cedar			Vulnerable	S2S3	3	25.9 ± 0.0	NS
P	*Osmorhiza longistylis*	Smooth Sweet Cicely				S2S3	23	36.2 ± 0.0	NS
P	*Bidens hyperborea*	Estuary Beggarticks				S2S3	2	36.3 ± 1.0	NS
P	*Erigeron philadelphicus*	Philadelphia Fleabane				S2S3	8	45.3 ± 7.0	NS
P	*Impatiens pallida*	Pale Jewelweed				S2S3	27	24.9 ± 1.0	NS
P	*Caulophyllum thalictroides*	Blue Cohosh				S2S3	29	24.7 ± 0.0	NS
P	*Draba arabisans*	Rock Whitlow-Grass				S2S3	3	57.4 ± 1.0	NS
P	*Stellaria humifusa*	Saltmarsh Starwort				S2S3	4	72.0 ± 0.0	NS
P	*Oxybasis rubra*	Red Goosefoot				S2S3	6	39.7 ± 7.0	NS
P	*Hypericum majus*	Large St John's-wort				S2S3	5	66.2 ± 0.0	NS
P	*Hypericum x dissimulatum*	Disguised St. John's-wort				S2S3	2	20.9 ± 1.0	NS
P	*Empetrum atropurpureum*	Purple Crowberry				S2S3	1	44.2 ± 3.0	NS
P	*Euphorbia polygonifolia*	Seaside Spurge				S2S3	13	16.9 ± 0.0	NS
P	*Myriophyllum farwellii*	Farwell's Water Milfoil				S2S3	4	11.1 ± 7.0	NS
P	*Hedeoma pulegioides*	American False Pennyroyal				S2S3	2	54.1 ± 5.0	NS
P	*Oenothera fruticosa ssp. tetragona*	Narrow-leaved Evening Primrose				S2S3	2	77.9 ± 1.0	NS
P	*Polygonum aviculare ssp. buxiforme*	Box Knotweed				S2S3	1	91.2 ± 0.0	NS
P	*Polygonum oxyspermum ssp. raii*	Ray's Knotweed				S2S3	9	19.8 ± 1.0	NS
P	*Rumex triangulivalvis*	Triangular-valve Dock				S2S3	7	23.3 ± 6.0	NS
P	*Anemone quinquefolia*	Wood Anemone				S2S3	16	56.0 ± 0.0	NS
P	*Caltha palustris*	Yellow Marsh Marigold				S2S3	18	44.1 ± 0.0	NS
P	*Amelanchier fernaldii*	Fernald's Serviceberry				S2S3	2	36.1 ± 1.0	NS
P	*Potentilla canadensis*	Canada Cinquefoil				S2S3	1	23.9 ± 2.0	NS
P	*Salix pellita*	Satiny Willow				S2S3	5	8.9 ± 1.0	NS
P	*Tiarella cordifolia*	Heart-leaved Foamflower				S2S3	2	19.4 ± 3.0	NS
P	*Agalinis purpurea var. parviflora*	Small-flowered Purple False Foxglove				S2S3	2	43.5 ± 0.0	NS
P	*Carex adusta*	Lesser Brown Sedge				S2S3	1	76.4 ± 5.0	NS
P	*Carex comosa*	Bearded Sedge				S2S3	1	81.8 ± 1.0	NS
P	*Carex hystericina*	Porcupine Sedge				S2S3	36	26.5 ± 0.0	NS
P	*Eleocharis ovata*	Ovate Spikerush				S2S3	1	26.2 ± 0.0	NS
P	*Scirpus pedicellatus*	Stalked Bulrush				S2S3	9	23.1 ± 0.0	NS
P	*Spiranthes lucida*	Shining Ladies'-Tresses				S2S3	32	47.4 ± 0.0	NS
P	*Potamogeton friesii*	Fries' Pondweed				S2S3	7	25.5 ± 0.0	NS
P	*Cystopteris laurentiana*	Laurentian Bladder Fern				S2S3	6	56.6 ± 10.0	NS
P	*Woodsia glabella*	Smooth Cliff Fern				S2S3	6	56.6 ± 7.0	NS
P	*Botrychium lanceolatum ssp. angustisegmentum*	Narrow Triangle Moonwort				S2S3	8	41.1 ± 3.0	NS
P	*Botrychium simplex*	Least Moonwort				S2S3	3	44.5 ± 5.0	NS
P	*Angelica atropurpurea*	Purple-stemmed Angelica				S3	26	21.9 ± 0.0	NS
P	*Senecio pseudoarnica*	Seabeach Ragwort				S3	11	9.2 ± 1.0	NS
P	*Symphyotrichum boreale*	Boreal Aster				S3	62	41.3 ± 0.0	NS
P	*Symphyotrichum ciliolatum*	Fringed Blue Aster				S3	3	18.1 ± 0.0	NS
P	*Betula pumila var. pumila*	Bog Birch				S3	1	62.4 ± 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Betula michauxii*	Michaux's Dwarf Birch				S3	19	42.2 ± 0.0	NS
P	*Betula pumila*	Bog Birch				S3	9	43.0 ± 0.0	NS
P	*Palustricodon aparinoides*	Marsh Bellflower				S3	9	53.7 ± 0.0	NS
P	*Lobelia kalmii*	Brook Lobelia				S3	92	38.7 ± 0.0	NS
P	*Sagina nodosa*	Knotted Pearlwort				S3	3	43.9 ± 5.0	NS
P	*Stellaria longifolia*	Long-leaved Starwort				S3	1	24.9 ± 0.0	NS
P	*Triosteum aurantiacum*	Orange-fruited Tinker's Weed				S3	208	25.2 ± 0.0	NS
