

APPENDIX D

GHG CALCULATIONS

Table 1: Baseline GHG Quantification - Ocean Lake Wind Project

Project # 25-12648

Power Generation via Coal			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Coal	1,511,415,360	kWh/year	Based on 39% of electricity generated by NSPI in 2025
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Coal Generated Electricity	1.0502	kg CO ₂ e/kWh	[Source: EIA, 2023]
Conversion Factor	0.001	t CO ₂ e/kWh	1 kg = 0.001 Tonnes
Emissions	1,587,274.81	t CO ₂ e/year	B5*B8*B9
Power Generation via Oil			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Oil	116,262,720	kWh/year	Based on 3% of electricity generated by NSPI in 2025
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Oil Generated Electricity	1.1089	kg CO ₂ e/kWh	[Source: EIA, 2023]
Conversion Factor	0.001	t CO ₂ e/kWh	1 kg = 0.001 Tonnes
Emissions	128,918.19	t CO ₂ e/year	B14*B17*B18
Power Generation via Natural Gas			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Natural Gas	503,805,120	kWh/year	Based on 13% of electricity generated by NSPI in 2025
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Natural Gas Generated Electricity	0.4374	kg CO ₂ e/kWh	[Source: EIA, 2023]
Conversion Factor	0.001	t CO ₂ e/kWh	1 kg = 0.001 Tonnes
Emissions	220,372.18	t CO ₂ e/year	B23*B26*B27
Power Generation via Wind			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generated via Wind	1,743,940,800	kWh/year	Based on 45% of electricity generated by NSPI in Q3 2025
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0	t CO ₂ e/kWh	
Emissions	0.00	t CO ₂ e/year	B32*B35
Total Emissions	1,936,565.18	t CO₂e/year	B10+B19+B28

Table 2: Construction Phase GHG Quantification - Ocean Lake Wind Project

Project # 25-12648

Turbine Transportation			
Parameter/Variable	Value	Unit	Comments
Transportation Vehicle			
Heavy Duty Truck (Diesel)	1	ea	
Distance Travelled	301,194	km	From manufacturing facility to the Port in Dafeng, China and the Strait of Canso Superport, Mulgrave, NS, to Wind Turbine Laydowns (includes all the wind turbine components for all wind turbines).
Freight Weight	80.00	tonne	Based on weights provided in NREL's 2015 Report [NREL, 2017]. Estimate of each component; 960 tonnes/12 components
Marine Cargo and Containers (Diesel)	1	ea	
Distance Travelled	3,665,600	km	From Port in Dafeng, China, to Strait of Canso Superport, Mulgrave, NS, (includes 158 WT).
Freight Weight	960.00	tonne	Based on weights provided in NREL's 2015 Report [NREL, 2017].
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Heavy Duty Truck	135	g CO ₂ e/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 ₂ e/tonne·km	1 g = 0.000001 Tonnes
Emissions	3,252.90	t CO ₂ e/year	B16*B18*B19*B25*B26
Marine Cargo and Containers (Diesel)	15.1	g CO ₂ e/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 ₂ e/tonne·km	1 g = 0.000001 Tonnes
Emissions	53,136.54	t CO ₂ e/year	B21*B22*B28*B29
Tower Foundation and Pedestal			
Parameter/Variable	Value	Unit	Comments
Concrete Production Quantity	2,036,250	kg	Based on a volume of 905 m ³ (per Wind Turbine Pad) - provided by the Proponent, and an estimated concrete density of 2,250 kg/m ³
Concrete Truck	2,036	tonne	1 kg = 0.001 Tonnes
	20.25	tonne/truck	Source: Ready Mixed Concrete Association of Ontario, n.d and concrete density of 2,250 kg/m ³
	101	ea	(B34/B35) Required trucks per Turbine Pad
Turbine Pad Steel	81	tonnes/pad	Based on weights provided by the Proponent
Heavy Duty Truck	38	tonne/truck	No more than 49,500 Gross Vehicle Weight (Assumed unladen weight of 11.5 tonnes)
	3	ea	(B38/B39) Required trucks per Turbine Pad
Concrete Transportation Distances			
Distance Travelled (freight)	14,005	km	Based on one-way trip from Concrete Supplier to each Wind Turbine Pad
Distance Travelled (no freight)	14,005	km	Based on one-way trip from Concrete Supplier to each Wind Turbine Pad
Steel Transportation Distances			
Distance Travelled (freight)	14,005	km	Based on one-way trip from Steel Supplier to each Wind Turbine Pad
Distance Travelled (no freight)	14,005	km	Based on one-way trip from Steel Supplier to each Wind Turbine Pad
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Concrete Production	300	g CO ₂ e/kg	0.3 kg CO ₂ e/kg [Source: GHGenius v5.0d].
Concrete Truck (freight)	135	g CO ₂ e/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 ₂ e/km	Emissions for calculating GHGs where the volume of fuel consumed is unknown but the distance travelled is known [Source: GHGenius v5.0d].
General Steel Production	1.5	t CO ₂ e/tonne	Estimated from the UK's general steel type, excluding stainless steel (Inventory of Carbon & Energy (ICE), Version 2.0).
Heavy Duty Truck (freight)	135	g CO ₂ e/tonne·km	Freight emissions for calculating GHGs from freight (materials delivery, shipment of product to market, etc.) [Source: GHGenius v5.0d].
Heavy Duty Truck (no freight)	1,106	g CO ₂ e/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 ₂ e/g	1 g = 0.000001 Tonnes
Concrete Production Emissions	96,518.25	t CO ₂ e/year	B34*B51*B58*158(WT)
Concrete Truck (freight) Emissions	3,866.84	t CO ₂ e/year	B36*B37*B44*B52*B58
Concrete Truck (no freight) Emissions	1,564.42	t CO ₂ e/year	B53*B45*B37*B58
Steel Production Emissions	19,197.00	t CO ₂ e/year	B55*B39*158(WT)
Heavy Duty Truck (freight) Emissions	215.53	t CO ₂ e/year	B40*B41*B47*B56*B58
Heavy Duty Truck (no freight) Emissions	46.47	t CO ₂ e/year	B41*B48*B57*B58
Total Tower Foundation and Pedestal	121,408.51	t CO ₂ e/year	SUM(B60,B61,B62,B64,B65,B66)
Total Emissions (Construction Phase)	177,797.95	t CO ₂ e	B27+B30+B67

Table 3: Operational Phase GHG Quantification - Ocean Lake Wind Project

Project # 25-12646

Wind Energy			
Parameter/Variable	Value	Unit	Comments
Quantity of Power Generation via Winc	3,875,424,000	kWh/year	See Equation
$kWh = 158 \text{ Turbines} \times \frac{8.0 \text{ MW}}{\text{Turbine}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{24 \text{ hours}}{\text{day}} \times 0.35 \times \frac{1000 \text{ kW}}{\text{MW}} = 3,875,424,000 \text{ kWh/year}$			
Emission Factors			
Parameter/Variable	Value	Unit	Comments
Wind Generated Electricity	0	t CO ₂ e/kWh	
Emissions	0	t CO ₂ e/year	B5*B8
Maintenance			
Parameter/Variable	Value	Unit	Comments
Nacelle Components Replacement	11,431	kg/Turbine	15% of Nacelle [Source: Source: Padey et al., 2012, (Number Three Wind LLC, 2018
Blade Replacement	18,688	kg/Turbine	One Blade [Source: Source: Padey et al., 2012, (Number Three Wind LLC, 2018
Emission Factors			
Parameter/Variable	Value	Unit	Comments
General Steel	1.5	kg CO ₂ e/kg	Estimated from the UK's general steel type, excluding stainless steel (Inventory of Carbon & Energy (ICE), Version 2.0).
Conversion Factor	0.001	t CO ₂ e/kg	1 kg = 0.001 Tonnes
Emissions	45.18	t CO ₂ e/turbine	(B13+B14)*B17*B18
Total Emissions	7,138.11	t CO₂e	B9+B19*158 (WT)

APPENDIX E

WSP NOISE ASSESSMENT



Guysborough Wind Ltd. **Ocean Lake Wind Project**

Noise Assessment

2026-04-27

Project No. CA0066766.3659 / 1000



Distribution List

1 electronic copy - EverWind Fuels LLC

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1 INTRODUCTION

Guysborough Wind Ltd., comprised of EverWind NS Holdings Ltd. (EverWind) and Membertou Development Corporation, is proposing development of the Ocean Lake Wind Project (the Project) in Guysborough County, Nova Scotia. EverWind retained WSP Canada Inc. (WSP) to prepare an assessment of potential environmental noise effects from the Project in accordance with provincial requirements. The results of the Project noise assessment are presented in this report.

The noise assessment report is structured as follows:

- Section 1 provides a brief introduction.
- Section 2 presents a description of the noise sources proposed for the Project.
- Section 3 describes the provincial regulations applicable to noise from the Project, including compliance criteria.
- Section 4 outlines the assessment approach, including a description of noise receptors, representative ambient noise levels, and methods used to predict Project noise levels.
- Section 5 presents noise emissions for the Project.
- Section 6 presents the results of the Project noise assessment, including comparison of noise level predictions to provincial compliance criteria.
- Section 7 summarizes and discusses the results of the Project noise assessment.

2 PROJECT DESCRIPTION

The Project is a proposed 1,264-megawatt (MW) wind energy development, involving up to 158 turbines. The noise model uses 143 Goldwind GWH182 8.0 MW wind turbines. There are 15 optional turbine locations that are not included in the noise modelling. Optional turbines will be considered for construction at a later date, pending advances in turbine sound reducing technology. Noise models will be updated if optional turbines are added to the Project.

The Project wind turbines will have a hub height of 130 m and will be outfitted with serrated trailing edge (STE) blades to reduce noise emissions. Each Project wind turbine will also be equipped with a pad-mounted electrical transformer.

Table 1 presents the locations of the Project noise sources and the operating modes used when predicting potential Project noise effects. A map showing the locations of Project noise sources is presented in Section 4 (see Figure 1). Additional details on noise emissions from Project sources are provided in Section 5 (see Table 4).

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T001	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613601	5021284	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T002	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612571	5021260	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T003	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614655	5021049	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T005	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615575	5020933	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T006	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613714	5020435	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T007	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611590	5020321	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T008	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612976	5020290	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T009	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614362	5020101	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T010	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612396	5019949	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T011	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611131	5019847	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T012	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613779	5019422	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T013	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612219	5018944	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T014	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611090	5018888	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T015	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614507	5018866	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T016	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613925	5018174	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T017	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610234	5018064	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T018	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611155	5018024	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T019	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614967	5017828	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T020	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610648	5017339	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T021	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608791	5016877	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T023	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608397	5016105	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T025	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611010	5015845	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T026	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608292	5015513	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T027	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611355	5015022	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T028	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609195	5015067	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T029	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616104	5014419	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T030	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615203	5014397	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T031	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611902	5014258	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T032	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616736	5014033	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T034	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607041	5013748	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T035	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612564	5013764	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T036	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615432	5013653	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T037	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617735	5013685	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T038	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611690	5013510	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T039	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613329	5013239	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T040	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607998	5013107	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T041	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618634	5013279	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T042	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617167	5013225	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T043	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614073	5013117	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T044	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612591	5013057	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T045	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619520	5013026	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T046	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614909	5012872	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T047	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615736	5012841	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T048	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606672	5012633	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T049	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620519	5012855	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T050	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616597	5012752	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T052	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611704	5012588	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T053	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614258	5012603	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T054	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617748	5012590	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T055	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607680	5012329	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T056	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613545	5012363	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T057	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612779	5012322	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T058	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605871	5012160	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T059	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615214	5012192	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T060	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620122	5012228	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T061	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617736	5011936	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T062	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621158	5011983	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T063	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616249	5011856	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T064	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619324	5011908	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T065	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614258	5011810	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T066	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613162	5011654	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T067	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607127	5011545	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T068	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618499	5011599	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T069	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612541	5011492	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T070	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610255	5011429	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T071	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615418	5011496	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T072	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616874	5011468	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T073	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605758	5011013	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T074	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614137	5011151	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T075	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611000	5011089	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T076	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619678	5011239	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T077	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606536	5010923	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T078	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621487	5011151	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T079	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620417	5010897	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T080	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619078	5010850	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T081	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615758	5010787	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T083	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616461	5010748	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T084	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619731	5010543	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T085	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611373	5010321	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T086	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607063	5010018	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T087	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618799	5010222	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T088	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617812	5010101	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T089	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605817	5009853	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T091	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620893	5010094	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T092	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621723	5009946	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T093	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622547	5009916	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T094	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623345	5009921	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T096	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612750	5009629	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T097	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619786	5009726	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T098	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606403	5009444	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T100	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608561	5009383	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T101	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624234	5009408	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T102	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621178	5009281	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T103	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618847	5009207	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T104	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623257	5009234	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T105	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622375	5009152	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T106	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612386	5008943	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T108	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620499	5009063	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T109	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625243	5009091	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T111	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619613	5008748	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T112	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620420	5008586	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T113	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621454	5008583	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T114	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624852	5008599	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T115	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624089	5008545	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T116	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622626	5008371	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T117	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621253	5007945	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T118	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609713	5007622	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T119	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624577	5007884	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T122	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612381	5007364	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T123	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622136	5007355	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T124	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623470	5007373	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T127	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624217	5007258	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T128	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613800	5006958	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T129	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614549	5006889	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T130	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613035	5006822	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T131	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609957	5006705	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T132	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610812	5006608	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T133	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623803	5006591	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T134	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621827	5006329	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T135	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609514	5006074	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T136	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623118	5006302	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T137	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613358	5005980	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T138	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614219	5005943	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T139	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623704	5005660	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T140	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621721	5005490	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T141	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623060	5005386	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T142	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613665	5005089	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T143	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616335	5004873	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T144	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614344	5004704	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T145	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612494	5004647	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T146	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	627226	5004903	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T147	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625720	5004856	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T148	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623047	5004758	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T149	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	627913	5004822	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T150	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616731	5004203	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T151	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624618	5004352	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T152	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615732	5004090	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T153	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623073	5004064	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T154	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625230	5003897	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T155	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617642	5003702	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T156	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623776	5003601	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

Table 1: Project Noise Sources and Operating Modes

Source Identification Code ^(a)	Source Description	Universal Transverse Mercator Coordinates (Zone 20T)		Source Operating Mode
		Easting (m)	Northing (m)	
T157	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616976	5003457	SRM4s ^(b) – turbine; KNAN ^(c) - transformer
T158	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617796	5002990	SRM4s ^(b) – turbine; KNAN ^(c) - transformer

(a) Although there are 158 potential turbine locations in the Project, the noise model includes only 143 locations. The other 15 turbine locations are optional.

(b) SRM4s = Sound Reduction Mode 4 with STE blades

(c) KNAN = Natural Air Cooling and Non-Mineral Oil

3 REGULATORY FRAMEWORK

The Province of Nova Scotia provides guidance for assessing potential environmental effects from wind power facilities in the *Environmental Assessment Supplemental Checklist: Wind Energy Projects* (Nova Scotia 2024), which will hereafter be referred to as the EA Guide. The Province of Nova Scotia provides additional guidance for assessing potential environmental noise effects from industrial activities in *Guidelines for Environmental Noise Measurement and Assessment* (Nova Scotia 2023), which will hereafter be referred to as the Noise Guidelines. When preparing the Project noise assessment, WSP considered guidance and compliance criteria from both the EA Guide (Nova Scotia 2024) and the Noise Guidelines (Nova Scotia 2023).

3.1 EA Guide

The EA Guide requires that cumulative noise levels, which are calculated by summing ambient noise levels with predicted noise contributions from the Project, not exceed 40 A-weighted decibels (dBA) at receptors within 2 km of the Project (Nova Scotia 2024). The 40 dBA limit from the EA Guide represents the most stringent provincial noise criterion for total or broadband noise from the Project (i.e., noise levels expressed in dBA units, which reflect the frequency sensitivity of the human auditory system). As such, potential broadband noise effects from Project operations were assessed against the limit from the EA Guide.

3.2 Noise Guidelines

The Noise Guidelines provide a framework for assessing potential effects from low frequency noise (LFN), which may not be fully captured by the broadband dBA metric. The LFN test from the Noise Guidelines consists of two parts:

- The first part of the test compares noise levels expressed in dBA to noise levels expressed in C-weighted decibels (dBC), a unit which emphasizes low frequency content.
- The second part of the test looks for a low frequency tonal component in the one-third octave band frequency spectrum and provides a quantitative method for identifying such a tone.

If the difference between noise levels expressed in dBA and dBC is ≥ 20 **and** one or more low frequency tones is present, then a LFN issue exists. In other words, even if the difference between dBC and dBA noise levels was found to be greater than 20, the absence of a clear tone precludes the presence of a LFN issue.

4 ASSESSMENT APPROACH

4.1 Noise Study Area and Receptors

The EA Guide requires that potential noise effects be assessed at permanent and seasonal receptors located within 2 km of the Project wind turbines (Nova Scotia 2024). WSP established a study area for the noise assessment as a 2 km buffer on the Project noise sources. All potential receptors within this study area were considered in the Project noise assessment.

A total of 305 potential noise receptors were identified within the study area. Another 78 potential noise receptors were identified within 100 m of the study area. These potential receptors were maintained in the assessment in consideration of potential minor changes to turbine locations.

Table 2 presents locations for each of the 383 potential receptors considered in the Project noise assessment. For each potential receptor, Table 2 identifies and provides the distance to the closest Project noise source. As noted above, some potential receptors are located slightly more than 2 km from the closest Project noise source (i.e., just beyond the 2 km study area). These potential receptors were maintained in the assessment in the interest of fully capturing all potential noise effects. Figure 1 presents a map showing the locations of the Project noise sources and potential receptors.

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
A	613903	5023257	T001	1996
B	613569	5023224	T001	1940
C	613392	5023209	T001	1936
D	613335	5023201	T001	1935
E	613322	5023199	T001	1935
F	613065	5023189	T001	1979
G	613095	5023179	T001	1961
H	612305	5023164	T002	1922
I	613572	5023184	T001	1900
J	613305	5023174	T001	1913
K	612062	5023136	T002	1944
L	612342	5023135	T002	1889
M	613143	5023124	T001	1896
N	612237	5023103	T002	1873
O	613113	5023109	T001	1889
P	612171	5023070	T002	1854
Q	612405	5022988	T002	1736
R	611391	5022969	T002	2077 ^(b)
S	612593	5022952	T002	1692
T	611363	5022928	T002	2059 ^(b)
U	615735	5022995	T005	2068 ^(b)
V	615111	5022899	T003	1905
W	612697	5022781	T002	1526
X	612388	5022734	T002	1485
Y	611531	5022643	T002	1730

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
AA	611355	5021433	T007	1137
AB	616660	5020686	T005	1113
AC	617057	5020507	T005	1542
AD	616144	5019112	T015	1655
AE	615753	5018931	T015	1248
AF	616762	5016761	T019	2088 ^(b)
AG	616702	5016654	T019	2095 ^(b)
AH	612798	5016325	T025	1851
AI	616699	5016369	T029	2039 ^(b)
AJ	616606	5016189	T029	1840
AK	616614	5016119	T029	1775
AL	617556	5015543	T032	1718
AM	617280	5015506	T032	1570
AN	613211	5015426	T031	1754
AO	617228	5015484	T032	1532
AP	617465	5015476	T032	1617
AQ	617404	5015473	T032	1587
AR	618200	5015459	T037	1834
AS	617669	5015440	T032	1688
AT	617221	5015423	T032	1472
AU	617181	5015403	T032	1440
AV	618272	5015393	T037	1790
AW	618469	5015319	T037	1791
AX	617939	5015288	T037	1616
AY	617992	5015259	T037	1595
AZ	618230	5015088	T037	1488
BA	618366	5015075	T037	1527
BB	618254	5015049	T037	1459
BC	619892	5015070	T045	2078 ^(b)
BD	618279	5015038	T037	1458
BE	618474	5015016	T037	1522
BF	618343	5014978	T037	1429
BG	618445	5014952	T037	1452
BH	618493	5014917	T037	1447
BI	618579	5014862	T037	1448
BJ	618560	5014835	T037	1415
BK	618670	5014807	T037	1461
BL	618586	5014780	T037	1387
BM	620791	5014347	T049	1517
BN	619377	5014281	T041	1247
BO	619635	5014211	T045	1191
BP	620881	5013912	T049	1117
BQ	620881	5013912	T049	1117

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
BR	621284	5013787	T049	1206
BS	621285	5013787	T049	1206
BT	622208	5012622	T062	1229
BU	608684	5011113	T055	1577
BV	624226	5011214	T094	1565
BW	624216	5011164	T094	1518
BX	623729	5011111	T094	1250
BY	624219	5011106	T094	1472
BZ	626564	5010521	T109	1947
CA	626798	5010495	T109	2095 ^(b)
CB	626861	5010460	T109	2119 ^(b)
CC	626757	5010384	T109	1991
CD	626875	5010327	T109	2047 ^(b)
CE	626753	5010322	T109	1948
CF	626791	5010260	T109	1940
CG	626838	5010217	T109	1952
CH	609484	5009858	T100	1038
CI	626848	5010154	T109	1925
CJ	626987	5010130	T109	2030
CK	626874	5010012	T109	1873
CL	627018	5009975	T109	1983
CM	626926	5009961	T109	1895
CN	625833	5009900	T109	1001
CO	627043	5009899	T109	1973
CP	627063	5009856	T109	1974
CQ	626975	5009827	T109	1882
CR	627097	5009794	T109	1983
CS	627118	5009738	T109	1983
CT	627071	5009683	T109	1921
CU	627120	5009664	T109	1963
CV	627100	5009633	T109	1934
CW	627142	5009610	T109	1969
CX	614042	5009315	T096	1330
CY	627139	5009538	T109	1948
CZ	627173	5009499	T109	1973
DA	614868	5009261	T081	1767
DB	627220	5009480	T109	2015 ^(b)
DC	627166	5009465	T109	1959
DD	614421	5009200	T096	1725
DE	627243	5009434	T109	2029 ^(b)
DF	627065	5009414	T109	1850
DG	615561	5009184	T081	1615
DH	627101	5009388	T109	1882