P	*Crassula aquatica*	Water Pygmyweed				S3	4	47.1 ± 7.0	NS
P	*Empetrum eamesii*	Pink Crowberry				S3	1	91.6 ± 0.0	NS
P	*Vaccinium uliginosum*	Alpine Bilberry				S3	3	90.1 ± 0.0	NS
P	*Halenia deflexa*	Spurred Gentian				S3	24	21.7 ± 0.0	NS
P	*Myriophyllum verticillatum*	Whorled Water Milfoil				S3	5	41.5 ± 0.0	NS
P	*Utricularia resupinata*	Inverted Bladderwort				S3	1	71.3 ± 0.0	NS
P	*Epilobium strictum*	Downy Willowherb				S3	21	15.4 ± 0.0	NS
P	*Polygala sanguinea*	Blood Milkwort				S3	4	34.4 ± 0.0	NS
P	*Persicaria arifolia*	Halberd-leaved Tearthumb				S3	7	19.5 ± 0.0	NS
P	*Plantago rugelii*	Rugel's Plantain				S3	2	54.9 ± 0.0	NS
P	*Samolus parviflorus*	Seaside Brookweed				S3	21	35.0 ± 0.0	NS
P	*Pyrola minor*	Lesser Pyrola				S3	8	57.2 ± 2.0	NS
P	*Anemone virginiana*	Virginia Anemone				S3	31	35.4 ± 0.0	NS
P	*Galium kamtschaticum*	Northern Wild Licorice				S3	10	52.0 ± 0.0	NS
P	*Galium labradoricum*	Labrador Bedstraw				S3	90	41.1 ± 0.0	NS
P	*Salix pedicellaris*	Bog Willow				S3	13	42.2 ± 0.0	NS
P	*Salix sericea*	Silky Willow				S3	1	82.8 ± 0.0	NS
P	*Saxifraga paniculata ssp. laestadii*	Laestadius' Saxifrage				S3	4	52.8 ± 7.0	NS
P	*Lindernia dubia*	Yellow-seeded False Pimperel				S3	11	24.4 ± 0.0	NS
P	*Laportea canadensis*	Canada Wood Nettle				S3	23	22.4 ± 0.0	NS
P	*Pilea pumila*	Dwarf Clearweed				S3	1	75.1 ± 6.0	NS
P	*Viola nephrophylla*	Northern Bog Violet				S3	11	26.1 ± 0.0	NS
P	*Carex bebbii*	Bebb's Sedge				S3	34	34.1 ± 10.0	NS
P	*Carex castanea*	Chestnut Sedge				S3	15	42.8 ± 0.0	NS
P	*Carex cryptolepis*	Hidden-scaled Sedge				S3	12	12.4 ± 1.0	NS
P	*Carex eburnea*	Bristle-leaved Sedge				S3	171	36.0 ± 5.0	NS
P	*Carex hirtifolia*	Pubescent Sedge				S3	21	24.6 ± 0.0	NS
P	*Carex lupulina*	Hop Sedge				S3	11	38.5 ± 0.0	NS
P	*Carex rosea*	Rosy Sedge				S3	7	36.6 ± 0.0	NS
P	*Carex tenera*	Tender Sedge				S3	3	14.0 ± 1.0	NS
P	*Carex tribuloides*	Blunt Broom Sedge				S3	13	22.9 ± 1.0	NS
P	*Carex tuckermanii*	Tuckerman's Sedge				S3	2	88.3 ± 0.0	NS
P	*Carex atratiformis*	Scabrous Black Sedge				S3	2	56.6 ± 7.0	NS
P	*Eleocharis flavescens var. olivacea*	Bright-green Spikerush				S3	3	39.7 ± 0.0	NS
P	*Eleocharis quinqueflora*	Few-flowered Spikerush				S3	31	45.3 ± 0.0	NS
P	*Eriophorum gracile*	Slender Cottongrass				S3	8	42.8 ± 0.0	NS
P	*Schoenoplectus americanus*	Olney's Bulrush				S3	1	35.0 ± 0.0	NS
P	*Juncus stygius ssp. americanus*	Moor Rush				S3	30	54.7 ± 1.0	NS
P	*Oreojuncus trifidus*	Highland Rush				S3	2	62.5 ± 0.0	NS
P	*Cypripedium parviflorum*	Yellow Lady's-slipper				S3	102	35.4 ± 0.0	NS
P	*Goodyera oblongifolia*	Menzies' Rattlesnake-plantain				S3	6	81.9 ± 10.0	NS
P	*Neottia bifolia*	Southern Twayblade				S3	49	13.4 ± 0.0	NS
P	*Platanthera grandiflora*	Large Purple Fringed Orchid				S3	50	13.8 ± 1.0	NS
P	*Platanthera hookeri*	Hooker's Orchid				S3	3	7.7 ± 0.0	NS
P	*Dichanthelium linearifolium*	Narrow-leaved Panic Grass				S3	1	94.1 ± 7.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Poa glauca*	Glaucous Blue Grass				S3	9	56.9 ± 0.0	NS
P	*Stuckenia filiformis*	Thread-leaved Pondweed				S3	42	23.2 ± 0.0	NS
P	*Potamogeton praelongus*	White-stemmed Pondweed				S3	12	37.2 ± 0.0	NS
P	*Potamogeton richardsonii*	Richardson's Pondweed				S3	10	25.6 ± 0.0	NS
P	*Potamogeton zosteriformis*	Flat-stemmed Pondweed				S3	9	65.7 ± 7.0	NS