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
DI	627242	5009382	T109	2020 ^(b)
DJ	614509	5009136	T096	1827
DK	627204	5009329	T109	1975
DL	627209	5009306	T109	1978
DM	615636	5009071	T081	1720
DN	615636	5009071	T081	1720
DO	627173	5009245	T109	1936
DP	627275	5009235	T109	2037 ^(b)
DQ	627242	5009227	T109	2004 ^(b)
DR	627292	5009222	T109	2053 ^(b)
DS	615604	5008982	T081	1812
DT	614626	5008959	T096	1992
DU	627314	5009190	T109	2073 ^(b)
DV	614881	5008937	T081	2047 ^(b)
DW	614618	5008929	T096	1995
DX	614632	5008923	T096	2010 ^(b)
DY	614937	5008928	T081	2032 ^(b)
DZ	627182	5009155	T109	1940
EA	627336	5009153	T109	2094 ^(b)
EB	614641	5008884	T129	1997
EC	627263	5009121	T109	2020 ^(b)
ED	627137	5009100	T109	1894
EE	627098	5009093	T109	1855
EF	611082	5008789	T106	1313
EG	627180	5009087	T109	1937
EH	615666	5008863	T081	1926
EI	627327	5009076	T109	2084 ^(b)
EJ	627180	5009057	T109	1937
EK	627229	5009047	T109	1986
EL	627317	5009043	T109	2075 ^(b)
EM	615627	5008811	T081	1980
EN	627209	5009030	T109	1967
EO	614768	5008784	T129	1908
EP	614975	5008783	T129	1941
EQ	627115	5009005	T109	1874
ER	615019	5008772	T129	1941
ES	627314	5008987	T109	2074 ^(b)
ET	615618	5008717	T081	2075 ^(b)
EU	615858	5008711	T081	2078 ^(b)
EV	627284	5008783	T109	2064 ^(b)
EW	627227	5008725	T109	2017 ^(b)
EX	615509	5008465	T129	1845
EY	611049	5008332	T106	1470

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
EZ	611049	5008332	T106	1470
FA	627224	5008564	T109	2050 ^(b)
FB	627095	5008487	T109	1948
FC	627023	5008451	T109	1892
FD	627188	5008337	T109	2086 ^(b)
FE	615878	5008108	T129	1803
FF	627167	5008275	T109	2090 ^(b)
FG	616011	5008047	T129	1865
FH	616049	5008011	T129	1873
FI	616122	5007911	T129	1876
FJ	616375	5007737	T129	2013 ^(b)
FK	616337	5007720	T129	1972
FL	616351	5007708	T129	1979
FM	616506	5007592	T129	2079 ^(b)
FN	616537	5007448	T129	2065 ^(b)
FO	616573	5007422	T129	2093 ^(b)
FP	617942	5007373	T103	2045 ^(b)
FQ	617869	5007369	T103	2082 ^(b)
FR	617969	5007345	T103	2059 ^(b)
FS	617993	5007319	T103	2072 ^(b)
FT	619708	5006884	T112	1845
FU	615610	5006761	T129	1069
FV	620165	5006712	T117	1644
FW	617068	5006571	T143	1849
FX	627731	5006580	T146	1751
FY	627930	5006549	T149	1727
FZ	626664	5006504	T146	1697
GA	626664	5006504	T146	1697
GB	628084	5006356	T149	1544
GC	617994	5006159	T143	2099 ^(b)
GD	628210	5006324	T149	1531
GE	628255	5006325	T149	1541
GF	615822	5006084	T143	1315
GG	628185	5006322	T149	1524
GH	628302	5006296	T149	1524
GI	628773	5006302	T149	1712
GJ	628427	5006294	T149	1559
GK	628551	5006294	T149	1604
GL	628606	5006294	T149	1627
GM	628770	5006283	T149	1694
GN	628691	5006267	T149	1641
GO	628751	5006240	T149	1647
GP	627635	5006211	T146	1370

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
GQ	628730	5006227	T149	1625
GR	616196	5005979	T143	1115
GS	628419	5006213	T149	1480
GT	627363	5006186	T146	1290
GU	628521	5006204	T149	1510
GV	628479	5006195	T149	1485
GW	618075	5005991	T143	2068 ^(b)
GX	618053	5005987	T143	2048 ^(b)
GY	628839	5006195	T149	1656
GZ	628801	5006176	T149	1619
HA	628718	5006168	T149	1568
HB	627309	5006119	T146	1219
HC	627387	5006106	T146	1214
HD	618140	5005917	T143	2085 ^(b)
HE	627480	5006066	T146	1190
HF	628853	5006055	T149	1550
HG	628860	5006039	T149	1542
HH	628839	5006005	T149	1502
HI	628750	5005977	T149	1426
HJ	628810	5005972	T149	1458
HK	629545	5005984	T149	2003 ^(b)
HL	628908	5005961	T149	1512
HM	619686	5005763	T140	2053 ^(b)
HN	629564	5005946	T149	1997
HO	618317	5005689	T155	2099 ^(b)
HP	629153	5005817	T149	1590
HQ	619640	5005626	T140	2085 ^(b)
HR	618365	5005601	T155	2032 ^(b)
HS	618321	5005586	T155	2003 ^(b)
HT	618387	5005583	T155	2023 ^(b)
HU	629604	5005780	T149	1944
HV	628900	5005759	T149	1361
HW	628963	5005754	T149	1404
HX	628920	5005748	T149	1368
HY	619650	5005559	T140	2072 ^(b)
HZ	628789	5005718	T149	1253
IA	618494	5005514	T155	2002 ^(b)
IB	629629	5005730	T149	1941
IC	628843	5005710	T149	1286
ID	629692	5005724	T149	1995
IE	629065	5005709	T149	1454
IF	629410	5005714	T149	1743
IG	628873	5005698	T149	1300

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
IH	619823	5005520	T140	1898
II	629025	5005686	T149	1408
IJ	629706	5005700	T149	1996
IK	629682	5005683	T149	1967
IL	628866	5005646	T149	1260
IM	629647	5005661	T149	1926
IN	629187	5005648	T149	1518
IO	628950	5005634	T149	1317
IP	628979	5005635	T149	1341
IQ	619820	5005454	T140	1901
IR	629547	5005628	T149	1822
IS	619898	5005433	T140	1824
IT	628936	5005608	T149	1290
IU	629113	5005595	T149	1427
IV	629636	5005593	T149	1888
IW	629240	5005579	T149	1528
IX	629115	5005569	T149	1415
IY	619892	5005388	T140	1832
IZ	620053	5005390	T140	1671
JA	629627	5005572	T149	1871
JB	629224	5005551	T149	1500
JC	620033	5005367	T140	1692
JD	629239	5005538	T149	1507
JE	619974	5005353	T140	1752
JF	620076	5005353	T140	1651
JG	629187	5005521	T149	1453
JH	629119	5005516	T149	1391
JI	620124	5005336	T140	1604
JJ	628898	5005503	T149	1197
JK	620134	5005309	T140	1597
JL	629083	5005479	T149	1342
JM	620068	5005282	T140	1666
JN	629085	5005447	T149	1328
JO	620228	5005273	T140	1509
JP	620236	5005232	T140	1507
JQ	620114	5005228	T140	1628
JR	620120	5005112	T140	1645
JS	629103	5005281	T149	1275
JT	619699	5005046	T140	2070 ^(b)
JU	619708	5005032	T140	2064 ^(b)
JV	619769	5004975	T140	2019 ^(b)
JW	620332	5004949	T140	1491
JX	629227	5005116	T149	1346

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
JY	620411	5004896	T140	1438
JZ	620513	5004859	T140	1363
KA	619885	5004832	T140	1950
KB	620627	5004814	T140	1286
KC	629410	5004983	T149	1506
KD	620572	5004766	T140	1358
KE	620639	5004750	T140	1311
KF	620615	5004741	T140	1336
KG	620631	5004724	T140	1332
KH	620172	5004605	T140	1784
KI	620222	5004566	T140	1761
KJ	620253	5004539	T140	1749
KK	620818	5004537	T140	1313
KL	620251	5004509	T140	1767
KM	620263	5004500	T140	1762
KN	620299	5004495	T140	1736
KO	620374	5004485	T140	1681
KP	620928	5004443	T140	1313
KQ	620456	5004354	T140	1700
KR	620505	5004340	T140	1674
KS	620582	5004197	T140	1723
KT	620671	5004166	T140	1690
KU	620667	5004108	T140	1738
KV	620766	5004079	T140	1704
KW	620810	5004049	T140	1705
KX	620819	5004016	T140	1728
KY	620842	5003974	T140	1752
KZ	620832	5003942	T140	1785
LA	620782	5003893	T140	1853
LB	620784	5003867	T140	1874
LC	620780	5003846	T140	1894
LD	620920	5003846	T140	1829
LE	620817	5003833	T140	1888
LF	620830	5003814	T140	1898
LG	620836	5003757	T140	1946
LH	627546	5003750	T149	1133
LI	620868	5003593	T140	2080 ^(b)
LJ	627486	5003694	T149	1206
LK	614889	5003407	T152	1085
LL	614887	5003401	T152	1090
LM	613625	5003299	T144	1578
LN	621132	5003305	T153	2084 ^(b)
LO	621146	5003290	T153	2077 ^(b)

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

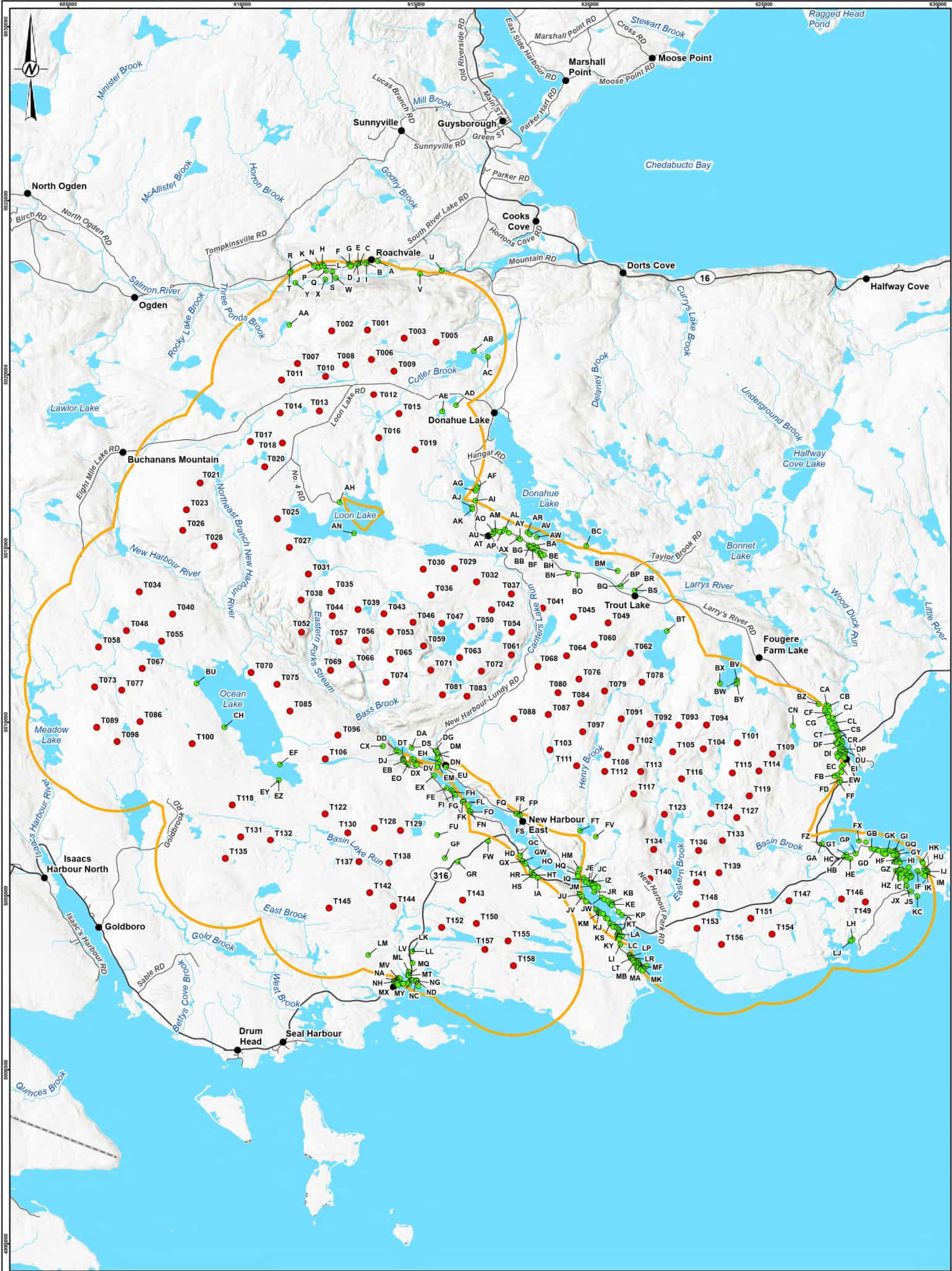
Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
LP	621156	5003254	T153	2081 ^(b)
LQ	621166	5003226	T153	2083 ^(b)
LR	621196	5003224	T153	2056 ^(b)
LS	621204	5003218	T153	2052 ^(b)
LT	621169	5003201	T153	2090 ^(b)
LU	621203	5003196	T153	2062 ^(b)
LV	614897	5003071	T152	1317
LW	621243	5003143	T153	2049 ^(b)
LX	621369	5003120	T153	1948
LY	621377	5003117	T153	1942
LZ	621293	5003099	T153	2025 ^(b)
MA	621336	5003084	T153	1994
MB	621271	5003072	T153	2057 ^(b)
MC	621405	5003056	T153	1949
MD	621361	5003051	T153	1989
ME	621401	5003020	T153	1971
MF	621418	5002991	T153	1972
MG	621630	5002986	T153	1801
MH	621431	5002980	T153	1968
MI	621485	5002962	T153	1933
MJ	621340	5002947	T153	2062 ^(b)
MK	621497	5002949	T153	1931
ML	614783	5002821	T152	1585
MM	621458	5002932	T153	1972
MN	621505	5002931	T153	1935
MO	621450	5002902	T153	1996
MP	621453	5002877	T153	2008 ^(b)
MQ	614767	5002725	T152	1672
MR	621508	5002844	T153	1984
MS	614761	5002717	T152	1682
MT	614791	5002705	T152	1674
MU	614487	5002640	T152	1911
MV	614468	5002637	T152	1926
MW	614531	5002629	T152	1891
MX	614452	5002596	T152	1967
MY	614886	5002581	T152	1730
MZ	614892	5002576	T152	1731
NA	614440	5002564	T152	1999
NB	614894	5002571	T152	1735
NC	615003	5002570	T152	1686
ND	615025	5002563	T152	1683
NE	614361	5002551	T152	2061 ^(b)
NF	614419	5002548	T152	2025 ^(b)

Table 2: Potential Receptor Locations and Distance to Project Noise Sources

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Noise Source	Distance to Closest Project Noise Source (m)
	Easting (m)	Northing (m)		
NG	615011	5002556	T152	1695
NH	614414	5002543	T152	2032 ^(b)
NI	614408	5002523	T152	2051 ^(b)
NJ	614376	5002510	T152	2082 ^(b)
NK	614548	5002508	T152	1976
NL	614439	5002504	T152	2046 ^(b)
NM	614763	5002497	T152	1865
NN	614596	5002485	T152	1966
NO	614572	5002475	T152	1988
NP	614587	5002473	T152	1981
NQ	614631	5002472	T152	1957
NR	614784	5002458	T152	1887
NS	614475	5002434	T152	2079 ^(b)
NT	615066	5002397	T152	1819

(a) The receptor identification codes are not sequential because some locations were removed during the planning process.

(b) This potential receptor is located more than 2 km from the nearest Project noise source but was maintained in the assessment in consideration of potential minor changes to turbine locations.



- LEGEND**
- COMMUNITY
 - POTENTIAL RECEPTOR
 - TURBINE LOCATION
 - HIGHWAY
 - LOCAL ROAD
 - MUNICIPAL BOUNDARY
 - WATERCOURSE
 - ▭ STUDY AREA
 - ▭ WATERBODY

CLIENT
EVERWIND

CONSULTANT



YYYY-MM-DD	2026-04-24
DESIGNED	VY
PREPARED	MV
REVIEWED	VY
APPROVED	NLH

REFERENCE(S)

DIGITAL BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
DATUM: NAD83 PROJECTION: UTM ZONE 20

PROJECT

OCEAN LAKE WIND PROJECT

TITLE

STUDY AREA

PROJECT NO.
CA0066766.3659

CONTROL
1000

REV.
0

FIGURE
1

4.2 Ambient Noise Levels

As discussed in Section 3 of this report, the 40 dBA threshold from the EA Guide (Nova Scotia 2024) applies to cumulative noise levels, which include the noise contribution from existing natural and anthropogenic sources (often called baseline or ambient noise levels), as well as the noise contribution from Project operations.

The Noise Guidelines indicate that measured ambient noise levels may sometimes be required in response to specific direction from Nova Scotia Environment and Climate Change (Nova Scotia 2023). However, in quiet rural environments (like the Project study area) where natural noise sources tend to dominate, environmental assessments often establish representative ambient noise levels using a desktop method from Health Canada’s *Guidance for Evaluating Human Health Effects in Impact Assessment: Noise* (Health Canada 2023), which will hereafter be referred to as the Health Canada Guidance.

The Health Canada Guidance indicates that an ambient noise level of 35 dBA is generally representative of a quiet rural environment during the nighttime period (Health Canada 2023). The Project noise assessment made use of this representative ambient noise level when assessing potential effects at all potential receptors.

4.3 Noise Prediction Methodology

A computer model for the Project noise assessment was developed using the CadnaA® software package, which implements the noise propagation algorithm described in the International Organization for Standardization (ISO) 9613-2 technical standard (ISO 2024). The computer model was used to predict noise levels from operation of the Project. Inputs to the computer noise model consisted of source emissions in the form of octave band sound power levels and environmental conditions that are known to influence noise propagation (e.g., ground cover, temperature, humidity, wind conditions). A summary of environmental inputs to the computer models is provided in Table 3.

Table 3: Noise Model Inputs

Parameter	Model Setting	Description / Notes
Standard	ISO 9613-2 (ISO 2024)	Model treated noise sources and noise propagation in accordance with this standard.
Ground Factor	0.0 – lakes and waterbodies 0.7 – elsewhere in the study area	This value represents the acoustic properties of the ground. A value of 0.0 indicates hard/reflective ground. A value of 1.0 indicates porous/absorptive ground. Values between 0.0 and 1.0 represent a mixture of hard and porous ground.
Temperate	10°C	This is the typical default value for ISO 9613-2 modelling intended to represent nighttime summer conditions.
Relative Humidity	70%	This is the typical default value for ISO 9613-2 modelling intended to represent nighttime summer conditions.
Wind Conditions	1 to 5 m/s from source to receptor	These represent default ISO 9613-2 wind conditions – moderate temperature inversion, wind from source to receptor 100% of the time.
Terrain	included	Model included terrain based on ground elevation contours at 5 m intervals.

When calculating noise levels at receptors, the ISO 9613-2 algorithm used the environmental inputs listed in Table 3 to account for four noise attenuation mechanisms:

- geometric divergence
- atmospheric absorption
- ground absorption
- screening by barriers

Geometric divergence accounts for the fact that a given noise source radiates a finite amount of acoustic energy and as this finite amount of energy propagates into the environment it is spread out over a larger and larger area (i.e., the surface of an ever-expanding sphere). This geometric spreading means that the farther away a receptor is located from a source, the less energy will be received (i.e., the lower the observed noise level).

Atmospheric absorption accounts for the fact that the acoustic energy associated with a given noise source is absorbed via interaction with molecules in the air through which it propagates. Attenuation effects associated with atmospheric absorption are most substantial at high frequencies but can be important at lower frequencies when propagation distances are large.

Ground absorption accounts for the fact that each time the acoustic energy emitted by a noise source interacts with the ground some of it is absorbed. The amount of energy absorbed depends on the type of ground surface. During interactions with hard ground very little energy is absorbed but during interactions with porous ground a substantial amount of energy is absorbed. As a result, if all other factors are held constant, observed noise levels associated with sources operating in an area of hard ground will be higher than observed noise levels associated with sources operating in an area of porous ground.

Screening by barriers accounts for the fact that a physical object (either terrain-based or anthropogenic) placed between a noise source and receptor can block acoustic energy and reduce observed noise levels at the receptor.

According to the ISO 9613-2 standard, the overall accuracy of the propagation algorithm used in the Project noise assessment computer models is ± 3 dBA for distances between source and receptor up to 1 km (ISO 2024). The accuracy for propagation distances greater than 1 km is not stated in the standard. Model accuracy also depends on the accuracy of the noise emissions inputs, which is often ± 2 dBA. Accounting for both these independent sources of uncertainty, the overall accuracy of the noise levels predictions presented in the Project noise assessment is expected to be ± 3.6 dBA. Several conservative assumptions regarding propagation conditions, Project operations, and Project noise emissions were made to account for this level of uncertainty.

Each potential receptor was assumed to be downwind from each source 100% of the time. Because downwind conditions tend to enhance noise propagation, this assumption is conservative and likely overestimates noise effects from the Project.

The Project wind turbines were modelled with maximum noise emissions 100% of the time. Because Project turbines will often operate with less than maximum noise emissions (e.g., during periods of relatively low wind), this approach is conservative and likely overestimates noise effects from the Project.

Terrain features were the only acoustical screening elements considered in the computer models. Acoustical screening from anthropogenic features (e.g., buildings) and vegetation (e.g., the dense forest that covers most of the study area) was not considered in the computer models. This is a conservative approach that will tend to overestimate noise effects from the Project.

5 NOISE EMISSIONS

As discussed in Section 2, Project noise sources consist of 143 Goldwind GWH182 8.0-MW wind turbines with STE blades and pad-mounted transformers. All Project sources were modelled with maximum planned noise emissions.

Noise emissions for the Project wind turbines were provided by Goldwind (the manufacturer) in the form of one-third octave band sound power levels. As discussed in Section 3.2 of this report, the Noise Guidelines provide a test for identifying low frequency tonal components in one-third octave band data (Nova Scotia 2023).

WSP applied this test to the emissions data provided by Goldwind and found no tonal components associated with the Project wind turbines. Therefore, Project wind turbines cannot produce LFN issues as defined in Noise Guidelines (Nova Scotia 2023).

As discussed in Section 4.3, computer modelling in accordance with ISO 9613-2 requires that noise emissions be specified in the form of octave band sound power levels. To facilitate computer modelling, WSP processed the one-third octave band data provided by Goldwind to obtain octave band sound power levels for frequency bands from 31.5 to 8 kilohertz (kHz).

Table 4 presents noise emissions values used to model Project sources. All noise emissions values are presented in the form of octave band sound power levels, expressed in unweighted decibels (dBZ), and total sound power levels expressed in dBA.

Table 4: Project Noise Emissions

Source	Operating Mode	Octave Band Sound Power Level (dBZ)									Total Sound Power Level (dBA)
		31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
Goldwind GWH182 8.0-MW wind turbine with STE blades	SRM4s ^(a)	111.0	113.3	113.2	109.4	104.4	99.7	94.3	88.4	81.5	106.5
wind turbine pad-mounted transformer	KNAN ^(b)	90.9	96.9	98.9	93.9	93.9	87.9	82.9	77.9	70.9	94.3

(a) SRM4s = Sound Reduction Mode 4 with STE blades

(b) KNAN = Natural Air Cooling and Non-Mineral Oil

6 ASSESSMENT RESULTS

6.1 Broadband Noise – Operations

For each potential receptor, Table 5 presents predicted noise levels from Project operations and cumulative noise levels calculated by summing predicted Project noise levels with representative ambient noise levels. Figure 2 presents predicted cumulative noise levels for the entire study area.

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
A	32.4	35	36.9
B	32.7	35	37.0
C	32.8	35	37.0
D	32.8	35	37.0
E	32.8	35	37.0
F	32.8	35	37.0
G	32.9	35	37.1
H	32.4	35	36.9
I	32.9	35	37.1
J	32.9	35	37.1
K	32.2	35	36.8
L	32.5	35	36.9
M	33.2	35	37.2
N	32.5	35	36.9
O	33.2	35	37.2
P	32.6	35	37.0
Q	33.2	35	37.2
R	31.7	35	36.7
S	33.7	35	37.4
T	31.9	35	36.7
U	31.3	35	36.5
V	32.9	35	37.1
W	34.5	35	37.8
X	34.5	35	37.8
Y	33.3	35	37.2
AA	38.0	35	39.8
AB	35.4	35	38.2
AC	34.1	35	37.6
AD	35.5	35	38.3
AE	37.6	35	39.5
AF	33.8	35	37.5
AG	33.6	35	37.4
AH	37.0	35	39.1
AI	34.2	35	37.6
AJ	35.5	35	38.3
AK	35.8	35	38.4
AL	35.9	35	38.5
AM	36.6	35	38.9
AN	38.1	35	39.8
AO	36.8	35	39.0

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
AP	36.4	35	38.8
AQ	36.5	35	38.8
AR	35.1	35	38.1
AS	36.2	35	38.7
AT	37.1	35	39.2
AU	37.2	35	39.2
AV	35.3	35	38.2
AW	35.3	35	38.2
AX	36.3	35	38.7
AY	36.3	35	38.7
AZ	36.7	35	38.9
BA	36.5	35	38.8
BB	36.8	35	39.0
BC	34.1	35	37.6
BD	36.8	35	39.0
BE	36.6	35	38.9
BF	37.0	35	39.1
BG	36.9	35	39.1
BH	37.0	35	39.1
BI	37.1	35	39.2
BJ	37.2	35	39.2
BK	37.2	35	39.2
BL	37.4	35	39.4
BM	35.4	35	38.2
BN	38.3	35	40.0
BO	38.2	35	39.9
BP	37.4	35	39.4
BQ	37.4	35	39.4
BR	36.8	35	39.0
BS	36.8	35	39.0
BT	38.2	35	39.9
BU	38.0	35	39.8
BV	36.4	35	38.8
BW	36.6	35	38.9
BX	37.9	35	39.7
BY	36.8	35	39.0
BZ	31.9	35	36.7
CA	31.1	35	36.5
CB	30.9	35	36.4
CC	31.5	35	36.6
CD	31.2	35	36.5
CE	31.7	35	36.7
CF	31.7	35	36.7
CG	31.6	35	36.6
CH	38.2	35	39.9
CI	31.7	35	36.7
CJ	31.2	35	36.5

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
CK	31.9	35	36.7
CL	31.4	35	36.6
CM	31.8	35	36.7
CN	37.4	35	39.4
CO	31.4	35	36.6
CP	31.5	35	36.6
CQ	31.9	35	36.7
CR	31.5	35	36.6
CS	31.6	35	36.6
CT	31.9	35	36.7
CU	31.7	35	36.7
CV	31.9	35	36.7
CW	31.8	35	36.7
CX	38.1	35	39.8
CY	31.9	35	36.7
CZ	31.8	35	36.7
DA	37.4	35	39.4
DB	31.6	35	36.6
DC	31.9	35	36.7
DD	37.6	35	39.5
DE	31.6	35	36.6
DF	32.3	35	36.9
DG	37.2	35	39.2
DH	32.2	35	36.8
DI	31.7	35	36.7
DJ	37.5	35	39.4
DK	31.9	35	36.7
DL	31.9	35	36.7
DM	36.9	35	39.1
DN	36.9	35	39.1
DO	32.1	35	36.8
DP	31.7	35	36.7
DQ	31.8	35	36.7
DR	31.6	35	36.6
DS	36.8	35	39.0
DT	37.0	35	39.1
DU	31.6	35	36.6
DV	37.2	35	39.2
DW	37.0	35	39.1
DX	37.0	35	39.1
DY	37.4	35	39.4
DZ	32.3	35	36.9
EA	31.5	35	36.6
EB	36.9	35	39.1
EC	31.9	35	36.7
ED	32.5	35	36.9
EE	32.7	35	37.0

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
EF	38.2	35	39.9
EG	32.3	35	36.9
EH	36.5	35	38.8
EI	31.7	35	36.7
EJ	32.4	35	36.9
EK	32.2	35	36.8
EL	31.7	35	36.7
EM	36.6	35	38.9
EN	32.3	35	36.9
EO	36.8	35	39.0
EP	36.8	35	39.0
EQ	32.7	35	37.0
ER	36.9	35	39.1
ES	31.9	35	36.7
ET	36.7	35	38.9
EU	36.2	35	38.7
EV	32.1	35	36.8
EW	32.3	35	36.9
EX	36.3	35	38.7
EY	38.1	35	39.8
EZ	38.1	35	39.8
FA	32.5	35	36.9
FB	33.1	35	37.2
FC	33.4	35	37.3
FD	32.8	35	37.0
FE	35.8	35	38.4
FF	32.8	35	37.0
FG	36.1	35	38.6
FH	36.0	35	38.5
FI	35.6	35	38.3
FJ	35.2	35	38.1
FK	35.0	35	38.0
FL	35.0	35	38.0
FM	34.9	35	38.0
FN	34.9	35	38.0
FO	35.0	35	38.0
FP	35.3	35	38.2
FQ	35.2	35	38.1
FR	35.3	35	38.2
FS	35.3	35	38.2
FT	37.6	35	39.5
FU	37.8	35	39.6
FV	37.7	35	39.6
FW	34.7	35	37.9
FX	34.2	35	37.6
FY	33.0	35	37.1
FZ	35.4	35	38.2

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
GA	35.4	35	38.2
GB	33.4	35	37.3
GC	34.1	35	37.6
GD	33.2	35	37.2
GE	33.0	35	37.1
GF	37.5	35	39.4
GG	33.2	35	37.2
GH	33.0	35	37.1
GI	31.4	35	36.6
GJ	32.6	35	37.0
GK	32.2	35	36.8
GL	32.0	35	36.8
GM	31.4	35	36.6
GN	31.7	35	36.7
GO	31.6	35	36.6
GP	35.2	35	38.1
GQ	31.7	35	36.7
GR	37.4	35	39.4
GS	33.0	35	37.1
GT	35.6	35	38.3
GU	32.6	35	37.0
GV	32.9	35	37.1
GW	34.2	35	37.6
GX	34.2	35	37.6
GY	31.4	35	36.6
GZ	31.6	35	36.6
HA	32.0	35	36.8
HB	36.0	35	38.5
HC	36.0	35	38.5
HD	34.2	35	37.6
HE	36.1	35	38.6
HF	31.9	35	36.7
HG	31.9	35	36.7
HH	32.1	35	36.8
HI	32.7	35	37.0
HJ	32.4	35	36.9
HK	28.5	35	35.9
HL	32.0	35	36.8
HM	34.9	35	38.0
HN	28.5	35	35.9
HO	34.3	35	37.7
HP	30.9	35	36.4
HQ	34.7	35	37.9
HR	34.4	35	37.7
HS	34.5	35	37.8
HT	34.4	35	37.7
HU	28.8	35	35.9

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
HV	32.8	35	37.0
HW	32.3	35	36.9
HX	32.7	35	37.0
HY	34.6	35	37.8
HZ	33.6	35	37.4
IA	34.3	35	37.7
IB	28.8	35	35.9
IC	33.3	35	37.2
ID	28.5	35	35.9
IE	31.9	35	36.7
IF	31.0	35	36.5
IG	33.2	35	37.2
IH	34.9	35	38.0
II	32.2	35	36.8
IJ	28.5	35	35.9
IK	28.7	35	35.9
IL	33.4	35	37.3
IM	28.9	35	36.0
IN	31.3	35	36.5
IO	32.8	35	37.0
IP	32.6	35	37.0
IQ	35.0	35	38.0
IR	30.1	35	36.2
IS	35.1	35	38.1
IT	33.0	35	37.1
IU	31.9	35	36.7
IV	29.4	35	36.1
IW	31.2	35	36.5
IX	32.0	35	36.8
IY	35.2	35	38.1
IZ	35.3	35	38.2
JA	29.8	35	36.1
JB	31.4	35	36.6
JC	35.2	35	38.1
JD	31.3	35	36.5
JE	35.2	35	38.1
JF	35.3	35	38.2
JG	31.7	35	36.7
JH	32.1	35	36.8
JI	35.4	35	38.2
JJ	33.6	35	37.4
JK	35.4	35	38.2
JL	32.5	35	36.9
JM	35.3	35	38.2
JN	32.5	35	36.9
JO	35.6	35	38.3
JP	35.6	35	38.3

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
JQ	35.3	35	38.2
JR	35.3	35	38.2
JS	32.9	35	37.1
JT	34.6	35	37.8
JU	34.6	35	37.8
JV	34.6	35	37.8
JW	35.5	35	38.3
JX	32.3	35	36.9
JY	35.7	35	38.4
JZ	35.8	35	38.4
KA	34.4	35	37.7
KB	36.1	35	38.6
KC	31.2	35	36.5
KD	35.9	35	38.5
KE	36.0	35	38.5
KF	35.9	35	38.5
KG	36.0	35	38.5
KH	34.6	35	37.8
KI	34.6	35	37.8
KJ	34.7	35	37.9
KK	36.1	35	38.6
KL	34.4	35	37.7
KM	34.5	35	37.8
KN	34.7	35	37.9
KO	35.3	35	38.2
KP	36.2	35	38.7
KQ	34.8	35	37.9
KR	35.1	35	38.1
KS	34.5	35	37.8
KT	34.9	35	38.0
KU	34.5	35	37.8
KV	34.9	35	38.0
KW	34.9	35	38.0
KX	34.7	35	37.9
KY	34.6	35	37.8
KZ	34.5	35	37.8
LA	34.2	35	37.6
LB	34.1	35	37.6
LC	34.1	35	37.6
LD	34.4	35	37.7
LE	34.1	35	37.6
LF	34.1	35	37.6
LG	34.0	35	37.5
LH	36.3	35	38.7
LI	33.6	35	37.4
LJ	36.0	35	38.5
LK	37.5	35	39.4

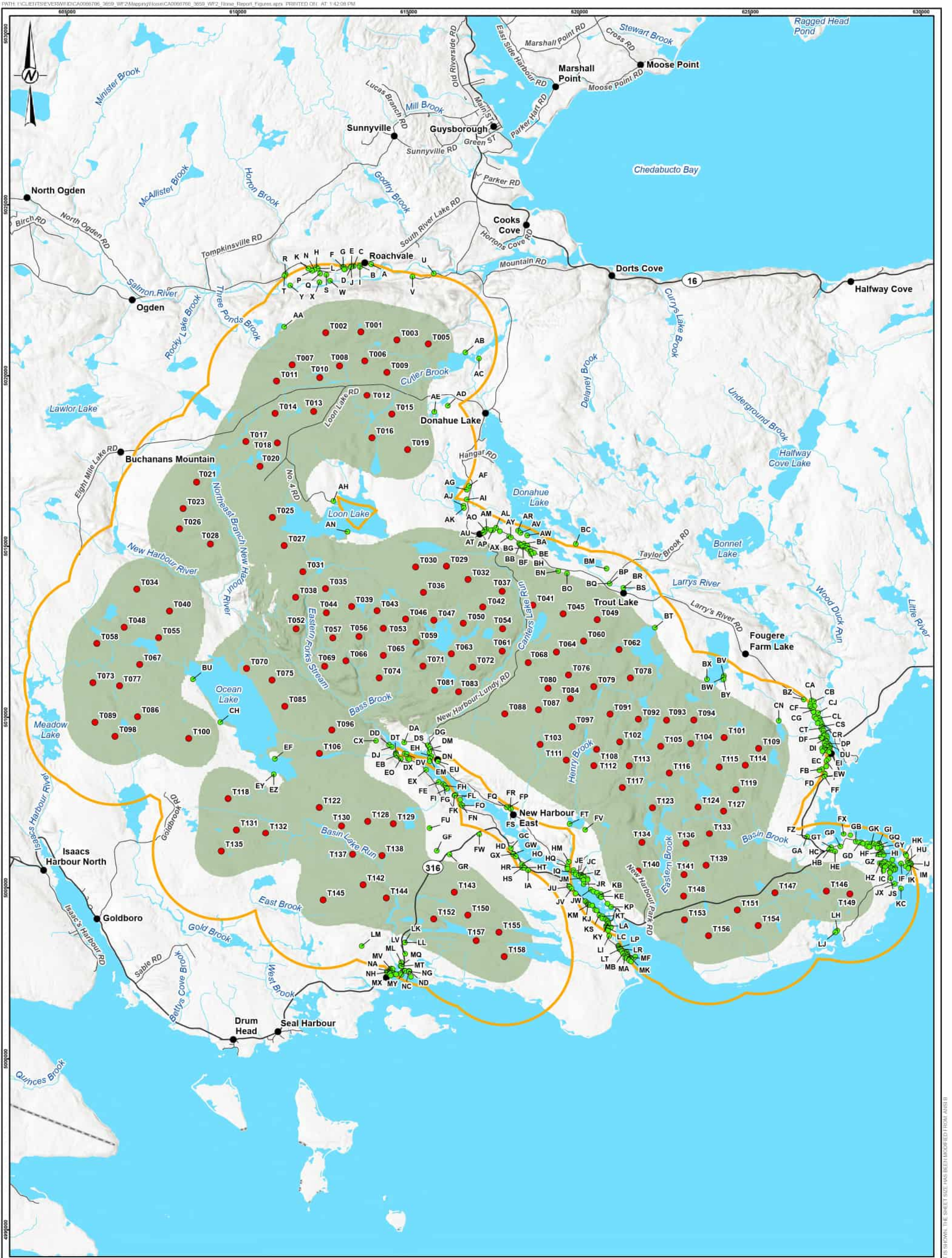
Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
LL	37.4	35	39.4
LM	35.2	35	38.1
LN	34.1	35	37.6
LO	34.0	35	37.5
LP	33.7	35	37.4
LQ	33.5	35	37.3
LR	33.7	35	37.4
LS	33.7	35	37.4
LT	33.4	35	37.3
LU	33.5	35	37.3
LV	36.0	35	38.5
LW	33.4	35	37.3
LX	34.2	35	37.6
LY	34.2	35	37.6
LZ	33.4	35	37.3
MA	33.5	35	37.3
MB	33.3	35	37.2
MC	33.7	35	37.4
MD	33.4	35	37.3
ME	33.5	35	37.3
MF	33.4	35	37.3
MG	34.7	35	37.9
MH	33.4	35	37.3
MI	33.5	35	37.3
MJ	33.1	35	37.2
MK	33.4	35	37.3
ML	34.7	35	37.9
MM	33.3	35	37.2
MN	33.4	35	37.3
MO	33.2	35	37.2
MP	33.1	35	37.2
MQ	34.3	35	37.7
MR	33.2	35	37.2
MS	34.2	35	37.6
MT	34.2	35	37.6
MU	33.5	35	37.3
MV	33.4	35	37.3
MW	33.6	35	37.4
MX	33.3	35	37.2
MY	33.9	35	37.5
MZ	33.9	35	37.5
NA	33.1	35	37.2
NB	33.9	35	37.5
NC	34.1	35	37.6
ND	34.1	35	37.6
NE	33.0	35	37.1
NF	33.0	35	37.1

Table 5: Predicted Project and Cumulative Noise Levels

Receptor Identification Code	Project Noise Level – Operations (dBA)	Ambient Noise Level (dBA)	Cumulative Noise Level ^(a) (dBA)
NG	34.1	35	37.6
NH	33.0	35	37.1
NI	32.9	35	37.1
NJ	32.8	35	37.0
NK	33.2	35	37.2
NL	32.9	35	37.1
NM	33.8	35	37.5
NN	33.5	35	37.3
NO	33.3	35	37.2
NP	33.4	35	37.3
NQ	33.6	35	37.4
NR	33.5	35	37.3
NS	32.7	35	37.0
NT	33.6	35	37.4

(a) Cumulative noise level is the sum of the predicted Project noise level and the ambient noise level.



- LEGEND**
- COMMUNITY
 - POTENTIAL RECEPTOR
 - TURBINE LOCATION
 - HIGHWAY
 - LOCAL ROAD
 - MUNICIPAL BOUNDARY
 - WATERCOURSE
 - STUDY AREA
 - WATERBODY
- PREDICTED CUMULATIVE NOISE LEVEL**
- CUMULATIVE NOISE LEVEL ≥ 40 dBA



REFERENCE(S)

DIGITAL BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
DATUM: NAD83 PROJECTION: UTM ZONE 20

PROJECT

OCEAN LAKE WIND PROJECT

TITLE

CUMULATIVE NOISE LEVELS

PROJECT NO.	CONTROL	REV.	FIGURE
CA0066766.3659	1000	0	2

CLIENT

EVERWIND

CONSULTANT



YYYY-MM-DD	2026-04-24
DESIGNED	VY
PREPARED	MV
REVIEWED	VY
APPROVED	NLH

Table 6 assesses Project compliance with the EA Guide (Nova Scotia 2024) by comparing cumulative noise levels during Project operations to the 40 dBA noise threshold. The results presented in Table 6 demonstrate that cumulative noise levels are predicted to comply with the EA Guide (Nova Scotia 2024) at all potential receptors.