P	*Asplenium viride*	Green Spleenwort				S3	25	21.9 ± 0.0	NS
P	*Dryopteris fragrans*	Fragrant Wood Fern				S3	3	6.0 ± 7.0	NS
P	*Polystichum lonchitis*	Northern Holly Fern				S3	5	39.3 ± 5.0	NS
P	*Sceptridium dissectum*	Dissected Moonwort				S3	3	55.5 ± 1.0	NS
P	*Polypodium appalachianum*	Appalachian Polypody				S3	6	34.1 ± 0.0	NS
P	*Persicaria amphibia var. emersa*	Long-root Smartweed				S3?	1	47.0 ± 0.0	NS
P	*Spiranthes ochroleuca*	Yellow Ladies'-tresses				S3?	3	43.1 ± 0.0	NS
P	*Diphasiastrum x sabinifolium*	Savin-leaved Ground-cedar				S3?	12	54.1 ± 5.0	NS
P	*Bidens vulgata*	Tall Beggarticks				S3S4	1	89.1 ± 0.0	NS
P	*Erigeron hyssopifolius*	Hyssop-leaved Fleabane				S3S4	82	35.4 ± 0.0	NS
P	*Bidens beckii*	Water Beggarticks				S3S4	10	39.6 ± 0.0	NS
P	*Packera paupercula*	Balsam Groundsel				S3S4	168	12.9 ± 0.0	NS
P	*Atriplex glabriuscula var. franktonii*	Frankton's Saltbush				S3S4	4	10.0 ± 0.0	NS
P	*Shepherdia canadensis*	Soapberry				S3S4	141	54.8 ± 0.0	NS
P	*Vaccinium boreale*	Northern Blueberry				S3S4	15	36.1 ± 1.0	NS
P	*Vaccinium cespitosum*	Dwarf Bilberry				S3S4	38	55.2 ± 0.0	NS
P	*Fagus grandifolia*	American Beech				S3S4	143	12.5 ± 0.0	NS
P	*Bartonia virginica*	Yellow Bartonia				S3S4	1	48.5 ± 0.0	NS
P	*Decodon verticillatus*	Swamp Loosestrife				S3S4	5	44.9 ± 7.0	NS
P	*Nuphar microphylla*	Small Yellow Pond-lily				S3S4	1	99.7 ± 2.0	NS
P	*Persicaria pensylvanica*	Pennsylvania Smartweed				S3S4	16	19.2 ± 5.0	NS
P	*Fallopia scandens*	Climbing False Buckwheat				S3S4	27	22.8 ± 0.0	NS
P	*Rumex pallidus*	Seabeach Dock				S3S4	1	37.3 ± 0.0	NS
P	*Pyrola asarifolia*	Pink Pyrola				S3S4	7	43.7 ± 0.0	NS
P	*Endotropis alnifolia*	alder-leaved buckthorn				S3S4	473	22.6 ± 0.0	NS
P	*Amelanchier spicata*	Running Serviceberry				S3S4	6	6.5 ± 0.0	NS
P	*Fragaria vesca ssp. americana*	Woodland Strawberry				S3S4	71	22.4 ± 0.0	NS
P	*Fragaria vesca*	Woodland Strawberry				S3S4	2	69.2 ± 0.0	NS
P	*Galium aparine*	Common Bedstraw				S3S4	3	35.2 ± 0.0	NS
P	*Geocaulon lividum*	Northern Comandra				S3S4	74	6.4 ± 0.0	NS
P	*Limosella australis*	Southern Mudwort				S3S4	4	55.8 ± 5.0	NS
P	*Ulmus americana*	White Elm				S3S4	68	21.8 ± 1.0	NS
P	*Verbena hastata*	Blue Vervain				S3S4	47	26.3 ± 0.0	NS
P	*Viola selkirkii*	Great-Spurred Violet				S3S4	1	9.2 ± 1.0	NS
P	*Carex argyrantha*	Silvery-flowered Sedge				S3S4	1	76.1 ± 0.0	NS
P	*Triglochin gaspensis*	Gasp ├ Arrowgrass				S3S4	6	22.0 ± 0.0	NS
P	*Juncus acuminatus*	Sharp-Fruit Rush				S3S4	4	47.8 ± 0.0	NS
P	*Juncus subcaudatus*	Woods-Rush				S3S4	9	28.4 ± 0.0	NS
P	*Luzula parviflora ssp. melanocarpa*	Black-fruited Woodrush				S3S4	12	66.1 ± 0.0	NS
P	*Goodyera repens*	Lesser Rattlesnake-plantain				S3S4	17	26.2 ± 0.0	NS
P	*Liparis loeselii*	Loesel's Twayblade				S3S4	14	6.4 ± 0.0	NS
P	*Platanthera obtusata*	Blunt-leaved Orchid				S3S4	9	6.0 ± 10.0	NS
P	*Platanthera orbiculata*	Small Round-leaved Orchid				S3S4	5	10.0 ± 0.0	NS
P	*Alopecurus aequalis*	Short-awned Foxtail				S3S4	16	25.5 ± 0.0	NS
P	*Dichanthelium clandestinum*	Deer-tongue Panic Grass				S3S4	87	55.2 ± 0.0	NS
P	*Panicum philadelphicum*	Philadelphia Panicgrass				S3S4	1	39.2 ± 0.0	NS
P	*Koeleria spicata*	Narrow False Oats				S3S4	2	62.9 ± 0.0	NS
P	*Asplenium trichomanes*	Maidenhair Spleenwort				S3S4	4	7.7 ± 0.0	NS
P	*Equisetum pratense*	Meadow Horsetail				S3S4	21	38.9 ± 0.0	NS

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	*Diphasiastrum complanatum*	Northern Ground-cedar				S3S4	3	44.9 ± 5.0	NS
P	*Diphasiastrum sitchense*	Sitka Ground-cedar				S3S4	23	6.4 ± 0.0	NS
P	*Huperzia appressa*	Mountain Firmoss				S3S4	1	52.8 ± 1.0	NS
P	*Sceptridium multifidum*	Leathery Moonwort				S3S4	6	50.2 ± 10.0	NS
P	*Botrychium matricariifolium*	Daisy-leaved Moonwort				S3S4	4	25.8 ± 10.0	NS
P	*Viola canadensis*	Canada Violet				SH	1	57.4 ± 0.0	NS

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The recipient of these data shall acknowledge the AC CDC and the data sources listed below in any documents, reports, publications or presentations, in which this dataset makes a significant contribution.

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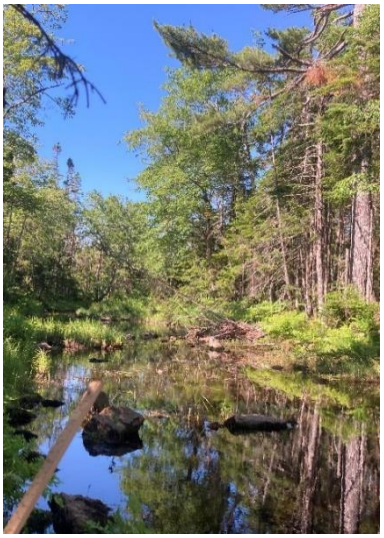
APPENDIX H: FISH & FISH HABITAT