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
A	36.9	40	3.1	compliant
B	37.0	40	3.0	compliant
C	37.0	40	3.0	compliant
D	37.0	40	3.0	compliant
E	37.0	40	3.0	compliant
F	37.0	40	3.0	compliant
G	37.1	40	2.9	compliant
H	36.9	40	3.1	compliant
I	37.1	40	2.9	compliant
J	37.1	40	2.9	compliant
K	36.8	40	3.2	compliant
L	36.9	40	3.1	compliant
M	37.2	40	2.8	compliant
N	36.9	40	3.1	compliant
O	37.2	40	2.8	compliant
P	37.0	40	3.0	compliant
Q	37.2	40	2.8	compliant
R	36.7	40	3.3	compliant
S	37.4	40	2.6	compliant
T	36.7	40	3.3	compliant
U	36.5	40	3.5	compliant
V	37.1	40	2.9	compliant
W	37.8	40	2.2	compliant
X	37.8	40	2.2	compliant
Y	37.2	40	2.8	compliant
AA	39.8	40	0.2	compliant
AB	38.2	40	1.8	compliant
AC	37.6	40	2.4	compliant
AD	38.3	40	1.7	compliant
AE	39.5	40	0.5	compliant
AF	37.5	40	2.5	compliant
AG	37.4	40	2.6	compliant
AH	39.1	40	0.9	compliant
AI	37.6	40	2.4	compliant
AJ	38.3	40	1.7	compliant
AK	38.4	40	1.6	compliant
AL	38.5	40	1.5	compliant
AM	38.9	40	1.1	compliant
AN	39.8	40	0.2	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
AO	39.0	40	1.0	compliant
AP	38.8	40	1.2	compliant
AQ	38.8	40	1.2	compliant
AR	38.1	40	1.9	compliant
AS	38.7	40	1.3	compliant
AT	39.2	40	0.8	compliant
AU	39.2	40	0.8	compliant
AV	38.2	40	1.8	compliant
AW	38.2	40	1.8	compliant
AX	38.7	40	1.3	compliant
AY	38.7	40	1.3	compliant
AZ	38.9	40	1.1	compliant
BA	38.8	40	1.2	compliant
BB	39.0	40	1.0	compliant
BC	37.6	40	2.4	compliant
BD	39.0	40	1.0	compliant
BE	38.9	40	1.1	compliant
BF	39.1	40	0.9	compliant
BG	39.1	40	0.9	compliant
BH	39.1	40	0.9	compliant
BI	39.2	40	0.8	compliant
BJ	39.2	40	0.8	compliant
BK	39.2	40	0.8	compliant
BL	39.4	40	0.6	compliant
BM	38.2	40	1.8	compliant
BN	40.0	40	0.0	compliant
BO	39.9	40	0.1	compliant
BP	39.4	40	0.6	compliant
BQ	39.4	40	0.6	compliant
BR	39.0	40	1.0	compliant
BS	39.0	40	1.0	compliant
BT	39.9	40	0.1	compliant
BU	39.8	40	0.2	compliant
BV	38.8	40	1.2	compliant
BW	38.9	40	1.1	compliant
BX	39.7	40	0.3	compliant
BY	39.0	40	1.0	compliant
BZ	36.7	40	3.3	compliant
CA	36.5	40	3.5	compliant
CB	36.4	40	3.6	compliant
CC	36.6	40	3.4	compliant
CD	36.5	40	3.5	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
CE	36.7	40	3.3	compliant
CF	36.7	40	3.3	compliant
CG	36.6	40	3.4	compliant
CH	39.9	40	0.1	compliant
CI	36.7	40	3.3	compliant
CJ	36.5	40	3.5	compliant
CK	36.7	40	3.3	compliant
CL	36.6	40	3.4	compliant
CM	36.7	40	3.3	compliant
CN	39.4	40	0.6	compliant
CO	36.6	40	3.4	compliant
CP	36.6	40	3.4	compliant
CQ	36.7	40	3.3	compliant
CR	36.6	40	3.4	compliant
CS	36.6	40	3.4	compliant
CT	36.7	40	3.3	compliant
CU	36.7	40	3.3	compliant
CV	36.7	40	3.3	compliant
CW	36.7	40	3.3	compliant
CX	39.8	40	0.2	compliant
CY	36.7	40	3.3	compliant
CZ	36.7	40	3.3	compliant
DA	39.4	40	0.6	compliant
DB	36.6	40	3.4	compliant
DC	36.7	40	3.3	compliant
DD	39.5	40	0.5	compliant
DE	36.6	40	3.4	compliant
DF	36.9	40	3.1	compliant
DG	39.2	40	0.8	compliant
DH	36.8	40	3.2	compliant
DI	36.7	40	3.3	compliant
DJ	39.4	40	0.6	compliant
DK	36.7	40	3.3	compliant
DL	36.7	40	3.3	compliant
DM	39.1	40	0.9	compliant
DN	39.1	40	0.9	compliant
DO	36.8	40	3.2	compliant
DP	36.7	40	3.3	compliant
DQ	36.7	40	3.3	compliant
DR	36.6	40	3.4	compliant
DS	39.0	40	1.0	compliant
DT	39.1	40	0.9	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
DU	36.6	40	3.4	compliant
DV	39.2	40	0.8	compliant
DW	39.1	40	0.9	compliant
DX	39.1	40	0.9	compliant
DY	39.4	40	0.6	compliant
DZ	36.9	40	3.1	compliant
EA	36.6	40	3.4	compliant
EB	39.1	40	0.9	compliant
EC	36.7	40	3.3	compliant
ED	36.9	40	3.1	compliant
EE	37.0	40	3.0	compliant
EF	39.9	40	0.1	compliant
EG	36.9	40	3.1	compliant
EH	38.8	40	1.2	compliant
EI	36.7	40	3.3	compliant
EJ	36.9	40	3.1	compliant
EK	36.8	40	3.2	compliant
EL	36.7	40	3.3	compliant
EM	38.9	40	1.1	compliant
EN	36.9	40	3.1	compliant
EO	39.0	40	1.0	compliant
EP	39.0	40	1.0	compliant
EQ	37.0	40	3.0	compliant
ER	39.1	40	0.9	compliant
ES	36.7	40	3.3	compliant
ET	38.9	40	1.1	compliant
EU	38.7	40	1.3	compliant
EV	36.8	40	3.2	compliant
EW	36.9	40	3.1	compliant
EX	38.7	40	1.3	compliant
EY	39.8	40	0.2	compliant
EZ	39.8	40	0.2	compliant
FA	36.9	40	3.1	compliant
FB	37.2	40	2.8	compliant
FC	37.3	40	2.7	compliant
FD	37.0	40	3.0	compliant
FE	38.4	40	1.6	compliant
FF	37.0	40	3.0	compliant
FG	38.6	40	1.4	compliant
FH	38.5	40	1.5	compliant
FI	38.3	40	1.7	compliant
FJ	38.1	40	1.9	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
FK	38.0	40	2.0	compliant
FL	38.0	40	2.0	compliant
FM	38.0	40	2.0	compliant
FN	38.0	40	2.0	compliant
FO	38.0	40	2.0	compliant
FP	38.2	40	1.8	compliant
FQ	38.1	40	1.9	compliant
FR	38.2	40	1.8	compliant
FS	38.2	40	1.8	compliant
FT	39.5	40	0.5	compliant
FU	39.6	40	0.4	compliant
FV	39.6	40	0.4	compliant
FW	37.9	40	2.1	compliant
FX	37.6	40	2.4	compliant
FY	37.1	40	2.9	compliant
FZ	38.2	40	1.8	compliant
GA	38.2	40	1.8	compliant
GB	37.3	40	2.7	compliant
GC	37.6	40	2.4	compliant
GD	37.2	40	2.8	compliant
GE	37.1	40	2.9	compliant
GF	39.4	40	0.6	compliant
GG	37.2	40	2.8	compliant
GH	37.1	40	2.9	compliant
GI	36.6	40	3.4	compliant
GJ	37.0	40	3.0	compliant
GK	36.8	40	3.2	compliant
GL	36.8	40	3.2	compliant
GM	36.6	40	3.4	compliant
GN	36.7	40	3.3	compliant
GO	36.6	40	3.4	compliant
GP	38.1	40	1.9	compliant
GQ	36.7	40	3.3	compliant
GR	39.4	40	0.6	compliant
GS	37.1	40	2.9	compliant
GT	38.3	40	1.7	compliant
GU	37.0	40	3.0	compliant
GV	37.1	40	2.9	compliant
GW	37.6	40	2.4	compliant
GX	37.6	40	2.4	compliant
GY	36.6	40	3.4	compliant
GZ	36.6	40	3.4	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
HA	36.8	40	3.2	compliant
HB	38.5	40	1.5	compliant
HC	38.5	40	1.5	compliant
HD	37.6	40	2.4	compliant
HE	38.6	40	1.4	compliant
HF	36.7	40	3.3	compliant
HG	36.7	40	3.3	compliant
HH	36.8	40	3.2	compliant
HI	37.0	40	3.0	compliant
HJ	36.9	40	3.1	compliant
HK	35.9	40	4.1	compliant
HL	36.8	40	3.2	compliant
HM	38.0	40	2.0	compliant
HN	35.9	40	4.1	compliant
HO	37.7	40	2.3	compliant
HP	36.4	40	3.6	compliant
HQ	37.9	40	2.1	compliant
HR	37.7	40	2.3	compliant
HS	37.8	40	2.2	compliant
HT	37.7	40	2.3	compliant
HU	35.9	40	4.1	compliant
HV	37.0	40	3.0	compliant
HW	36.9	40	3.1	compliant
HX	37.0	40	3.0	compliant
HY	37.8	40	2.2	compliant
HZ	37.4	40	2.6	compliant
IA	37.7	40	2.3	compliant
IB	35.9	40	4.1	compliant
IC	37.2	40	2.8	compliant
ID	35.9	40	4.1	compliant
IE	36.7	40	3.3	compliant
IF	36.5	40	3.5	compliant
IG	37.2	40	2.8	compliant
IH	38.0	40	2.0	compliant
II	36.8	40	3.2	compliant
IJ	35.9	40	4.1	compliant
IK	35.9	40	4.1	compliant
IL	37.3	40	2.7	compliant
IM	36.0	40	4.0	compliant
IN	36.5	40	3.5	compliant
IO	37.0	40	3.0	compliant
IP	37.0	40	3.0	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
IQ	38.0	40	2.0	compliant
IR	36.2	40	3.8	compliant
IS	38.1	40	1.9	compliant
IT	37.1	40	2.9	compliant
IU	36.7	40	3.3	compliant
IV	36.1	40	3.9	compliant
IW	36.5	40	3.5	compliant
IX	36.8	40	3.2	compliant
IY	38.1	40	1.9	compliant
IZ	38.2	40	1.8	compliant
JA	36.1	40	3.9	compliant
JB	36.6	40	3.4	compliant
JC	38.1	40	1.9	compliant
JD	36.5	40	3.5	compliant
JE	38.1	40	1.9	compliant
JF	38.2	40	1.8	compliant
JG	36.7	40	3.3	compliant
JH	36.8	40	3.2	compliant
JI	38.2	40	1.8	compliant
JJ	37.4	40	2.6	compliant
JK	38.2	40	1.8	compliant
JL	36.9	40	3.1	compliant
JM	38.2	40	1.8	compliant
JN	36.9	40	3.1	compliant
JO	38.3	40	1.7	compliant
JP	38.3	40	1.7	compliant
JQ	38.2	40	1.8	compliant
JR	38.2	40	1.8	compliant
JS	37.1	40	2.9	compliant
JT	37.8	40	2.2	compliant
JU	37.8	40	2.2	compliant
JV	37.8	40	2.2	compliant
JW	38.3	40	1.7	compliant
JX	36.9	40	3.1	compliant
JY	38.4	40	1.6	compliant
JZ	38.4	40	1.6	compliant
KA	37.7	40	2.3	compliant
KB	38.6	40	1.4	compliant
KC	36.5	40	3.5	compliant
KD	38.5	40	1.5	compliant
KE	38.5	40	1.5	compliant
KF	38.5	40	1.5	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
KG	38.5	40	1.5	compliant
KH	37.8	40	2.2	compliant
KI	37.8	40	2.2	compliant
KJ	37.9	40	2.1	compliant
KK	38.6	40	1.4	compliant
KL	37.7	40	2.3	compliant
KM	37.8	40	2.2	compliant
KN	37.9	40	2.1	compliant
KO	38.2	40	1.8	compliant
KP	38.7	40	1.3	compliant
KQ	37.9	40	2.1	compliant
KR	38.1	40	1.9	compliant
KS	37.8	40	2.2	compliant
KT	38.0	40	2.0	compliant
KU	37.8	40	2.2	compliant
KV	38.0	40	2.0	compliant
KW	38.0	40	2.0	compliant
KX	37.9	40	2.1	compliant
KY	37.8	40	2.2	compliant
KZ	37.8	40	2.2	compliant
LA	37.6	40	2.4	compliant
LB	37.6	40	2.4	compliant
LC	37.6	40	2.4	compliant
LD	37.7	40	2.3	compliant
LE	37.6	40	2.4	compliant
LF	37.6	40	2.4	compliant
LG	37.5	40	2.5	compliant
LH	38.7	40	1.3	compliant
LI	37.4	40	2.6	compliant
LJ	38.5	40	1.5	compliant
LK	39.4	40	0.6	compliant
LL	39.4	40	0.6	compliant
LM	38.1	40	1.9	compliant
LN	37.6	40	2.4	compliant
LO	37.5	40	2.5	compliant
LP	37.4	40	2.6	compliant
LQ	37.3	40	2.7	compliant
LR	37.4	40	2.6	compliant
LS	37.4	40	2.6	compliant
LT	37.3	40	2.7	compliant
LU	37.3	40	2.7	compliant
LV	38.5	40	1.5	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
LW	37.3	40	2.7	compliant
LX	37.6	40	2.4	compliant
LY	37.6	40	2.4	compliant
LZ	37.3	40	2.7	compliant
MA	37.3	40	2.7	compliant
MB	37.2	40	2.8	compliant
MC	37.4	40	2.6	compliant
MD	37.3	40	2.7	compliant
ME	37.3	40	2.7	compliant
MF	37.3	40	2.7	compliant
MG	37.9	40	2.1	compliant
MH	37.3	40	2.7	compliant
MI	37.3	40	2.7	compliant
MJ	37.2	40	2.8	compliant
MK	37.3	40	2.7	compliant
ML	37.9	40	2.1	compliant
MM	37.2	40	2.8	compliant
MN	37.3	40	2.7	compliant
MO	37.2	40	2.8	compliant
MP	37.2	40	2.8	compliant
MQ	37.7	40	2.3	compliant
MR	37.2	40	2.8	compliant
MS	37.6	40	2.4	compliant
MT	37.6	40	2.4	compliant
MU	37.3	40	2.7	compliant
MV	37.3	40	2.7	compliant
MW	37.4	40	2.6	compliant
MX	37.2	40	2.8	compliant
MY	37.5	40	2.5	compliant
MZ	37.5	40	2.5	compliant
NA	37.2	40	2.8	compliant
NB	37.5	40	2.5	compliant
NC	37.6	40	2.4	compliant
ND	37.6	40	2.4	compliant
NE	37.1	40	2.9	compliant
NF	37.1	40	2.9	compliant
NG	37.6	40	2.4	compliant
NH	37.1	40	2.9	compliant
NI	37.1	40	2.9	compliant
NJ	37.0	40	3.0	compliant
NK	37.2	40	2.8	compliant
NL	37.1	40	2.9	compliant

Table 6: Compliance Assessment

Receptor Identification Code	Cumulative Noise Level (dBA)	EA Guide Noise Threshold (dBA)	Margin of Compliance ^(a) (dBA)	Assessment
NM	37.5	40	2.5	compliant
NN	37.3	40	2.7	compliant
NO	37.2	40	2.8	compliant
NP	37.3	40	2.7	compliant
NQ	37.4	40	2.6	compliant
NR	37.3	40	2.7	compliant
NS	37.0	40	3.0	compliant
NT	37.4	40	2.6	compliant

(a) Margin of compliance is the difference between the noise threshold (i.e., 40 dBA) and the predicted cumulative noise level. A margin of compliance ≥ 0 dBA indicates the Project is compliant with the EA Guide (Nova Scotia 2024).

6.2 Low Frequency Noise

As discussed in Section 3.2 of this report, the Noise Guidelines provide a two-part quantitative test for identifying and accounting for LFN issues (Nova Scotia 2023). The Project noise assessment made use of the two-part test from the Noise Guidelines to assess potential LFN effects from the Project.

According to the Noise Guidelines, an LFN issue exists if the difference between dBA and dBC noise levels is ≥ 20 **and** there is a low frequency tonal component in at least one of the one-third octave bands. Both parts of the two-part test must be satisfied for a LFN issue to exist.

As discussed in Section 5 of this report, the second part of the LFN test was applied to the one-third octave band emissions spectrum from the Project wind turbines, and no tonal components were identified. As such, the Project is not expected to produce LFN issues as defined in the Noise Guidelines (Nova Scotia 2023). Nevertheless, Table 7 presents predicted Project noise levels expressed in dBA and predicted Project noise levels expressed in dBC and compares the difference between dBC and dBA levels to the threshold value from the first part of the LFN test. Table 7 indicates the difference between dBC and dBA noise levels is less than 20 at all potential receptors.