Watercourse	Position in stream	Bankfull width (m)	Wetted width (m)	Average depth (m)	Direction of flow	Velocity (m/s)	Water Chemistry	Substrate (%)	In-Stream Habitat Types (Present, Absent)	In-stream Cover (Trace, Moderate, Abundant)	Riparian Habitat Types (Present, Absent)	Bank Characteristics (Trace, Moderate, Abundant)	Fish Habitat (Trace, Moderate, Abundant)	Barriers to Fish Passage (>0.5 cm)	Probability for Fish Present
001/WC36	Downstream	10.10	9.70	0.22	SSW	0.01	Temp. (ºC) = 17.6 DO (mg/L) = 9.63 DO (%) = 95 Cond. (mS/cm) = 0.07 pH = 6.055.58	Bedrock = 10 Boulder (>25 cm) = 0 Rubble (14-25 cm) = 10 Cobble (3-13 cm) = 60 Gravel (2 mm-3 cm) = 10 Sand (0.06-2 mm) = 5 Fines (<0.06 mm) = 5	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = None Overhanging vegetation = Trace Large woody debris = None Small woody debris = Trace Deep pools = None Undercut banks = None Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Trace Eroding banks = Trace Bank stability = High Degree of siltation = Low Undercut banks = None	Spawning = Poor Rearing = Moderate Overwintering = Poor	None Observed	High. Fish spotted Downstream. Eels caught upstream
	Crossing	5.05	4.75	0.28	SSW	0.01	Temp. (ºC) = 21.9 DO (mg/L) = 7.417.3 DO (%) = 82.2 Cond. (mS/cm) = 0.04 pH = 5.53	Bedrock = 0 Boulder (>25 cm) = 20 Rubble (14-25 cm) = 15 Cobble (3-13 cm) = 10 Gravel (2 mm-3 cm) = 50 Sand (0.06-2 mm) = 5 Fines (<0.06 mm) = 0	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Trace Large woody debris = None Small woody debris = None Deep pools = None Undercut banks = None Instream vegetation = None	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Trace Eroding banks = Trace Bank stability = High Degree of siltation = Low Undercut banks = None	Spawning = Moderate Rearing = Poor Overwintering = Poor		
	Upstream	10.20	10.00	0.47	SSW	0.01	Temp. (ºC) = 22 DO (mg/L) = 9.01 DO (%) = 115 Cond. (mS/cm) = 0.04 pH = 5.65	Bedrock = 0 Boulder (>25 cm) = 50 Rubble (14-25 cm) = 20 Cobble (3-13 cm) = 15 Gravel (2 mm-3 cm) = 5 Sand (0.06-2 mm) = 5 Fines (<0.06 mm) = 5	Pools = Present Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Trace Large woody debris = None Small woody debris = None Deep pools = Moderate Undercut banks = Trace Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Absent	Evidence of siltation = Trace Eroding banks = None Bank stability = High Degree of siltation = Low Undercut banks = None	Spawning = Poor Rearing = Poor Overwintering = Moderate		
002/WC20	Downstream	5.25	4.75	0.25	South	0.01	Temp. (ºC) = 17.3 DO (mg/L) = 8.26 DO (%) = 95 Cond. (mS/cm) = 0.06 pH = 6.78	Bedrock = 0 Boulder (>25 cm) = 40 Rubble (14-25 cm) = 30 Cobble (3-13 cm) = 20 Gravel (2 mm-3 cm) = 5 Sand (0.06-2 mm) = 5 Fines (<0.06 mm) = 0	Pools = Absent Riffles = Present Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Trace Large woody debris = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = None Instream vegetation = None	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Some Eroding banks = Low Bank stability = Stable Degree of siltation = Low Undercut banks = Some	Spawning = Moderate Rearing = High Overwintering = Poor	Beaver activity at crossing. Causing low water flow. However, fish were caught anyway.	High. Brook trout, lake chub and an eel were caught
	Crossing	17.60	11.00	0.24	South	0.01	Temp. (ºC) = 17.6 DO (mg/L) = 6.768 DO (%) = 75.8 Cond. (mS/cm) = 0.06 pH = 6.89	Bedrock = 0 Boulder (>25 cm) = 20 Rubble (14-25 cm) = 5 Cobble (3-13 cm) = 30 Gravel (2 mm-3 cm) = 5 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 40	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Trace Large woody debris = None Small woody debris = Trace Deep pools = Trace Undercut banks = Trace Instream vegetation = Trace	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Yes Eroding banks = Yes Bank stability = Low Degree of siltation = High Undercut banks = None	Spawning = High Rearing = Poor Overwintering = Moderate		
	Upstream	7.60	6.00	0.33	South	0.11	Temp. (ºC) = 18.4 DO (mg/L) = 9.31 DO (%) = 95.5 Cond. (mS/cm) = 0.06 pH = 6.69	Bedrock = 0 Boulder (>25 cm) = 40 Rubble (14-25 cm) = 40 Cobble (3-13 cm) = 20 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 0	Pools = Absent Riffles = Present Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boulders = Abundant Overhanging vegetation = Abundant Large woody debris = None Small woody debris = None Deep pools = None Undercut banks = Abundant Instream vegetation = None	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Yes Eroding banks = Yes Bank stability = Yes Degree of siltation = None Undercut banks = Yes	Spawning = High Rearing = High Overwintering = Poor		
003/WC7	Downstream	2.10	1.95	0.39	West	0.01	Temp. (ºC) = 17.9 DO (mg/L) = 5.85 DO (%) = 65.5 Cond. (mS/cm) = 0.07 pH = 6.52	Bedrock = 0 Boulder (>25 cm) = 5 Rubble (14-25 cm) = 5 Cobble (3-13 cm) = 30 Gravel (2 mm-3 cm) = 20 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 40	Pools = Absent Riffles = Absent Runs = Present Flat = Present Rapids = Absent Cascade = Absent	Boulders = Trace Overhanging vegetation = Abundant Large woody debris = None Small woody debris = Trace Deep pools = None Undercut banks = Abundant Instream vegetation = None	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Yes Eroding banks = No Bank stability = Good Degree of siltation = High Undercut banks = Trace	Spawning = Moderate Rearing = Poor Overwintering = Poor	Culverts present, however, fish were observed	High. Brook trout caught
	Crossing	0.75	0.72	0.23	West	0.01	Temp. (ºC) = 23.7 DO (mg/L) = 7.62 DO (%) = 88.5 Cond. (mS/cm) = 0.07 pH = 6.73	Bedrock = 0 Boulder (>25 cm) = 5 Rubble (14-25 cm) = 5 Cobble (3-13 cm) = 30 Gravel (2 mm-3 cm) = 40 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 20	Pools = Absent Riffles = Present Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boulders = Trace Overhanging vegetation = Abundant Large woody debris = Moderate Small woody debris = Moderate Deep pools = None Undercut banks = Trace Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = Trace Eroding banks = Trace Bank stability = Abundant Degree of siltation = Trace Undercut banks = Trace	Spawning = Poor Rearing = Moderate Overwintering = Poor		
	Upstream	1.00	0.80	0.22	West	0.01	Temp. (ºC) = 25.4 DO (mg/L) = 3.84 DO (%) = 61.0 Cond. (mS/cm) = 0.07 pH = 6.31	Bedrock = 0 Boulder (>25 cm) = 0 Rubble (14-25 cm) = 0 Cobble (3-13 cm) = 0 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 100	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = None Overhanging vegetation = Trace Large woody debris = Abundant Small woody debris = Abundant Deep pools = None Undercut banks = None Instream vegetation = Trace	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = None Hardwood = None	Evidence of siltation = Trace Eroding banks = Trace Bank stability = Abundant Degree of siltation = Trace Undercut banks = Trace	Spawning = Poor Rearing = Poor Overwintering = Poor		
004/WC11	Downstream	4.90	4.40	0.20	NE	0.15	Temp. (ºC) = 21 DO (mg/L) = 9.2 DO (%) = 102 Cond. (mS/cm) = 0.04 pH = 6.4	Bedrock = 0 Boulder (>25 cm) = 65 Rubble (14-25 cm) = 10 Cobble (3-13 cm) = 20 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 5	Pools = Present Riffles = Present Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boulders = Abundant Overhanging vegetation = Abundant Large woody debris = Abundant Small woody debris = Moderate Deep pools = Trace Undercut banks = None Instream vegetation = Moderate	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Present	Evidence of siltation = None Eroding banks = Trace Bank stability = High Degree of siltation = Low Undercut banks = Trace	Spawning = Moderate Rearing = Poor Overwintering = Poor	None Observed	High. Brook trout caught
	Crossing	4.20	4.00	0.15	NE	0.25	Temp. (ºC) = 21.5 DO (mg/L) = 8.8 DO (%) = 105 Cond. (mS/cm) = 0.06 pH = 6.6	Bedrock = 0 Boulder (>25 cm) = 75 Rubble (14-25 cm) = 10 Cobble (3-13 cm) = 10 Gravel (2 mm-3 cm) = 5 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 0	Pools = Present Riffles = Present Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Abundant Large woody debris = None Small woody debris = Trace Deep pools = Trace Undercut banks = None Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Absent Hardwood = Present	Evidence of siltation = None Eroding banks = None Bank stability = High Degree of siltation = Low Undercut banks = None	Spawning = Poor Rearing = Moderate Overwintering = Moderate		
	Upstream	6.20	5.90	0.34	NE	0.03	Temp. (ºC) = 22.3 DO (mg/L) = 10.5 DO (%) = 110 Cond. (mS/cm) = 0.03 pH = 6.38	Bedrock = 0 Boulder (>25 cm) = 50 Rubble (14-25 cm) = 35 Cobble (3-13 cm) = 10 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 5	Pools = Present Riffles = Present Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boulders = Moderate Overhanging vegetation = Abundant Large woody debris = Moderate Small woody debris = Moderate Deep pools = Trace Undercut banks = Trace Instream vegetation = Trace	Herbaceous = Present Graminoids = Present Shrub = Absent Softwood = Present Hardwood = Present	Evidence of siltation = None Eroding banks = Moderate Bank stability = High Degree of siltation = Low Undercut banks = None	Spawning = Poor Rearing = Poor Overwintering = Poor		