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
A	32.4	48.4	16.0	20	no	no LFN issue
B	32.7	48.7	16.0	20	no	no LFN issue
C	32.8	48.8	16.0	20	no	no LFN issue
D	32.8	48.8	16.0	20	no	no LFN issue
E	32.8	48.8	16.0	20	no	no LFN issue
F	32.8	48.8	16.0	20	no	no LFN issue
G	32.9	48.8	15.9	20	no	no LFN issue
H	32.4	48.5	16.1	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
I	32.9	48.8	15.9	20	no	no LFN issue
J	32.9	48.9	16.0	20	no	no LFN issue
K	32.2	48.3	16.1	20	no	no LFN issue
L	32.5	48.6	16.1	20	no	no LFN issue
M	33.2	49.0	15.8	20	no	no LFN issue
N	32.5	48.6	16.1	20	no	no LFN issue
O	33.2	49.1	15.9	20	no	no LFN issue
P	32.6	48.6	16.0	20	no	no LFN issue
Q	33.2	49.1	15.9	20	no	no LFN issue
R	31.7	48.0	16.3	20	no	no LFN issue
S	33.7	49.4	15.7	20	no	no LFN issue
T	31.9	48.2	16.3	20	no	no LFN issue
U	31.3	47.3	16.0	20	no	no LFN issue
V	32.9	48.7	15.8	20	no	no LFN issue
W	34.5	50.1	15.6	20	no	no LFN issue
X	34.5	50.1	15.6	20	no	no LFN issue
Y	33.3	49.2	15.9	20	no	no LFN issue
AA	38.0	52.8	14.8	20	no	no LFN issue
AB	35.4	50.4	15.0	20	no	no LFN issue
AC	34.1	49.1	15.0	20	no	no LFN issue
AD	35.5	50.8	15.3	20	no	no LFN issue
AE	37.6	52.5	14.9	20	no	no LFN issue
AF	33.8	50.1	16.3	20	no	no LFN issue
AG	33.6	50.1	16.5	20	no	no LFN issue
AH	37.0	53.0	16.0	20	no	no LFN issue
AI	34.2	50.4	16.2	20	no	no LFN issue
AJ	35.5	51.4	15.9	20	no	no LFN issue
AK	35.8	51.5	15.7	20	no	no LFN issue
AL	35.9	51.9	16.0	20	no	no LFN issue
AM	36.6	52.4	15.8	20	no	no LFN issue
AN	38.1	53.9	15.8	20	no	no LFN issue
AO	36.8	52.5	15.7	20	no	no LFN issue
AP	36.4	52.2	15.8	20	no	no LFN issue
AQ	36.5	52.3	15.8	20	no	no LFN issue
AR	35.1	51.2	16.1	20	no	no LFN issue
AS	36.2	52.1	15.9	20	no	no LFN issue
AT	37.1	52.7	15.6	20	no	no LFN issue
AU	37.2	52.8	15.6	20	no	no LFN issue
AV	35.3	51.4	16.1	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
AW	35.3	51.4	16.1	20	no	no LFN issue
AX	36.3	52.1	15.8	20	no	no LFN issue
AY	36.3	52.1	15.8	20	no	no LFN issue
AZ	36.7	52.4	15.7	20	no	no LFN issue
BA	36.5	52.3	15.8	20	no	no LFN issue
BB	36.8	52.6	15.8	20	no	no LFN issue
BC	34.1	50.3	16.2	20	no	no LFN issue
BD	36.8	52.6	15.8	20	no	no LFN issue
BE	36.6	52.4	15.8	20	no	no LFN issue
BF	37.0	52.7	15.7	20	no	no LFN issue
BG	36.9	52.7	15.8	20	no	no LFN issue
BH	37.0	52.7	15.7	20	no	no LFN issue
BI	37.1	52.8	15.7	20	no	no LFN issue
BJ	37.2	52.9	15.7	20	no	no LFN issue
BK	37.2	52.8	15.6	20	no	no LFN issue
BL	37.4	53.0	15.6	20	no	no LFN issue
BM	35.4	51.2	15.8	20	no	no LFN issue
BN	38.3	53.6	15.3	20	no	no LFN issue
BO	38.2	53.5	15.3	20	no	no LFN issue
BP	37.4	52.8	15.4	20	no	no LFN issue
BQ	37.4	52.8	15.4	20	no	no LFN issue
BR	36.8	52.3	15.5	20	no	no LFN issue
BS	36.8	52.3	15.5	20	no	no LFN issue
BT	38.2	53.4	15.2	20	no	no LFN issue
BU	38.0	53.3	15.3	20	no	no LFN issue
BV	36.4	52.1	15.7	20	no	no LFN issue
BW	36.6	52.3	15.7	20	no	no LFN issue
BX	37.9	53.4	15.5	20	no	no LFN issue
BY	36.8	52.5	15.7	20	no	no LFN issue
BZ	31.9	48.0	16.1	20	no	no LFN issue
CA	31.1	47.4	16.3	20	no	no LFN issue
CB	30.9	47.3	16.4	20	no	no LFN issue
CC	31.5	47.7	16.2	20	no	no LFN issue
CD	31.2	47.5	16.3	20	no	no LFN issue
CE	31.7	47.8	16.1	20	no	no LFN issue
CF	31.7	47.8	16.1	20	no	no LFN issue
CG	31.6	47.7	16.1	20	no	no LFN issue
CH	38.2	53.3	15.1	20	no	no LFN issue
CI	31.7	47.8	16.1	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
CJ	31.2	47.5	16.3	20	no	no LFN issue
CK	31.9	48.0	16.1	20	no	no LFN issue
CL	31.4	47.6	16.2	20	no	no LFN issue
CM	31.8	47.9	16.1	20	no	no LFN issue
CN	37.4	52.4	15.0	20	no	no LFN issue
CO	31.4	47.6	16.2	20	no	no LFN issue
CP	31.5	47.8	16.3	20	no	no LFN issue
CQ	31.9	48.1	16.2	20	no	no LFN issue
CR	31.5	47.8	16.3	20	no	no LFN issue
CS	31.6	47.9	16.3	20	no	no LFN issue
CT	31.9	48.1	16.2	20	no	no LFN issue
CU	31.7	48.0	16.3	20	no	no LFN issue
CV	31.9	48.2	16.3	20	no	no LFN issue
CW	31.8	48.1	16.3	20	no	no LFN issue
CX	38.1	53.9	15.8	20	no	no LFN issue
CY	31.9	48.2	16.3	20	no	no LFN issue
CZ	31.8	48.1	16.3	20	no	no LFN issue
DA	37.4	53.4	16.0	20	no	no LFN issue
DB	31.6	48.0	16.4	20	no	no LFN issue
DC	31.9	48.2	16.3	20	no	no LFN issue
DD	37.6	53.6	16.0	20	no	no LFN issue
DE	31.6	48.0	16.4	20	no	no LFN issue
DF	32.3	48.5	16.2	20	no	no LFN issue
DG	37.2	53.4	16.2	20	no	no LFN issue
DH	32.2	48.4	16.2	20	no	no LFN issue
DI	31.7	48.0	16.3	20	no	no LFN issue
DJ	37.5	53.4	15.9	20	no	no LFN issue
DK	31.9	48.2	16.3	20	no	no LFN issue
DL	31.9	48.2	16.3	20	no	no LFN issue
DM	36.9	53.2	16.3	20	no	no LFN issue
DN	36.9	53.2	16.3	20	no	no LFN issue
DO	32.1	48.5	16.4	20	no	no LFN issue
DP	31.7	48.1	16.4	20	no	no LFN issue
DQ	31.8	48.2	16.4	20	no	no LFN issue
DR	31.6	48.0	16.4	20	no	no LFN issue
DS	36.8	53.1	16.3	20	no	no LFN issue
DT	37.0	53.2	16.2	20	no	no LFN issue
DU	31.6	48.0	16.4	20	no	no LFN issue
DV	37.2	53.3	16.1	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
DW	37.0	53.1	16.1	20	no	no LFN issue
DX	37.0	53.2	16.2	20	no	no LFN issue
DY	37.4	53.3	15.9	20	no	no LFN issue
DZ	32.3	48.6	16.3	20	no	no LFN issue
EA	31.5	47.9	16.4	20	no	no LFN issue
EB	36.9	53.1	16.2	20	no	no LFN issue
EC	31.9	48.3	16.4	20	no	no LFN issue
ED	32.5	48.8	16.3	20	no	no LFN issue
EE	32.7	48.9	16.2	20	no	no LFN issue
EF	38.2	53.4	15.2	20	no	no LFN issue
EG	32.3	48.7	16.4	20	no	no LFN issue
EH	36.5	52.9	16.4	20	no	no LFN issue
EI	31.7	48.1	16.4	20	no	no LFN issue
EJ	32.4	48.7	16.3	20	no	no LFN issue
EK	32.2	48.5	16.3	20	no	no LFN issue
EL	31.7	48.2	16.5	20	no	no LFN issue
EM	36.6	52.9	16.3	20	no	no LFN issue
EN	32.3	48.6	16.3	20	no	no LFN issue
EO	36.8	53.0	16.2	20	no	no LFN issue
EP	36.8	53.0	16.2	20	no	no LFN issue
EQ	32.7	48.9	16.2	20	no	no LFN issue
ER	36.9	53.1	16.2	20	no	no LFN issue
ES	31.9	48.4	16.5	20	no	no LFN issue
ET	36.7	52.9	16.2	20	no	no LFN issue
EU	36.2	52.7	16.5	20	no	no LFN issue
EV	32.1	48.5	16.4	20	no	no LFN issue
EW	32.3	48.7	16.4	20	no	no LFN issue
EX	36.3	52.5	16.2	20	no	no LFN issue
EY	38.1	53.2	15.1	20	no	no LFN issue
EZ	38.1	53.2	15.1	20	no	no LFN issue
FA	32.5	48.9	16.4	20	no	no LFN issue
FB	33.1	49.3	16.2	20	no	no LFN issue
FC	33.4	49.5	16.1	20	no	no LFN issue
FD	32.8	49.1	16.3	20	no	no LFN issue
FE	35.8	52.3	16.5	20	no	no LFN issue
FF	32.8	49.2	16.4	20	no	no LFN issue
FG	36.1	52.3	16.2	20	no	no LFN issue
FH	36.0	52.2	16.2	20	no	no LFN issue
FI	35.6	51.9	16.3	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
FJ	35.2	51.6	16.4	20	no	no LFN issue
FK	35.0	51.6	16.6	20	no	no LFN issue
FL	35.0	51.6	16.6	20	no	no LFN issue
FM	34.9	51.5	16.6	20	no	no LFN issue
FN	34.9	51.5	16.6	20	no	no LFN issue
FO	35.0	51.5	16.5	20	no	no LFN issue
FP	35.3	51.9	16.6	20	no	no LFN issue
FQ	35.2	51.8	16.6	20	no	no LFN issue
FR	35.3	51.9	16.6	20	no	no LFN issue
FS	35.3	51.9	16.6	20	no	no LFN issue
FT	37.6	53.3	15.7	20	no	no LFN issue
FU	37.8	52.9	15.1	20	no	no LFN issue
FV	37.7	53.5	15.8	20	no	no LFN issue
FW	34.7	51.1	16.4	20	no	no LFN issue
FX	34.2	49.7	15.5	20	no	no LFN issue
FY	33.0	48.8	15.8	20	no	no LFN issue
FZ	35.4	51.3	15.9	20	no	no LFN issue
GA	35.4	51.3	15.9	20	no	no LFN issue
GB	33.4	49.0	15.6	20	no	no LFN issue
GC	34.1	50.6	16.5	20	no	no LFN issue
GD	33.2	48.6	15.4	20	no	no LFN issue
GE	33.0	48.5	15.5	20	no	no LFN issue
GF	37.5	52.7	15.2	20	no	no LFN issue
GG	33.2	48.7	15.5	20	no	no LFN issue
GH	33.0	48.5	15.5	20	no	no LFN issue
GI	31.4	47.1	15.7	20	no	no LFN issue
GJ	32.6	48.2	15.6	20	no	no LFN issue
GK	32.2	47.8	15.6	20	no	no LFN issue
GL	32.0	47.6	15.6	20	no	no LFN issue
GM	31.4	47.1	15.7	20	no	no LFN issue
GN	31.7	47.3	15.6	20	no	no LFN issue
GO	31.6	47.2	15.6	20	no	no LFN issue
GP	35.2	50.5	15.3	20	no	no LFN issue
GQ	31.7	47.3	15.6	20	no	no LFN issue
GR	37.4	52.5	15.1	20	no	no LFN issue
GS	33.0	48.4	15.4	20	no	no LFN issue
GT	35.6	50.9	15.3	20	no	no LFN issue
GU	32.6	48.1	15.5	20	no	no LFN issue
GV	32.9	48.3	15.4	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
GW	34.2	50.6	16.4	20	no	no LFN issue
GX	34.2	50.6	16.4	20	no	no LFN issue
GY	31.4	47.0	15.6	20	no	no LFN issue
GZ	31.6	47.1	15.5	20	no	no LFN issue
HA	32.0	47.5	15.5	20	no	no LFN issue
HB	36.0	51.1	15.1	20	no	no LFN issue
HC	36.0	51.1	15.1	20	no	no LFN issue
HD	34.2	50.6	16.4	20	no	no LFN issue
HE	36.1	51.2	15.1	20	no	no LFN issue
HF	31.9	47.3	15.4	20	no	no LFN issue
HG	31.9	47.3	15.4	20	no	no LFN issue
HH	32.1	47.5	15.4	20	no	no LFN issue
HI	32.7	48.0	15.3	20	no	no LFN issue
HJ	32.4	47.6	15.2	20	no	no LFN issue
HK	28.5	44.1	15.6	20	no	no LFN issue
HL	32.0	47.3	15.3	20	no	no LFN issue
HM	34.9	51.4	16.5	20	no	no LFN issue
HN	28.5	44.1	15.6	20	no	no LFN issue
HO	34.3	50.6	16.3	20	no	no LFN issue
HP	30.9	46.1	15.2	20	no	no LFN issue
HQ	34.7	51.2	16.5	20	no	no LFN issue
HR	34.4	50.7	16.3	20	no	no LFN issue
HS	34.5	50.8	16.3	20	no	no LFN issue
HT	34.4	50.7	16.3	20	no	no LFN issue
HU	28.8	44.3	15.5	20	no	no LFN issue
HV	32.8	47.9	15.1	20	no	no LFN issue
HW	32.3	47.4	15.1	20	no	no LFN issue
HX	32.7	47.9	15.2	20	no	no LFN issue
HY	34.6	51.1	16.5	20	no	no LFN issue
HZ	33.6	48.5	14.9	20	no	no LFN issue
IA	34.3	50.6	16.3	20	no	no LFN issue
IB	28.8	44.3	15.5	20	no	no LFN issue
IC	33.3	48.3	15.0	20	no	no LFN issue
ID	28.5	44.1	15.6	20	no	no LFN issue
IE	31.9	46.9	15.0	20	no	no LFN issue
IF	31.0	45.9	14.9	20	no	no LFN issue
IG	33.2	48.2	15.0	20	no	no LFN issue
IH	34.9	51.3	16.4	20	no	no LFN issue
II	32.2	47.1	14.9	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
IJ	28.5	44.1	15.6	20	no	no LFN issue
IK	28.7	44.2	15.5	20	no	no LFN issue
IL	33.4	48.2	14.8	20	no	no LFN issue
IM	28.9	44.3	15.4	20	no	no LFN issue
IN	31.3	46.4	15.1	20	no	no LFN issue
IO	32.8	47.6	14.8	20	no	no LFN issue
IP	32.6	47.5	14.9	20	no	no LFN issue
IQ	35.0	51.3	16.3	20	no	no LFN issue
IR	30.1	45.1	15.0	20	no	no LFN issue
IS	35.1	51.3	16.2	20	no	no LFN issue
IT	33.0	47.8	14.8	20	no	no LFN issue
IU	31.9	46.8	14.9	20	no	no LFN issue
IV	29.4	44.6	15.2	20	no	no LFN issue
IW	31.2	46.3	15.1	20	no	no LFN issue
IX	32.0	46.9	14.9	20	no	no LFN issue
IY	35.2	51.4	16.2	20	no	no LFN issue
IZ	35.3	51.5	16.2	20	no	no LFN issue
JA	29.8	44.9	15.1	20	no	no LFN issue
JB	31.4	46.4	15.0	20	no	no LFN issue
JC	35.2	51.4	16.2	20	no	no LFN issue
JD	31.3	46.4	15.1	20	no	no LFN issue
JE	35.2	51.3	16.1	20	no	no LFN issue
JF	35.3	51.4	16.1	20	no	no LFN issue
JG	31.7	46.7	15.0	20	no	no LFN issue
JH	32.1	47.0	14.9	20	no	no LFN issue
JI	35.4	51.5	16.1	20	no	no LFN issue
JJ	33.6	48.2	14.6	20	no	no LFN issue
JK	35.4	51.5	16.1	20	no	no LFN issue
JL	32.5	47.2	14.7	20	no	no LFN issue
JM	35.3	51.4	16.1	20	no	no LFN issue
JN	32.5	47.3	14.8	20	no	no LFN issue
JO	35.6	51.7	16.1	20	no	no LFN issue
JP	35.6	51.6	16.0	20	no	no LFN issue
JQ	35.3	51.5	16.2	20	no	no LFN issue
JR	35.3	51.3	16.0	20	no	no LFN issue
JS	32.9	47.5	14.6	20	no	no LFN issue
JT	34.6	50.8	16.2	20	no	no LFN issue
JU	34.6	50.7	16.1	20	no	no LFN issue
JV	34.6	50.8	16.2	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
JW	35.5	51.5	16.0	20	no	no LFN issue
JX	32.3	47.1	14.8	20	no	no LFN issue
JY	35.7	51.6	15.9	20	no	no LFN issue
JZ	35.8	51.7	15.9	20	no	no LFN issue
KA	34.4	50.7	16.3	20	no	no LFN issue
KB	36.1	51.9	15.8	20	no	no LFN issue
KC	31.2	46.3	15.1	20	no	no LFN issue
KD	35.9	51.7	15.8	20	no	no LFN issue
KE	36.0	51.8	15.8	20	no	no LFN issue
KF	35.9	51.7	15.8	20	no	no LFN issue
KG	36.0	51.7	15.7	20	no	no LFN issue
KH	34.6	50.7	16.1	20	no	no LFN issue
KI	34.6	50.7	16.1	20	no	no LFN issue
KJ	34.7	50.8	16.1	20	no	no LFN issue
KK	36.1	51.8	15.7	20	no	no LFN issue
KL	34.4	50.7	16.3	20	no	no LFN issue
KM	34.5	50.7	16.2	20	no	no LFN issue
KN	34.7	50.8	16.1	20	no	no LFN issue
KO	35.3	51.1	15.8	20	no	no LFN issue
KP	36.2	51.9	15.7	20	no	no LFN issue
KQ	34.8	50.8	16.0	20	no	no LFN issue
KR	35.1	51.0	15.9	20	no	no LFN issue
KS	34.5	50.6	16.1	20	no	no LFN issue
KT	34.9	50.8	15.9	20	no	no LFN issue
KU	34.5	50.6	16.1	20	no	no LFN issue
KV	34.9	50.8	15.9	20	no	no LFN issue
KW	34.9	50.8	15.9	20	no	no LFN issue
KX	34.7	50.7	16.0	20	no	no LFN issue
KY	34.6	50.6	16.0	20	no	no LFN issue
KZ	34.5	50.6	16.1	20	no	no LFN issue
LA	34.2	50.3	16.1	20	no	no LFN issue
LB	34.1	50.2	16.1	20	no	no LFN issue
LC	34.1	50.2	16.1	20	no	no LFN issue
LD	34.4	50.5	16.1	20	no	no LFN issue
LE	34.1	50.2	16.1	20	no	no LFN issue
LF	34.1	50.2	16.1	20	no	no LFN issue
LG	34.0	50.1	16.1	20	no	no LFN issue
LH	36.3	50.9	14.6	20	no	no LFN issue
LI	33.6	49.7	16.1	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
LJ	36.0	50.7	14.7	20	no	no LFN issue
LK	37.5	52.2	14.7	20	no	no LFN issue
LL	37.4	52.2	14.8	20	no	no LFN issue
LM	35.2	50.6	15.4	20	no	no LFN issue
LN	34.1	49.8	15.7	20	no	no LFN issue
LO	34.0	49.8	15.8	20	no	no LFN issue
LP	33.7	49.6	15.9	20	no	no LFN issue
LQ	33.5	49.5	16.0	20	no	no LFN issue
LR	33.7	49.6	15.9	20	no	no LFN issue
LS	33.7	49.6	15.9	20	no	no LFN issue
LT	33.4	49.4	16.0	20	no	no LFN issue
LU	33.5	49.5	16.0	20	no	no LFN issue
LV	36.0	51.1	15.1	20	no	no LFN issue
LW	33.4	49.4	16.0	20	no	no LFN issue
LX	34.2	49.8	15.6	20	no	no LFN issue
LY	34.2	49.8	15.6	20	no	no LFN issue
LZ	33.4	49.4	16.0	20	no	no LFN issue
MA	33.5	49.5	16.0	20	no	no LFN issue
MB	33.3	49.3	16.0	20	no	no LFN issue
MC	33.7	49.6	15.9	20	no	no LFN issue
MD	33.4	49.4	16.0	20	no	no LFN issue
ME	33.5	49.4	15.9	20	no	no LFN issue
MF	33.4	49.4	16.0	20	no	no LFN issue
MG	34.7	50.1	15.4	20	no	no LFN issue
MH	33.4	49.4	16.0	20	no	no LFN issue
MI	33.5	49.5	16.0	20	no	no LFN issue
MJ	33.1	49.1	16.0	20	no	no LFN issue
MK	33.4	49.4	16.0	20	no	no LFN issue
ML	34.7	50.1	15.4	20	no	no LFN issue
MM	33.3	49.3	16.0	20	no	no LFN issue
MN	33.4	49.3	15.9	20	no	no LFN issue
MO	33.2	49.2	16.0	20	no	no LFN issue
MP	33.1	49.1	16.0	20	no	no LFN issue
MQ	34.3	49.8	15.5	20	no	no LFN issue
MR	33.2	49.2	16.0	20	no	no LFN issue
MS	34.2	49.8	15.6	20	no	no LFN issue
MT	34.2	49.8	15.6	20	no	no LFN issue
MU	33.5	49.3	15.8	20	no	no LFN issue
MV	33.4	49.3	15.9	20	no	no LFN issue

Table 7: Low Frequency Noise Assessment

Receptor Identification Code	First Part of Low Frequency Noise Test				Second Part of Low Frequency Noise Test	Assessment
	Predicted Project Noise Level			Noise Guidelines Threshold Value	Presence of Tonal Component	
	(dBA)	(dBC)	Difference: dBC minus dBA			
MW	33.6	49.3	15.7	20	no	no LFN issue
MX	33.3	49.1	15.8	20	no	no LFN issue
MY	33.9	49.6	15.7	20	no	no LFN issue
MZ	33.9	49.6	15.7	20	no	no LFN issue
NA	33.1	49.0	15.9	20	no	no LFN issue
NB	33.9	49.6	15.7	20	no	no LFN issue
NC	34.1	49.7	15.6	20	no	no LFN issue
ND	34.1	49.7	15.6	20	no	no LFN issue
NE	33.0	48.9	15.9	20	no	no LFN issue
NF	33.0	49.0	16.0	20	no	no LFN issue
NG	34.1	49.7	15.6	20	no	no LFN issue
NH	33.0	48.9	15.9	20	no	no LFN issue
NI	32.9	48.9	16.0	20	no	no LFN issue
NJ	32.8	48.8	16.0	20	no	no LFN issue
NK	33.2	49.1	15.9	20	no	no LFN issue
NL	32.9	48.9	16.0	20	no	no LFN issue
NM	33.8	49.4	15.6	20	no	no LFN issue
NN	33.5	49.2	15.7	20	no	no LFN issue
NO	33.3	49.1	15.8	20	no	no LFN issue
NP	33.4	49.1	15.7	20	no	no LFN issue
NQ	33.6	49.2	15.6	20	no	no LFN issue
NR	33.5	49.2	15.7	20	no	no LFN issue
NS	32.7	48.7	16.0	20	no	no LFN issue
NT	33.6	49.3	15.7	20	no	no LFN issue

6.3 Construction Noise

Neither the EA Guide (Nova Scotia 2024) nor the Noise Guidelines (Nova Scotia 2023) require an assessment of construction noise or provide thresholds/limits for evaluating potential construction noise effects. In the absence of quantitative thresholds or detailed assessment methodology, the Project noise assessment considered construction noise qualitatively.

Potential noise effects during Project construction will vary based on the type of construction activities. The primary noise sources associated with construction will include trucks and other vehicles (used to transport workers and materials to the site), backhoes and graders (for site preparation), blasting, cranes, and smaller equipment such as welding units. Due to their tonal character, back-up alarms installed on mobile equipment are also an important source when assessing potential effects from construction noise. Noise levels at receptors during construction activities will depend primarily on the number, type, and proximity of noise sources. Construction noise levels will decrease as the distance between the receptors and construction activities increases.

Where practical, EverWind will implement the following measures to mitigate potential noise effects during Project construction:

- Conduct construction activities within acceptable timeframes per municipal bylaws.
- Advise nearby residents of noisy activities (e.g., blasting).
- Install appropriate and well-maintained muffler systems on engine-driven equipment.
- Design work areas and travel paths to reduce the amount of time that equipment must operate in reverse and thereby reduce the use of back-up alarms.
- Respond expeditiously to noise complaints and take appropriate action to address such complaints as required.

Implementation of the measures listed above should be sufficient to mitigate potential noise effects from Project construction to an acceptable level.

7 SUMMARY AND DISCUSSION

A noise assessment was prepared for the Project in accordance with provincial requirements. In particular, the Project noise assessment took guidance from the EA Guide (Nova Scotia 2024) and the Noise Guidelines (Nova Scotia 2023). The noise assessment considered potential effects to potential permanent and seasonal receptors located within 2.1 km of the Project. The noise assessment considered potential effects associated with Project operations and Project construction.

The Project noise assessment concluded:

- Cumulative noise levels from operation of the Project will comply with the 40 dBA noise threshold from the EA Guide (Nova Scotia 2024).
- Operation of the Project will not result in low frequency noise issues as defined in the Noise Guidelines (Nova Scotia 2023).
- Implementation of noise mitigation measures should be sufficient to reduce potential effects from Project construction to acceptable levels.

In summary, the noise assessment predicts that Project construction and operation will comply with all provincial requirements. As such, the Project is not expected to result in unacceptable noise effects.

Signature Page

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8 REFERENCES

Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Noise.

ISO (International Organization for Standardization). 2024. ISO 9613-2. Acoustics – Attenuation of sound during propagation outdoors. Part 2: Engineering method for the prediction of sound pressure levels outdoors.

Nova Scotia (Nova Scotia Policy Division Environmental Assessment Branch). 2024. Environmental Assessment Supplemental Checklist: Wind Energy Project.

Nova Scotia. 2023. Guidelines for Environmental Noise Measurement and Assessment.

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APPENDIX F

WSP SHADOW FLICKER ASSESSMENT



Guysborough Wind Ltd.
Ocean Lake Wind Project

Shadow Flicker Assessment

2026-04-27

Project No. CA0066766.3659 / 2000



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APPENDICES

APPENDIX A

Curtailment Schedule

1 INTRODUCTION

Guysborough Wind Ltd., comprised of EverWind NS Holdings Ltd. (EverWind) and Membertou Development Corporation, is proposing development of the Ocean Lake Wind Project (the Project) in Guysborough County, Nova Scotia. Provincial guidance for assessing potential environmental effects from wind power facilities in Nova Scotia is provided in the *Environmental Assessment Supplemental Checklist: Wind Energy Projects* (Nova Scotia 2024), which will hereafter be referred to as the EA Guide.

The EA Guide requires preparation of a shadow flicker assessment, which must “...show that shadow flicker will not exceed 30 minutes per day or 30 hours per year at any permanent or seasonal receptor within 2 km of the project” (Nova Scotia 2024). EverWind retained WSP Canada Inc. (WSP) to prepare a shadow flicker assessment for the Project in accordance with the EA Guide. The results of the Project shadow flicker assessment are presented in this report. The shadow flicker assessment report is structured as follows.

- Section 1 provides a brief introduction.
- Section 2 presents a description of the wind turbines proposed for the Project.
- Section 3 outlines the assessment approach, including:
 - assessment cases
 - shadow flicker receptors
 - assessment criteria
 - shadow flicker modelling methods
- Section 4 provides results for each assessment case.
- Section 5 summarizes and discusses the results of the shadow flicker assessment.
- Appendix A presents a wind turbine curtailment schedule that could be implemented to reduce the duration of shadow flicker exposure at select receptors.

2 PROJECT DESCRIPTION

The Project is a proposed 1,264-megawatt (MW) wind energy development, involving up to 158 turbines. The shadow flicker model uses 143 Goldwind GWH182 8.0 MW wind turbines. There are 15 optional turbine locations that are not included in the shadow flicker modelling. Optional turbines will be considered for construction at a later date, pending advances in turbine sound reducing technology. Shadow flicker models will be updated if optional turbines are added to the Project.

The Project wind turbines will consist of three-blade rotors and tubular towers. The Project wind turbines will have a hub height of 130 m and a rotor diameter of 183.4 m for a total turbine height of approximately 221.7 m

Table 1 presents the location of the Project wind turbines. A map showing the locations of the Project wind turbines is presented in Section 3.2 of this report (see Figure 1).

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T001	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613601	5021284
T002	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612571	5021260
T003	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614655	5021049
T005	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615575	5020933
T006	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613714	5020435
T007	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611590	5020321
T008	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612976	5020290
T009	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614362	5020101
T010	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612396	5019949
T011	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611131	5019847
T012	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613779	5019422
T013	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612219	5018944
T014	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611090	5018888
T015	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614507	5018866
T016	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613925	5018174
T017	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610234	5018064
T018	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611155	5018024
T019	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614967	5017828
T020	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610648	5017339
T021	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608791	5016877
T023	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608397	5016105
T025	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611010	5015845

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T026	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608292	5015513
T027	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611355	5015022
T028	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609195	5015067
T029	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616104	5014419
T030	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615203	5014397
T031	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611902	5014258
T032	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616736	5014033
T034	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607041	5013748
T035	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612564	5013764
T036	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615432	5013653
T037	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617735	5013685
T038	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611690	5013510
T039	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613329	5013239
T040	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607998	5013107
T041	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618634	5013279
T042	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617167	5013225
T043	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614073	5013117
T044	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612591	5013057
T045	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619520	5013026
T046	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614909	5012872
T047	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615736	5012841
T048	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606672	5012633

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T049	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620519	5012855
T050	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616597	5012752
T052	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611704	5012588
T053	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614258	5012603
T054	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617748	5012590
T055	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607680	5012329
T056	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613545	5012363
T057	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612779	5012322
T058	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605871	5012160
T059	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615214	5012192
T060	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620122	5012228
T061	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617736	5011936
T062	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621158	5011983
T063	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616249	5011856
T064	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619324	5011908
T065	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614258	5011810
T066	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613162	5011654
T067	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607127	5011545
T068	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618499	5011599
T069	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612541	5011492
T070	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610255	5011429
T071	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615418	5011496

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T072	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616874	5011468
T073	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605758	5011013
T074	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614137	5011151
T075	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611000	5011089
T076	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619678	5011239
T077	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606536	5010923
T078	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621487	5011151
T079	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620417	5010897
T080	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619078	5010850
T081	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615758	5010787
T083	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616461	5010748
T084	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619731	5010543
T085	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	611373	5010321
T086	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	607063	5010018
T087	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618799	5010222
T088	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617812	5010101
T089	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	605817	5009853
T091	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620893	5010094
T092	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621723	5009946
T093	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622547	5009916
T094	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623345	5009921
T096	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612750	5009629

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T097	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619786	5009726
T098	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	606403	5009444
T100	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	608561	5009383
T101	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624234	5009408
T102	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621178	5009281
T103	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	618847	5009207
T104	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623257	5009234
T105	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622375	5009152
T106	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612386	5008943
T108	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620499	5009063
T109	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625243	5009091
T111	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	619613	5008748
T112	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	620420	5008586
T113	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621454	5008583
T114	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624852	5008599
T115	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624089	5008545
T116	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622626	5008371
T117	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621253	5007945
T118	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609713	5007622
T119	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624577	5007884
T122	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612381	5007364
T123	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	622136	5007355

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T124	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623470	5007373
T127	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624217	5007258
T128	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613800	5006958
T129	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614549	5006889
T130	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613035	5006822
T131	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609957	5006705
T132	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	610812	5006608
T133	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623803	5006591
T134	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621827	5006329
T135	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	609514	5006074
T136	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623118	5006302
T137	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613358	5005980
T138	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614219	5005943
T139	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623704	5005660
T140	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	621721	5005490
T141	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623060	5005386
T142	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	613665	5005089
T143	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616335	5004873
T144	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	614344	5004704
T145	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	612494	5004647
T146	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	627226	5004903
T147	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625720	5004856

Table 1: Location of Project Wind Turbines

Turbine Identification Code ^(a)	Description	Universal Transverse Mercator Coordinates (Zone 20)	
		Easting (m)	Northing (m)
T148	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623047	5004758
T149	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	627913	5004822
T150	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616731	5004203
T151	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	624618	5004352
T152	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	615732	5004090
T153	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623073	5004064
T154	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	625230	5003897
T155	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617642	5003702
T156	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	623776	5003601
T157	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	616976	5003457
T158	Goldwind GWH182 8.0-MW wind turbine with STE blades and pad-mounted transformer	617796	5002990

(a) Although there are 158 potential turbine locations in the Project, the shadow flicker model includes only 143 locations. The other 15 turbine locations are optional.

3 ASSESSMENT APPROACH

3.1 Assessment Cases

Shadow flicker occurs when the turning rotor of a wind turbine is located between the sun and a receptor. As the turbine blades alternately block sunlight and allow sunlight to shine through, the shadow at the receptor may be observed to flicker under certain environmental conditions. For shadow flicker to occur, the sun must be shining, the sun must be low enough in the sky that the shadow of the wind turbine falls across the receptor, the wind turbine must be active (i.e., the rotor must be turning), and the rotor must be oriented such that the blades are not parallel to the line joining the sun and receptor. The shadow flicker assessment for the Project considered two assessment cases, which represent two different sets of environmental conditions.

The Worst-Case assessment assumes the sun is always shining during daylight hours (i.e., there are no cloudy periods), all Project wind turbines are always active (i.e., rotors turning), and all Project wind turbines are always oriented with their rotors perpendicular to the line joining the sun and all receptors. The Worst-Case assessment is highly conservative (i.e., likely to overestimate potential shadow flicker effects) because the sun is not always shining, and the Project wind turbines are not always active. In addition, the orientation of the Project wind turbines will change continuously based on wind direction, so turbine rotors are not always perpendicular to the line joining the sun and receptors.

The Adjusted-Case assessment makes use of historical weather data to reduce some of the conservatism inherent in the Worst-Case assessment. More specifically, the Adjusted-Case assessment uses weather data to estimate the probability of sunshine during each month of the year. In addition, the Adjusted-Case assessment uses weather data to estimate the probability of different wind directions, and hence turbine orientations. Even with the use of historical weather data, Adjusted-Case is still a conservative assessment of potential shadow flicker effects because it assumes the Project wind turbines are always active (i.e., turbine rotors are always turning), which is not the case.

3.2 Receptors

The EA Guide requires that potential shadow flicker effects be assessed at permanent or seasonal receptors located within 2 km of the Project wind turbines (Nova Scotia 2024). WSP established a study area for the shadow flicker assessment as a 2 km buffer on the Project wind turbines. All potential receptors within this study area were considered in the Project shadow flicker assessment.

A total of 305 potential shadow flicker receptors were identified within the study area. Another 78 potential shadow flicker receptors were identified within 100 m of the study area. These potential receptors were maintained in the assessment in consideration of potential minor changes to turbine locations.

When assessing potential shadow flicker effects, each potential receptor was assumed to be sensitive to shadow flicker in any direction. In other words, each potential receptor was assumed to have windows facing in all directions. This approach is often called greenhouse mode modelling. Greenhouse mode modelling is conservative since receptors may not actually have windows facing in all directions. In addition, trees, outbuildings, and other local structures can screen shadow flicker effects. These local shadow flicker screens were not considered when modelling potential receptors, which adds further conservatism to the shadow flicker assessment.

Table 2 presents locations for the 383 potential receptors considered in the Project shadow flicker assessment. For each potential receptor, Table 2 also identifies and provides the distance to the closest Project wind turbine. As noted above, some potential receptors are located slightly more than 2 km from the closest Project wind turbine (i.e., just beyond the 2 km study area). These potential receptors were maintained in the assessment in the interest of fully capturing all potential shadow flicker effects. Figure 1 presents a map showing the locations of the Project wind turbines and potential shadow flicker receptors.

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
A	613903	5023257	T001	1996
B	613569	5023224	T001	1940
C	613392	5023209	T001	1936
D	613335	5023201	T001	1935
E	613322	5023199	T001	1935
F	613065	5023189	T001	1979
G	613095	5023179	T001	1961
H	612305	5023164	T002	1922
I	613572	5023184	T001	1900

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
J	613305	5023174	T001	1913
K	612062	5023136	T002	1944
L	612342	5023135	T002	1889
M	613143	5023124	T001	1896
N	612237	5023103	T002	1873
O	613113	5023109	T001	1889
P	612171	5023070	T002	1854
Q	612405	5022988	T002	1736
R	611391	5022969	T002	2077 ^(b)
S	612593	5022952	T002	1692
T	611363	5022928	T002	2059 ^(b)
U	615735	5022995	T005	2068 ^(b)
V	615111	5022899	T003	1905
W	612697	5022781	T002	1526
X	612388	5022734	T002	1485
Y	611531	5022643	T002	1730
AA	611355	5021433	T007	1137
AB	616660	5020686	T005	1113
AC	617057	5020507	T005	1542
AD	616144	5019112	T015	1655
AE	615753	5018931	T015	1248
AF	616762	5016761	T019	2088 ^(b)
AG	616702	5016654	T019	2095 ^(b)
AH	612798	5016325	T025	1851
AI	616699	5016369	T029	2039 ^(b)
AJ	616606	5016189	T029	1840
AK	616614	5016119	T029	1775
AL	617556	5015543	T032	1718
AM	617280	5015506	T032	1570
AN	613211	5015426	T031	1754
AO	617228	5015484	T032	1532
AP	617465	5015476	T032	1617
AQ	617404	5015473	T032	1587
AR	618200	5015459	T037	1834
AS	617669	5015440	T032	1688
AT	617221	5015423	T032	1472
AU	617181	5015403	T032	1440
AV	618272	5015393	T037	1790
AW	618469	5015319	T037	1791
AX	617939	5015288	T037	1616

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
AY	617992	5015259	T037	1595
AZ	618230	5015088	T037	1488
BA	618366	5015075	T037	1527
BB	618254	5015049	T037	1459
BC	619892	5015070	T045	2078 ^(b)
BD	618279	5015038	T037	1458
BE	618474	5015016	T037	1522
BF	618343	5014978	T037	1429
BG	618445	5014952	T037	1452
BH	618493	5014917	T037	1447
BI	618579	5014862	T037	1448
BJ	618560	5014835	T037	1415
BK	618670	5014807	T037	1461
BL	618586	5014780	T037	1387
BM	620791	5014347	T049	1517
BN	619377	5014281	T041	1247
BO	619635	5014211	T045	1191
BP	620881	5013912	T049	1117
BQ	620881	5013912	T049	1117
BR	621284	5013787	T049	1206
BS	621285	5013787	T049	1206
BT	622208	5012622	T062	1229
BU	608684	5011113	T055	1577
BV	624226	5011214	T094	1565
BW	624216	5011164	T094	1518
BX	623729	5011111	T094	1250
BY	624219	5011106	T094	1472
BZ	626564	5010521	T109	1947
CA	626798	5010495	T109	2095 ^(b)
CB	626861	5010460	T109	2119 ^(b)
CC	626757	5010384	T109	1991
CD	626875	5010327	T109	2047 ^(b)
CE	626753	5010322	T109	1948
CF	626791	5010260	T109	1940
CG	626838	5010217	T109	1952
CH	609484	5009858	T100	1038
CI	626848	5010154	T109	1925
CJ	626987	5010130	T109	2030
CK	626874	5010012	T109	1873
CL	627018	5009975	T109	1983

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
CM	626926	5009961	T109	1895
CN	625833	5009900	T109	1001
CO	627043	5009899	T109	1973
CP	627063	5009856	T109	1974
CQ	626975	5009827	T109	1882
CR	627097	5009794	T109	1983
CS	627118	5009738	T109	1983
CT	627071	5009683	T109	1921
CU	627120	5009664	T109	1963
CV	627100	5009633	T109	1934
CW	627142	5009610	T109	1969
CX	614042	5009315	T096	1330
CY	627139	5009538	T109	1948
CZ	627173	5009499	T109	1973
DA	614868	5009261	T081	1767
DB	627220	5009480	T109	2015 ^(b)
DC	627166	5009465	T109	1959
DD	614421	5009200	T096	1725
DE	627243	5009434	T109	2029 ^(b)
DF	627065	5009414	T109	1850
DG	615561	5009184	T081	1615
DH	627101	5009388	T109	1882
DI	627242	5009382	T109	2020 ^(b)
DJ	614509	5009136	T096	1827
DK	627204	5009329	T109	1975
DL	627209	5009306	T109	1978
DM	615636	5009071	T081	1720
DN	615636	5009071	T081	1720
DO	627173	5009245	T109	1936
DP	627275	5009235	T109	2037 ^(b)
DQ	627242	5009227	T109	2004 ^(b)
DR	627292	5009222	T109	2053 ^(b)
DS	615604	5008982	T081	1812
DT	614626	5008959	T096	1992
DU	627314	5009190	T109	2073 ^(b)
DV	614881	5008937	T081	2047 ^(b)
DW	614618	5008929	T096	1995
DX	614632	5008923	T096	2010 ^(b)
DY	614937	5008928	T081	2032 ^(b)
DZ	627182	5009155	T109	1940

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
EA	627336	5009153	T109	2094 ^(b)
EB	614641	5008884	T129	1997
EC	627263	5009121	T109	2020 ^(b)
ED	627137	5009100	T109	1894
EE	627098	5009093	T109	1855
EF	611082	5008789	T106	1313
EG	627180	5009087	T109	1937
EH	615666	5008863	T081	1926
EI	627327	5009076	T109	2084 ^(b)
EJ	627180	5009057	T109	1937
EK	627229	5009047	T109	1986
EL	627317	5009043	T109	2075 ^(b)
EM	615627	5008811	T081	1980
EN	627209	5009030	T109	1967
EO	614768	5008784	T129	1908
EP	614975	5008783	T129	1941
EQ	627115	5009005	T109	1874
ER	615019	5008772	T129	1941
ES	627314	5008987	T109	2074 ^(b)
ET	615618	5008717	T081	2075 ^(b)
EU	615858	5008711	T081	2078 ^(b)
EV	627284	5008783	T109	2064 ^(b)
EW	627227	5008725	T109	2017 ^(b)
EX	615509	5008465	T129	1845
EY	611049	5008332	T106	1470
EZ	611049	5008332	T106	1470
FA	627224	5008564	T109	2050 ^(b)
FB	627095	5008487	T109	1948
FC	627023	5008451	T109	1892
FD	627188	5008337	T109	2086 ^(b)
FE	615878	5008108	T129	1803
FF	627167	5008275	T109	2090 ^(b)
FG	616011	5008047	T129	1865
FH	616049	5008011	T129	1873
FI	616122	5007911	T129	1876
FJ	616375	5007737	T129	2013 ^(b)
FK	616337	5007720	T129	1972
FL	616351	5007708	T129	1979
FM	616506	5007592	T129	2079 ^(b)
FN	616537	5007448	T129	2065 ^(b)

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
FO	616573	5007422	T129	2093 ^(b)
FP	617942	5007373	T103	2045 ^(b)
FQ	617869	5007369	T103	2082 ^(b)
FR	617969	5007345	T103	2059 ^(b)
FS	617993	5007319	T103	2072 ^(b)
FT	619708	5006884	T112	1845
FU	615610	5006761	T129	1069
FV	620165	5006712	T117	1644
FW	617068	5006571	T143	1849
FX	627731	5006580	T146	1751
FY	627930	5006549	T149	1727
FZ	626664	5006504	T146	1697
GA	626664	5006504	T146	1697
GB	628084	5006356	T149	1544
GC	617994	5006159	T143	2099 ^(b)
GD	628210	5006324	T149	1531
GE	628255	5006325	T149	1541
GF	615822	5006084	T143	1315
GG	628185	5006322	T149	1524
GH	628302	5006296	T149	1524
GI	628773	5006302	T149	1712
GJ	628427	5006294	T149	1559
GK	628551	5006294	T149	1604
GL	628606	5006294	T149	1627
GM	628770	5006283	T149	1694
GN	628691	5006267	T149	1641
GO	628751	5006240	T149	1647
GP	627635	5006211	T146	1370
GQ	628730	5006227	T149	1625
GR	616196	5005979	T143	1115
GS	628419	5006213	T149	1480
GT	627363	5006186	T146	1290
GU	628521	5006204	T149	1510
GV	628479	5006195	T149	1485
GW	618075	5005991	T143	2068 ^(b)
GX	618053	5005987	T143	2048 ^(b)
GY	628839	5006195	T149	1656
GZ	628801	5006176	T149	1619
HA	628718	5006168	T149	1568
HB	627309	5006119	T146	1219

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
HC	627387	5006106	T146	1214
HD	618140	5005917	T143	2085 ^(b)
HE	627480	5006066	T146	1190
HF	628853	5006055	T149	1550
HG	628860	5006039	T149	1542
HH	628839	5006005	T149	1502
HI	628750	5005977	T149	1426
HJ	628810	5005972	T149	1458
HK	629545	5005984	T149	2003 ^(b)
HL	628908	5005961	T149	1512
HM	619686	5005763	T140	2053 ^(b)
HN	629564	5005946	T149	1997
HO	618317	5005689	T155	2099 ^(b)
HP	629153	5005817	T149	1590
HQ	619640	5005626	T140	2085 ^(b)
HR	618365	5005601	T155	2032 ^(b)
HS	618321	5005586	T155	2003 ^(b)
HT	618387	5005583	T155	2023 ^(b)
HU	629604	5005780	T149	1944
HV	628900	5005759	T149	1361
HW	628963	5005754	T149	1404
HX	628920	5005748	T149	1368
HY	619650	5005559	T140	2072 ^(b)
HZ	628789	5005718	T149	1253
IA	618494	5005514	T155	2002 ^(b)
IB	629629	5005730	T149	1941
IC	628843	5005710	T149	1286
ID	629692	5005724	T149	1995
IE	629065	5005709	T149	1454
IF	629410	5005714	T149	1743
IG	628873	5005698	T149	1300
IH	619823	5005520	T140	1898
II	629025	5005686	T149	1408
IJ	629706	5005700	T149	1996
IK	629682	5005683	T149	1967
IL	628866	5005646	T149	1260
IM	629647	5005661	T149	1926
IN	629187	5005648	T149	1518
IO	628950	5005634	T149	1317
IP	628979	5005635	T149	1341