Watercourse	Position in stream	Bankfull width (m)	Wetted width (m)	Average depth (m)	Direction of flow	Velocity (m/s)	Water Chemistry	Substrate (%)	In-Stream Habitat Types (Present, Absent)	In-stream Cover (Trace, Moderate, Abundant)	Riparian Habitat Types (Present, Absent)	Bank Characteristics (Trace, Moderate, Abundant)	Fish Habitat (Trace, Moderate, Abundant)	Barriers to Fish Passage (>0.5 cm)	Probability for Fish Present
005/WC30	Downstream	15.00	15.00	1.67	South	0.05	Temp. (ºC) = 20.4 DO (mg/L) = 4.9 DO (%) = 57.1 Cond. (mS/cm) = 0.04 pH = 5.39	Bedrock = 0 Boulder (>25 cm) = 0 Rubble (14-25 cm) = 0 Cobble (3-13 cm) = 0 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 100	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boudlers = None Overhanging vegetation = None Large woody debris = None Small woody debris = None Deep pools = None Undercut banks = Abundant Instream vegetation = Moderate	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Absent	Evidence of siltation = Yes Eroding banks = None Bank stability = High Degree of siltation = High Undercut banks = Yes	Spawning = Poor Rearing = Poor Overwintering = High	None Observed	High. Fish presence observed
	Crossing	2.45	2.40	0.38	South	0.11	Temp. (ºC) = 20.3 DO (mg/L) = 4.43 DO (%) = 48.3 Cond. (mS/cm) = 0.04 pH = 4.95	Bedrock = 0 Boulder (>25 cm) = 10 Rubble (14-25 cm) = 0 Cobble (3-13 cm) = 0 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 0 Fines (<0.06 mm) = 90	Pools = Absent Riffles = Absent Runs = Present Flat = Absent Rapids = Absent Cascade = Absent	Boudlers = Moderate Overhanging vegetation = None Large woody debris = Moderate Small woody debris = Moderate Deep pools = Trace Undercut banks = Abundant Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Present Hardwood = Absent	Evidence of siltation = Yes Eroding banks = None Bank stability = High Degree of siltation = High Undercut banks = Yes	Spawning = Poor Rearing = Moderate Overwintering = Poor		
	Upstream	5.30	5.30	0.58	South	0.36	Temp. (ºC) = 21.5 DO (mg/L) = 5.43 DO (%) = 61.7 Cond. (mS/cm) = 0.04 pH = 5.95	Bedrock = 0 Boulder (>25 cm) = 30 Rubble (14-25 cm) = 40 Cobble (3-13 cm) = 0 Gravel (2 mm-3 cm) = 0 Sand (0.06-2 mm) = 10 Fines (<0.06 mm) = 20	Pools = Absent Riffles = Absent Runs = Absent Flat = Present Rapids = Absent Cascade = Absent	Boudlers = None Overhanging vegetation = None Large woody debris = None Small woody debris = None Deep pools = None Undercut banks = None Instream vegetation = Abundant	Herbaceous = Present Graminoids = Present Shrub = Present Softwood = Absent Hardwood = Absent	Evidence of siltation = Yes Eroding banks = None Bank stability = High Degree of siltation = High Undercut banks = None	Spawning = Poor Rearing = Poor Overwintering = Poor		