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
IQ	619820	5005454	T140	1901
IR	629547	5005628	T149	1822
IS	619898	5005433	T140	1824
IT	628936	5005608	T149	1290
IU	629113	5005595	T149	1427
IV	629636	5005593	T149	1888
IW	629240	5005579	T149	1528
IX	629115	5005569	T149	1415
IY	619892	5005388	T140	1832
IZ	620053	5005390	T140	1671
JA	629627	5005572	T149	1871
JB	629224	5005551	T149	1500
JC	620033	5005367	T140	1692
JD	629239	5005538	T149	1507
JE	619974	5005353	T140	1752
JF	620076	5005353	T140	1651
JG	629187	5005521	T149	1453
JH	629119	5005516	T149	1391
JI	620124	5005336	T140	1604
JJ	628898	5005503	T149	1197
JK	620134	5005309	T140	1597
JL	629083	5005479	T149	1342
JM	620068	5005282	T140	1666
JN	629085	5005447	T149	1328
JO	620228	5005273	T140	1509
JP	620236	5005232	T140	1507
JQ	620114	5005228	T140	1628
JR	620120	5005112	T140	1645
JS	629103	5005281	T149	1275
JT	619699	5005046	T140	2070 ^(b)
JU	619708	5005032	T140	2064 ^(b)
JV	619769	5004975	T140	2019 ^(b)
JW	620332	5004949	T140	1491
JX	629227	5005116	T149	1346
JY	620411	5004896	T140	1438
JZ	620513	5004859	T140	1363
KA	619885	5004832	T140	1950
KB	620627	5004814	T140	1286
KC	629410	5004983	T149	1506
KD	620572	5004766	T140	1358

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
KE	620639	5004750	T140	1311
KF	620615	5004741	T140	1336
KG	620631	5004724	T140	1332
KH	620172	5004605	T140	1784
KI	620222	5004566	T140	1761
KJ	620253	5004539	T140	1749
KK	620818	5004537	T140	1313
KL	620251	5004509	T140	1767
KM	620263	5004500	T140	1762
KN	620299	5004495	T140	1736
KO	620374	5004485	T140	1681
KP	620928	5004443	T140	1313
KQ	620456	5004354	T140	1700
KR	620505	5004340	T140	1674
KS	620582	5004197	T140	1723
KT	620671	5004166	T140	1690
KU	620667	5004108	T140	1738
KV	620766	5004079	T140	1704
KW	620810	5004049	T140	1705
KX	620819	5004016	T140	1728
KY	620842	5003974	T140	1752
KZ	620832	5003942	T140	1785
LA	620782	5003893	T140	1853
LB	620784	5003867	T140	1874
LC	620780	5003846	T140	1894
LD	620920	5003846	T140	1829
LE	620817	5003833	T140	1888
LF	620830	5003814	T140	1898
LG	620836	5003757	T140	1946
LH	627546	5003750	T149	1133
LI	620868	5003593	T140	2080 ^(b)
LJ	627486	5003694	T149	1206
LK	614889	5003407	T152	1085
LL	614887	5003401	T152	1090
LM	613625	5003299	T144	1578
LN	621132	5003305	T153	2084 ^(b)
LO	621146	5003290	T153	2077 ^(b)
LP	621156	5003254	T153	2081 ^(b)
LQ	621166	5003226	T153	2083 ^(b)
LR	621196	5003224	T153	2056 ^(b)

Table 2: Potential Receptor Locations and Distance to Turbines

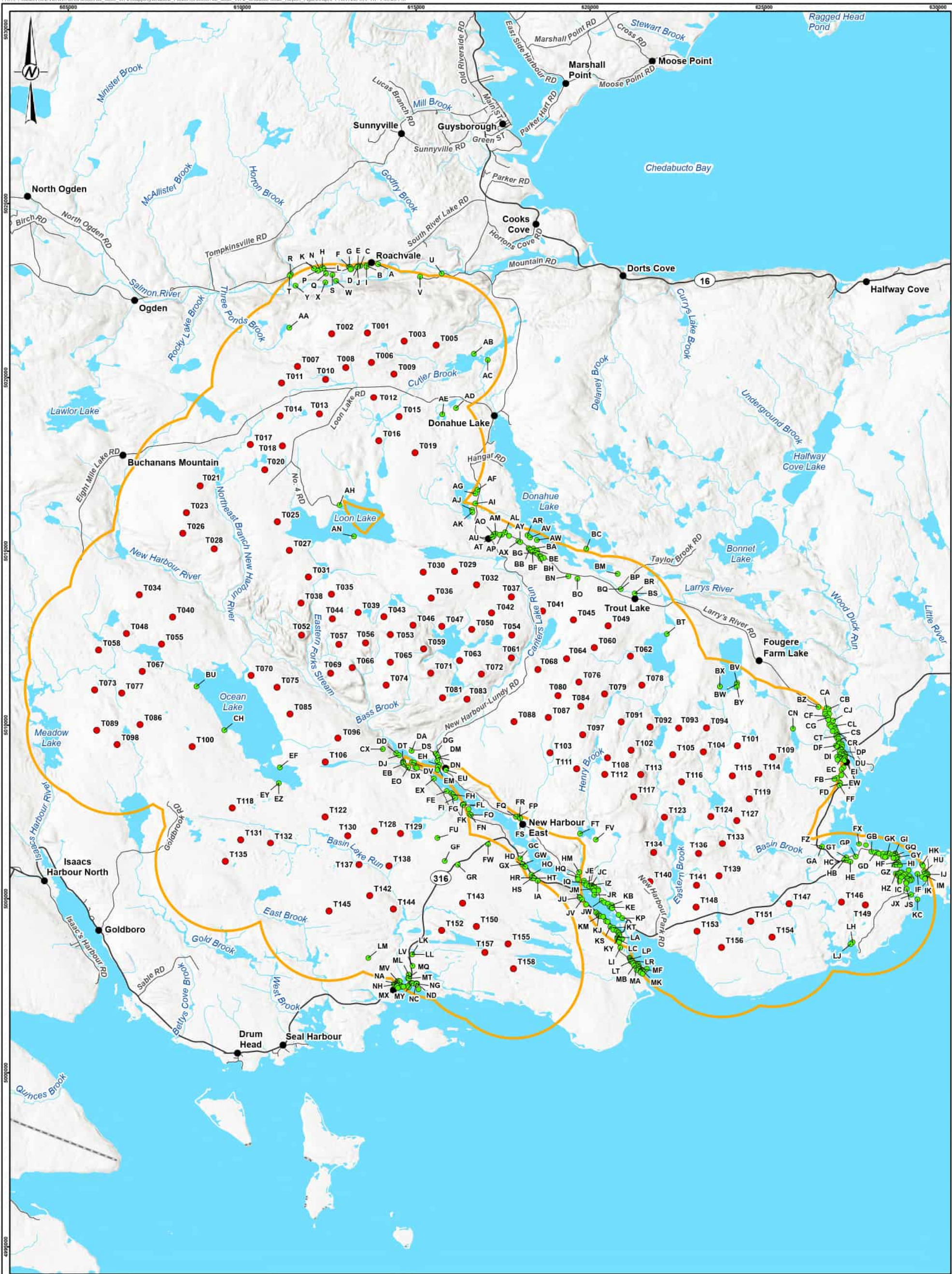
Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
LS	621204	5003218	T153	2052 ^(b)
LT	621169	5003201	T153	2090 ^(b)
LU	621203	5003196	T153	2062 ^(b)
LV	614897	5003071	T152	1317
LW	621243	5003143	T153	2049 ^(b)
LX	621369	5003120	T153	1948
LY	621377	5003117	T153	1942
LZ	621293	5003099	T153	2025 ^(b)
MA	621336	5003084	T153	1994
MB	621271	5003072	T153	2057 ^(b)
MC	621405	5003056	T153	1949
MD	621361	5003051	T153	1989
ME	621401	5003020	T153	1971
MF	621418	5002991	T153	1972
MG	621630	5002986	T153	1801
MH	621431	5002980	T153	1968
MI	621485	5002962	T153	1933
MJ	621340	5002947	T153	2062 ^(b)
MK	621497	5002949	T153	1931
ML	614783	5002821	T152	1585
MM	621458	5002932	T153	1972
MN	621505	5002931	T153	1935
MO	621450	5002902	T153	1996
MP	621453	5002877	T153	2008 ^(b)
MQ	614767	5002725	T152	1672
MR	621508	5002844	T153	1984
MS	614761	5002717	T152	1682
MT	614791	5002705	T152	1674
MU	614487	5002640	T152	1911
MV	614468	5002637	T152	1926
MW	614531	5002629	T152	1891
MX	614452	5002596	T152	1967
MY	614886	5002581	T152	1730
MZ	614892	5002576	T152	1731
NA	614440	5002564	T152	1999
NB	614894	5002571	T152	1735
NC	615003	5002570	T152	1686
ND	615025	5002563	T152	1683
NE	614361	5002551	T152	2061 ^(b)
NF	614419	5002548	T152	2025 ^(b)

Table 2: Potential Receptor Locations and Distance to Turbines

Receptor Identification Code ^(a)	Universal Transverse Mercator Coordinates (Zone 20)		Closest Project Wind Turbine	Distance to Closest Project Wind Turbine (m)
	Easting (m)	Northing (m)		
NG	615011	5002556	T152	1695
NH	614414	5002543	T152	2032 ^(b)
NI	614408	5002523	T152	2051 ^(b)
NJ	614376	5002510	T152	2082 ^(b)
NK	614548	5002508	T152	1976
NL	614439	5002504	T152	2046 ^(b)
NM	614763	5002497	T152	1865
NN	614596	5002485	T152	1966
NO	614572	5002475	T152	1988
NP	614587	5002473	T152	1981
NQ	614631	5002472	T152	1957
NR	614784	5002458	T152	1887
NS	614475	5002434	T152	2079 ^(b)
NT	615066	5002397	T152	1819

(a) The receptor identification codes are not sequential because some locations were removed during the planning process.

(b) This potential receptor is located more than 2 km from the nearest Project wind turbine but was maintained in the assessment in consideration of potential minor changes to turbine locations.



- LEGEND**
- COMMUNITY
 - POTENTIAL RECEPTOR
 - TURBINE LOCATION
 - HIGHWAY
 - LOCAL ROAD
 - MUNICIPAL BOUNDARY
 - WATERCOURSE
 - ▭ STUDY AREA
 - ▭ WATERBODY



REFERENCE(S)
DIGITAL BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
DATUM: NAD83 PROJECTION: UTM ZONE 20

PROJECT
OCEAN LAKE WIND PROJECT

CLIENT
EVERWIND

CONSULTANT



YYYY-MM-DD	2026-04-24
DESIGNED	VY
PREPARED	MV
REVIEWED	VY
APPROVED	NLH

TITLE
STUDY AREA

PROJECT NO.	CONTROL	REV.	FIGURE
CA0066766.3659	1000	0	1

3.3 Assessment Criteria

The EA Guide indicates that shadow flicker at receptors should not exceed a total of 30 hours per year and/or a maximum of 30 minutes on a single day (Nova Scotia 2024). Compliance with the first limit is best assessed in the context of the Adjusted-Case, which incorporates historical sunshine and wind direction data when estimating annual shadow flicker at each receptor. Compliance with the second limit is best assessed in the context of the Worst-Case, which represents environmental conditions that would lead to maximum shadow flicker on a single day (i.e., full sunshine and favourable turbine orientation).

3.4 Modelling Methods

Potential shadow flicker effects from the Project were modelled using WindPro® v2.7, a commercial software tool developed and distributed by EMD International A/S. Separate WindPro® models were developed for the Worst-Case and Adjusted-Case assessments.

Inputs to the WindPro® models for both assessment cases included the location, hub height, and rotor diameter for the Project wind turbines, location of potential shadow flicker receptors, and terrain elevation data. Additional inputs to the WindPro® model for the Adjusted-Case assessment included historical data about monthly sunshine and annual wind direction.

Table 3 presents historical sunshine data used in the WindPro® model for the Adjusted-Case assessment. This historical sunshine data was obtained from a meteorological station in Shearwater, Nova Scotia; this is the closest station for which monthly sunshine data were publicly available. Table 4 presents historical wind direction data used in the WindPro® model for the Adjusted-Case assessment. This historical wind direction data was collected in the Project area and provided to WSP by EverWind.

Table 3: Historical Sunshine Data Used to Model the Adjusted-Case

Month	Average Hours of Sunshine Per Day
January	3.84
February	4.65
March	4.60
April	4.92
May	6.27
June	7.51
July	7.49
August	7.39
September	6.09
October	5.06
November	3.69
December	3.16

Table 4: Historical Wind Direction Data Used to Model the Adjusted-Case

Wind Direction	Hours Per Year
north	318
north-northeast	181
northeast	244
east-northeast	350
east	359
east-southeast	300
southeast	347
south-southeast	485
south	626
south-southwest	872
southwest	1,354
west-southwest	591
west	499
west-northwest	637
northwest	772
north-northwest	825
Total	8,760

The WindPro® models predicted shadow flicker effects at each of the potential receptors listed in Table 2 based on the daily and yearly path of the sun through the sky at the Project latitude. In the Worst-Case assessment, the WindPro® model assumed the sun was always shining, the wind turbine generators were always active, and the turbine rotors were always oriented perpendicular to the line joining the sun and each potential receptor. In the Adjusted-Case assessment, the WindPro® model adjusted the predictions to account for historical monthly sunshine data (see Table 3) and to account for turbine orientation based on historical wind direction data (see Table 4). In both the Worst-Case and Adjusted-Case modelling, each potential receptor was modelled in greenhouse mode (i.e., sensitive to shadow flicker in every direction). Modelling both the Worst-Case and Adjusted-Case considered screening by terrain features (e.g., hills and valleys), but neither assessment case considered screening effects from trees, outbuildings, or other local structures.

4 RESULTS

Table 5 presents shadow flicker modelling results for the Project. Shadow flicker results are presented for each of the potential receptors identified in Table 2. For the Worst-Case assessment, modelling results are presented in the form of total hours of shadow flicker per year and maximum minutes of shadow flicker on a single day. For the Adjusted-Case assessment, modelling results are presented in the form of total hours of shadow flicker per year. Note that daily results are not available for the Adjusted-Case assessment because the modelling algorithm is based on monthly sunshine statistics and annual wind direction data. Figure 2 presents a contour map of modelling results in the form of total hours per year for the Adjusted-Case, and Figure 3 presents a contour map of modelling results in the form of maximum minutes per day for the Worst-Case.

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
A	0.00	0	0.00
B	0.00	0	0.00
C	0.00	0	0.00
D	0.00	0	0.00
E	0.00	0	0.00
F	0.00	0	0.00
G	0.00	0	0.00
H	0.00	0	0.00
I	0.00	0	0.00
J	0.00	0	0.00
K	0.00	0	0.00
L	0.00	0	0.00
M	0.00	0	0.00
N	0.00	0	0.00
O	0.00	0	0.00
P	0.00	0	0.00
Q	0.00	0	0.00
R	0.00	0	0.00
S	0.00	0	0.00
T	0.00	0	0.00
U	0.00	0	0.00
V	0.00	0	0.00
W	0.00	0	0.00
X	2.22	10	0.50
Y	5.12	16	1.17
AA	34.68	34	8.83
AB	32.95	39	9.23
AC	16.78	29	4.77
AD	9.03	24	2.43
AE	25.22	34	6.93
AF	0.00	0	0.00
AG	0.00	0	0.00
AH	21.97	23	5.42
AI	0.00	0	0.00
AJ	0.00	0	0.00
AK	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
AL	19.92	25	4.92
AM	25.55	29	6.18
AN	25.37	26	6.23
AO	25.60	30	6.20
AP	22.72	26	5.60
AQ	26.57	27	6.50
AR	0.00	0	0.00
AS	12.17	24	3.05
AT	30.90	31	7.52
AU	31.58	32	7.68
AV	0.00	0	0.00
AW	0.00	0	0.00
AX	4.55	15	1.03
AY	12.45	23	2.93
AZ	13.37	24	3.33
BA	10.00	23	2.52
BB	11.78	24	2.93
BC	0.00	0	0.00
BD	11.07	23	2.77
BE	8.00	21	2.08
BF	9.35	23	2.40
BG	8.03	22	2.13
BH	7.35	21	2.00
BI	0.00	0	0.00
BJ	6.57	20	1.87
BK	0.00	0	0.00
BL	6.22	20	1.77
BM	0.00	0	0.00
BN	7.70	23	2.18
BO	30.67	33	7.53
BP	14.27	27	3.58
BQ	14.27	27	3.58
BR	28.77	34	7.23
BS	28.85	34	7.25
BT	36.27	36	9.62
BU	36.60	31	9.90

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
BV	0.00	0	0.00
BW	0.00	0	0.00
BX	5.40	16	1.23
BY	0.00	0	0.00
BZ	1.88	9	0.42
CA	0.00	0	0.00
CB	0.00	0	0.00
CC	21.52	23	5.20
CD	0.00	0	0.00
CE	22.03	24	5.38
CF	15.65	23	3.90
CG	13.40	23	3.35
CH	38.13	41	10.65
CI	12.27	23	3.07
CJ	0.00	0	0.00
CK	10.87	23	2.90
CL	9.02	22	2.52
CM	10.10	23	2.78
CN	44.63	43	11.12
CO	8.65	22	2.47
CP	8.35	22	2.38
CQ	9.28	23	2.65
CR	8.10	22	2.28
CS	7.90	22	2.20
CT	8.30	22	2.27
CU	7.97	22	2.15
CV	8.18	22	2.20
CW	7.82	22	2.07
CX	29.92	33	8.28
CY	7.88	22	2.08
CZ	7.67	22	2.03
DA	0.00	0	0.00
DB	0.00	0	0.00
DC	7.63	22	2.02
DD	14.00	25	3.97
DE	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
DF	8.57	23	2.30
DG	0.00	0	0.00
DH	8.25	23	2.22
DI	0.00	0	0.00
DJ	12.85	24	3.67
DK	7.60	22	2.07
DL	7.50	21	2.03
DM	0.00	0	0.00
DN	0.00	0	0.00
DO	7.90	22	2.15
DP	0.00	0	0.00
DQ	0.00	0	0.00
DR	0.00	0	0.00
DS	0.00	0	0.00
DT	13.20	23	3.75
DU	0.00	0	0.00
DV	0.00	0	0.00
DW	14.15	22	4.00
DX	0.00	0	0.00
DY	0.00	0	0.00
DZ	7.95	22	2.13
EA	0.00	0	0.00
EB	0.00	0	0.00
EC	0.00	0	0.00
ED	8.47	23	2.27
EE	8.77	23	2.35
EF	66.03	33	17.92
EG	8.10	22	2.17
EH	0.00	0	0.00
EI	0.00	0	0.00
EJ	8.28	22	2.20
EK	7.77	21	2.07
EL	0.00	0	0.00
EM	0.00	0	0.00
EN	8.03	22	2.13
EO	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
EP	0.00	0	0.00
EQ	8.78	23	2.33
ER	0.00	0	0.00
ES	0.00	0	0.00
ET	0.00	0	0.00
EU	0.00	0	0.00
EV	0.00	0	0.00
EW	0.00	0	0.00
EX	0.00	0	0.00
EY	73.23	31	19.88
EZ	73.23	31	19.88
FA	0.00	0	0.00
FB	12.43	23	3.57
FC	15.07	24	4.27
FD	0.00	0	0.00
FE	20.90	26	5.03
FF	0.00	0	0.00
FG	21.73	24	5.33
FH	16.53	24	4.12
FI	12.25	24	3.08
FJ	0.00	0	0.00
FK	8.35	22	2.35
FL	8.20	22	2.32
FM	0.00	0	0.00
FN	0.00	0	0.00
FO	0.00	0	0.00
FP	0.00	0	0.00
FQ	0.00	0	0.00
FR	0.00	0	0.00
FS	0.00	0	0.00
FT	0.00	0	0.00
FU	37.47	40	10.03
FV	21.92	23	5.30
FW	0.00	0	0.00
FX	0.00	0	0.00
FY	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
FZ	0.00	0	0.00
GA	0.00	0	0.00
GB	0.00	0	0.00
GC	0.00	0	0.00
GD	0.00	0	0.00
GE	0.00	0	0.00
GF	8.53	23	2.33
GG	0.00	0	0.00
GH	0.00	0	0.00
GI	0.00	0	0.00
GJ	0.00	0	0.00
GK	0.00	0	0.00
GL	0.87	6	0.18
GM	0.00	0	0.00
GN	0.00	0	0.00
GO	0.00	0	0.00
GP	0.00	0	0.00
GQ	0.00	0	0.00
GR	14.97	17	4.28
GS	0.00	0	0.00
GT	0.00	0	0.00
GU	4.57	15	1.05
GV	1.93	10	0.43
GW	0.00	0	0.00
GX	0.00	0	0.00
GY	0.00	0	0.00
GZ	0.00	0	0.00
HA	16.97	23	4.07
HB	0.00	0	0.00
HC	0.00	0	0.00
HD	0.00	0	0.00
HE	0.00	0	0.00
HF	10.27	21	2.55
HG	9.80	21	2.43
HH	9.90	22	2.45
HI	11.60	23	2.88