001/WC36		
DOWNSTREAM	**CROSSING**	**UPSTREAM**
		
Photo 1. A representitive photo of the downstream reach for electrofished stream 001/WC36.	Photo 2. A representitive photo of the crossing reach for electrofished stream 001/WC36.	Photo 3. A representitive photo of the upstream reach for electrofished stream 001/WC36.
		
Photo 4. An American eel (*Aguilla rostrata*) caught in this watercourse during electrofishing surveys in water course 001/WC36.		

002/WC20		
DOWNSTREAM	**CROSSING**	**UPSTREAM**
		
Photo 5. A representitive photo of the downstream reach for electrofished stream 002/WC20.	Photo 6. A representitive photo of the crossing reach for electrofished stream 002/WC20.	Photo 7. A representitive photo of the upstream reach for electrofished stream 002/WC20.
		
Photo 8. A lake chub (*Couesius plumbeus*) caught in this watercourse during electrofishing surveys in watercourse 002/WC20.	Photo 9. A brook trout (*Salvelinus fontinalis*) caught in this watercourse during electrofishing surveys in watercourse 002/WC20.	Photo 10. An American eel (*Aguilla rostrata*) caught in this watercourse during electrofishing surveys in watercourse 002/WC20.

003/WC7		
DOWNSTREAM	**CROSSING**	**UPSTREAM**
		
Photo 11. A representitive photo of the downstream reach for electrofished stream 003/WC7.	Photo 12. A representitive photo of the crossing reach for electrofished stream 003/WC7.	Photo 13. A representitive photo of the upstream reach for electrofished stream 003/WC7.

Photo 14. A brook trout (*Salvelinus fontinalis*) caught in this watercourse during electrofishing surveys in watercourse 003/WC7.

004/WC11		
DOWNSTREAM	**CROSSING**	**UPSTREAM**

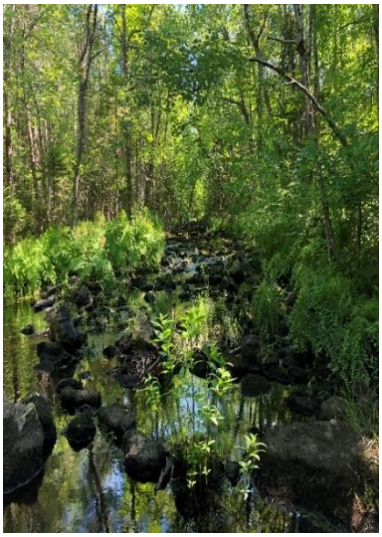
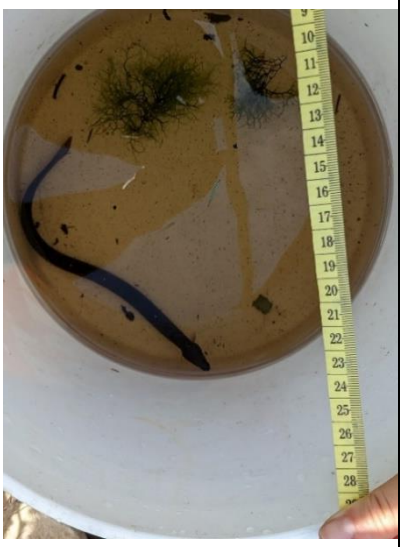



Photo 15. A representitive photo of the downstream reach for electrofished stream 004/WC11.	Photo 16. A representitive photo of the crossing reach for electrofished stream 004/WC11.	Photo 17. A representitive photo of the upstream reach for electrofished stream 004/WC11.

Photo 18. A brook trout (*Salvelinus fontinalis*) caught in this watercourse during electrofishing surveys in watercourse 004/WC11.

005/WC30		
DOWNSTREAM	**CROSSING**	**UPSTREAM**
		
Photo 19. A representitive photo of the downstream reach for electrofished stream 005/WC30.	Photo 20. A representitive photo of the crossing reach for electrofished stream 005/WC30.	Photo 21. A representitive photo of the upstream reach for electrofished stream 005/WC30.
		
Photo 22. An American eel (*Aguilla rostrata*) caught in this watercourse during electrofishing surveys in watercourse 005/WC30.	Photo 23. A three-spined stickleback (*Gasterosteus aculeatus*) caught in this watercourse during electrofishing surveys in watercourse 005/WC30.	Photo 24. An American eel (*Aguilla rostrata*) caught in this watercourse during electrofishing surveys in watercourse 005/WC30.