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
HJ	10.05	23	2.50
HK	0.00	0	0.00
HL	8.92	21	2.23
HM	0.00	0	0.00
HN	9.15	21	2.27
HO	0.00	0	0.00
HP	26.53	28	6.50
HQ	0.00	0	0.00
HR	0.00	0	0.00
HS	0.00	0	0.00
HT	0.00	0	0.00
HU	7.78	21	2.02
HV	37.98	34	9.45
HW	40.75	33	10.15
HX	40.12	34	9.98
HY	0.00	0	0.00
HZ	37.40	36	9.32
IA	0.00	0	0.00
IB	7.40	21	1.97
IC	41.32	36	10.30
ID	6.43	19	1.75
IE	28.82	31	7.12
IF	11.32	25	2.90
IG	43.88	36	10.95
IH	7.87	23	2.13
II	37.92	32	9.62
IJ	6.20	20	1.70
IK	6.62	20	1.83
IL	49.33	36	12.40
IM	7.08	21	1.97
IN	17.43	29	4.40
IO	42.87	34	10.87
IP	39.45	34	10.03
IQ	8.05	22	2.17
IR	8.58	23	2.37
IS	8.82	24	2.37

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
IT	43.07	35	10.95
IU	19.13	31	4.83
IV	7.38	22	2.08
IW	14.90	29	3.93
IX	18.83	31	4.83
IY	8.85	24	2.37
IZ	10.70	26	2.85
JA	7.55	22	2.15
JB	15.33	29	4.10
JC	10.73	25	2.87
JD	14.83	29	4.00
JE	10.00	24	2.67
JF	11.27	26	3.02
JG	16.18	30	4.35
JH	23.75	32	6.37
JI	27.07	26	7.75
JJ	38.15	37	9.87
JK	23.57	27	6.72
JL	25.32	33	6.83
JM	11.58	26	3.15
JN	25.28	33	6.90
JO	15.52	29	4.27
JP	14.93	29	4.10
JQ	12.60	26	3.45
JR	13.52	27	3.78
JS	24.78	34	6.85
JT	0.00	0	0.00
JU	0.00	0	0.00
JV	0.00	0	0.00
JW	24.87	30	7.25
JX	15.28	31	4.07
JY	38.05	32	11.27
JZ	30.93	34	9.25
KA	10.70	23	3.15
KB	7.83	21	2.35
KC	11.75	28	3.20

Table 5: Shadow Flicker Modelling Results for the Project

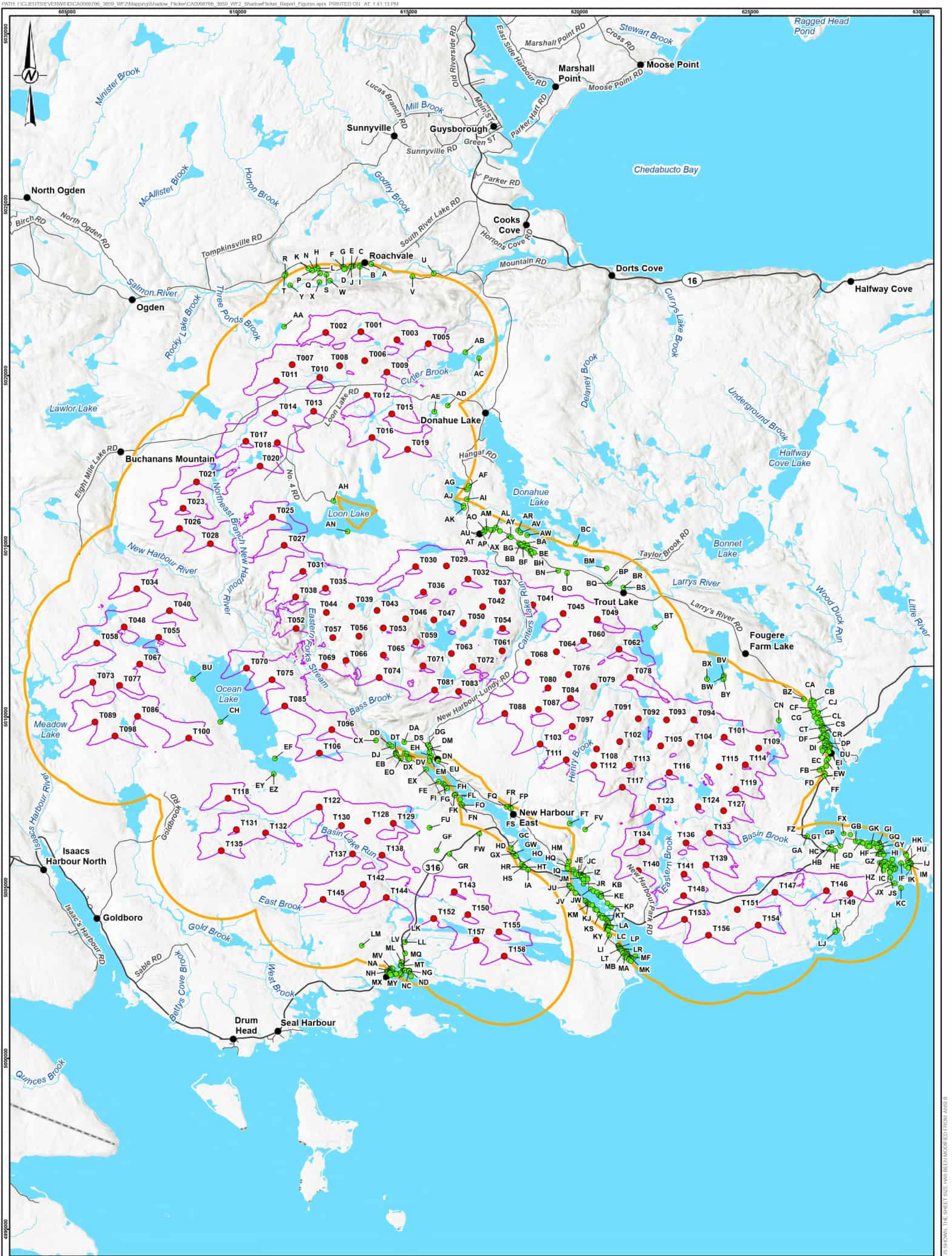
Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
KD	4.03	14	1.20
KE	0.00	0	0.00
KF	0.00	0	0.00
KG	0.00	0	0.00
KH	18.92	26	5.67
KI	9.55	19	2.87
KJ	3.05	11	0.90
KK	0.00	0	0.00
KL	0.00	0	0.00
KM	0.00	0	0.00
KN	0.00	0	0.00
KO	0.00	0	0.00
KP	0.00	0	0.00
KQ	0.00	0	0.00
KR	0.00	0	0.00
KS	0.00	0	0.00
KT	0.00	0	0.00
KU	0.00	0	0.00
KV	0.00	0	0.00
KW	0.00	0	0.00
KX	0.00	0	0.00
KY	0.00	0	0.00
KZ	0.00	0	0.00
LA	0.00	0	0.00
LB	0.00	0	0.00
LC	0.00	0	0.00
LD	0.00	0	0.00
LE	0.00	0	0.00
LF	0.00	0	0.00
LG	0.00	0	0.00
LH	0.00	0	0.00
LI	0.00	0	0.00
LJ	0.00	0	0.00
LK	0.00	0	0.00
LL	0.00	0	0.00
LM	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
LN	0.00	0	0.00
LO	0.00	0	0.00
LP	0.00	0	0.00
LQ	0.00	0	0.00
LR	0.00	0	0.00
LS	0.00	0	0.00
LT	0.00	0	0.00
LU	0.00	0	0.00
LV	0.00	0	0.00
LW	0.00	0	0.00
LX	19.77	24	5.92
LY	19.32	24	5.78
LZ	0.00	0	0.00
MA	17.78	23	5.32
MB	0.00	0	0.00
MC	10.97	19	3.28
MD	12.92	20	3.87
ME	7.25	15	2.17
MF	3.37	10	1.00
MG	0.00	0	0.00
MH	1.73	6	0.52
MI	0.00	0	0.00
MJ	0.00	0	0.00
MK	0.00	0	0.00
ML	0.00	0	0.00
MM	0.00	0	0.00
MN	0.00	0	0.00
MO	0.00	0	0.00
MP	0.00	0	0.00
MQ	0.00	0	0.00
MR	0.00	0	0.00
MS	0.00	0	0.00
MT	0.00	0	0.00
MU	0.00	0	0.00
MV	0.00	0	0.00
MW	0.00	0	0.00

Table 5: Shadow Flicker Modelling Results for the Project

Receptor Identification Code	Worst-Case Assessment		Adjusted-Case Assessment
	Total Hours of Shadow Flicker Per Year	Maximum Minutes of Shadow Flicker on a Single Day	Total Hours of Shadow Flicker Per Year
MX	0.00	0	0.00
MY	0.00	0	0.00
MZ	0.00	0	0.00
NA	0.00	0	0.00
NB	0.00	0	0.00
NC	0.00	0	0.00
ND	0.00	0	0.00
NE	0.00	0	0.00
NF	0.00	0	0.00
NG	0.00	0	0.00
NH	0.00	0	0.00
NI	0.00	0	0.00
NJ	0.00	0	0.00
NK	0.00	0	0.00
NL	0.00	0	0.00
NM	0.00	0	0.00
NN	0.00	0	0.00
NO	0.00	0	0.00
NP	0.00	0	0.00
NQ	0.00	0	0.00
NR	0.00	0	0.00
NS	0.00	0	0.00
NT	0.00	0	0.00



LEGEND

- COMMUNITY
- POTENTIAL RECEPTOR
- TURBINE LOCATION
- HIGHWAY
- LOCAL ROAD
- MUNICIPAL BOUNDARY
- WATERCOURSE
- STUDY AREA
- WATERBODY

PREDICTED SHADOW FLICKER (ADJUSTED-CASE)

- 30 HOURS PER YEAR

CLIENT
EVERWIND



CONSULTANT	YYYY-MM-DD	2026-04-24
DESIGNED	VY	
PREPARED	MV	
REVIEWED	VY	
APPROVED	NLH	

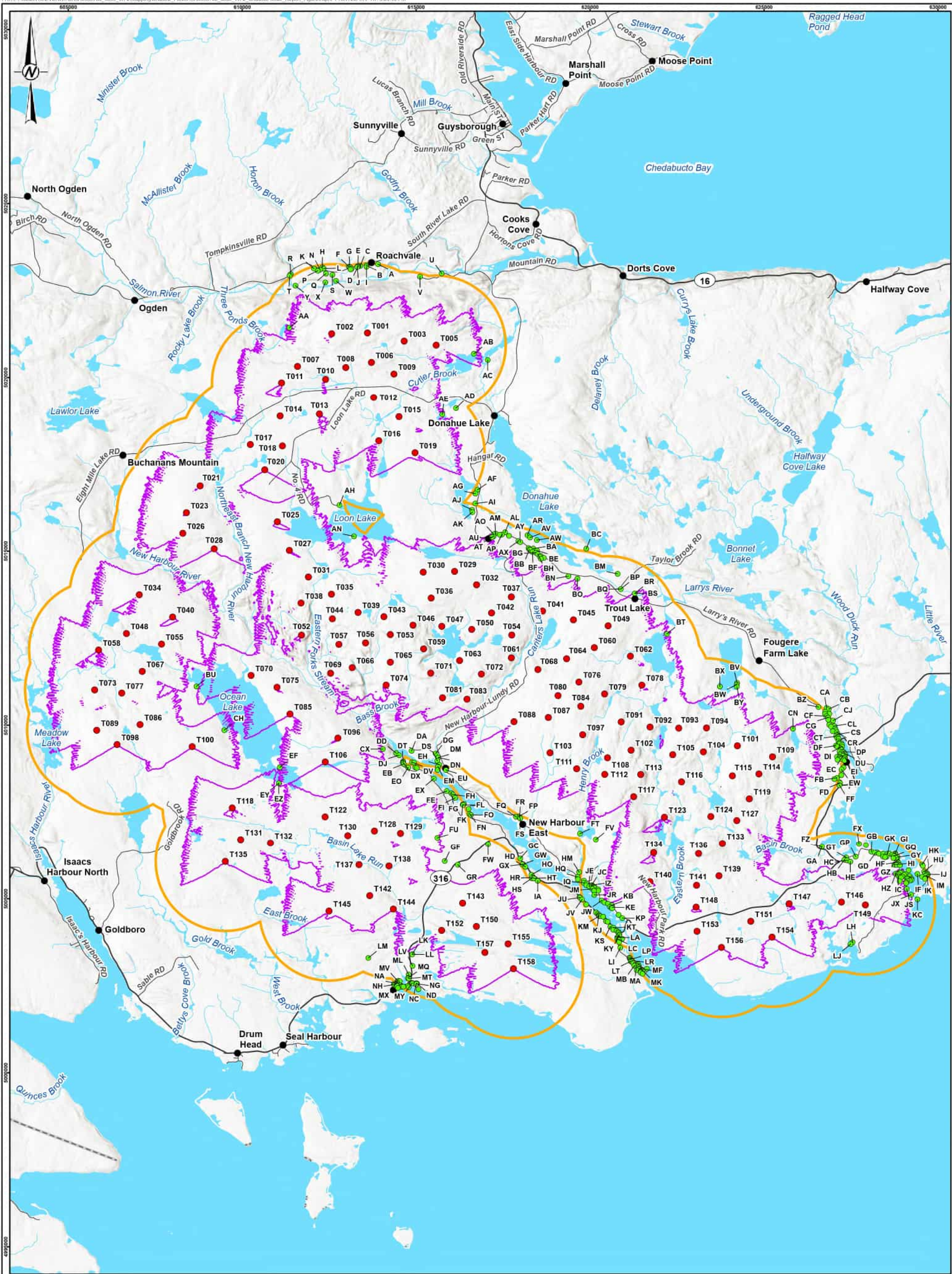
REFERENCE(S)

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DATUM: NAD83 PROJECTION: UTM ZONE 20

PROJECT
OCEAN LAKE WIND PROJECT

TITLE
TOTAL HOURS OF SHADOW FLICKER PER YEAR (ADJUSTED-CASE)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0066766.3659	1000	0	2



- LEGEND**
- COMMUNITY
 - POTENTIAL RECEPTOR
 - TURBINE LOCATION
 - HIGHWAY
 - LOCAL ROAD
 - MUNICIPAL BOUNDARY
 - WATERCOURSE
 - STUDY AREA
 - WATERBODY
- PREDICTED SHADOW FLICKER (WORST-CASE)**
- 30 MINUTES PER DAY

CLIENT
EVERWIND



YYYY-MM-DD	2026-05-02
DESIGNED	VY
PREPARED	MV PT
REVIEWED	VY
APPROVED	NLH

REFERENCE(S)

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DATUM: NAD83 PROJECTION: UTM ZONE 20

PROJECT
OCEAN LAKE WIND PROJECT

TITLE
MAXIMUM MINUTES OF SHADOW FLICKER ON A SINGLE DAY (WORST-CASE)

PROJECT NO.	CONTROL	REV.	FIGURE
CA0066766.3659	1000	0	3

Table 6 compares total hours of shadow flicker per year predicted for the Adjusted-Case to the 30 hours per year shadow flicker limit from the EA Guide (Nova Scotia 2024). Table 6 indicates that shadow flicker from the Project is predicted to comply with the annual shadow flicker limits from the EA Guide at all potential receptors.

Table 6 also compares maximum minutes of shadow flicker on a single day predicted for the Worst-Case to the 30 minutes per day shadow flicker limit from the EA Guide (Nova Scotia 2024). Table 6 indicates there are 39 potential receptors where the maximum daily shadow flicker exceeds the 30-minute limit. The maximum predicted daily shadow flicker duration for any potential receptor is 43 minutes. Mitigation may be required to achieve compliance at the 39 potential receptors where maximum daily shadow flicker is predicted to exceed 30 minutes.

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
A	0.00	30	Project is compliant	0	30	Project is compliant
B	0.00	30	Project is compliant	0	30	Project is compliant
C	0.00	30	Project is compliant	0	30	Project is compliant
D	0.00	30	Project is compliant	0	30	Project is compliant
E	0.00	30	Project is compliant	0	30	Project is compliant
F	0.00	30	Project is compliant	0	30	Project is compliant
G	0.00	30	Project is compliant	0	30	Project is compliant
O	0.00	30	Project is compliant	0	30	Project is compliant
I	0.00	30	Project is compliant	0	30	Project is compliant
J	0.00	30	Project is compliant	0	30	Project is compliant
K	0.00	30	Project is compliant	0	30	Project is compliant
L	0.00	30	Project is compliant	0	30	Project is compliant
M	0.00	30	Project is compliant	0	30	Project is compliant
N	0.00	30	Project is compliant	0	30	Project is compliant
O	0.00	30	Project is compliant	0	30	Project is compliant
P	0.00	30	Project is compliant	0	30	Project is compliant
Q	0.00	30	Project is compliant	0	30	Project is compliant
R	0.00	30	Project is compliant	0	30	Project is compliant
S	0.00	30	Project is compliant	0	30	Project is compliant
T	0.00	30	Project is compliant	0	30	Project is compliant
U	0.00	30	Project is compliant	0	30	Project is compliant
V	0.00	30	Project is compliant	0	30	Project is compliant
W	0.00	30	Project is compliant	0	30	Project is compliant
X	0.50	30	Project is compliant	10	30	Project is compliant
Y	1.17	30	Project is compliant	16	30	Project is compliant
AA	8.83	30	Project is compliant	34	30	Mitigation may be required
AB	9.23	30	Project is compliant	39	30	Mitigation may be required
AC	4.77	30	Project is compliant	29	30	Project is compliant
AD	2.43	30	Project is compliant	24	30	Project is compliant
AE	6.93	30	Project is compliant	34	30	Mitigation may be required

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
AF	0.00	30	Project is compliant	0	30	Project is compliant
AG	0.00	30	Project is compliant	0	30	Project is compliant
AH	5.42	30	Project is compliant	23	30	Project is compliant
AI	0.00	30	Project is compliant	0	30	Project is compliant
AJ	0.00	30	Project is compliant	0	30	Project is compliant
AK	0.00	30	Project is compliant	0	30	Project is compliant
AL	4.92	30	Project is compliant	25	30	Project is compliant
AM	6.18	30	Project is compliant	29	30	Project is compliant
AN	6.23	30	Project is compliant	26	30	Project is compliant
AO	6.20	30	Project is compliant	30	30	Project is compliant
AP	5.60	30	Project is compliant	26	30	Project is compliant
AQ	6.50	30	Project is compliant	27	30	Project is compliant
AR	0.00	30	Project is compliant	0	30	Project is compliant
AS	3.05	30	Project is compliant	24	30	Project is compliant
AT	7.52	30	Project is compliant	31	30	Mitigation may be required
AU	7.68	30	Project is compliant	32	30	Mitigation may be required
AV	0.00	30	Project is compliant	0	30	Project is compliant
AW	0.00	30	Project is compliant	0	30	Project is compliant
AX	1.03	30	Project is compliant	15	30	Project is compliant
AY	2.93	30	Project is compliant	23	30	Project is compliant
AZ	3.33	30	Project is compliant	24	30	Project is compliant
BA	2.52	30	Project is compliant	23	30	Project is compliant
BB	2.93	30	Project is compliant	24	30	Project is compliant
BC	0.00	30	Project is compliant	0	30	Project is compliant
BD	2.77	30	Project is compliant	23	30	Project is compliant
BE	2.08	30	Project is compliant	21	30	Project is compliant
BF	2.40	30	Project is compliant	23	30	Project is compliant
BG	2.13	30	Project is compliant	22	30	Project is compliant
BH	2.00	30	Project is compliant	21	30	Project is compliant
BI	0.00	30	Project is compliant	0	30	Project is compliant
BJ	1.87	30	Project is compliant	20	30	Project is compliant
BK	0.00	30	Project is compliant	0	30	Project is compliant
BL	1.77	30	Project is compliant	20	30	Project is compliant
BM	0.00	30	Project is compliant	0	30	Project is compliant
BN	2.18	30	Project is compliant	23	30	Project is compliant
BO	7.53	30	Project is compliant	33	30	Mitigation may be required
BP	3.58	30	Project is compliant	27	30	Project is compliant
BQ	3.58	30	Project is compliant	27	30	Project is compliant
BR	7.23	30	Project is compliant	34	30	Mitigation may be required

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
BS	7.25	30	Project is compliant	34	30	Mitigation may be required
BT	9.62	30	Project is compliant	36	30	Mitigation may be required
BU	9.90	30	Project is compliant	31	30	Mitigation may be required
BV	0.00	30	Project is compliant	0	30	Project is compliant
BW	0.00	30	Project is compliant	0	30	Project is compliant
BX	1.23	30	Project is compliant	16	30	Project is compliant
BY	0.00	30	Project is compliant	0	30	Project is compliant
BZ	0.42	30	Project is compliant	9	30	Project is compliant
CA	0.00	30	Project is compliant	0	30	Project is compliant
CB	0.00	30	Project is compliant	0	30	Project is compliant
CC	5.20	30	Project is compliant	23	30	Project is compliant
CD	0.00	30	Project is compliant	0	30	Project is compliant
CE	5.38	30	Project is compliant	24	30	Project is compliant
CF	3.90	30	Project is compliant	23	30	Project is compliant
CG	3.35	30	Project is compliant	23	30	Project is compliant
CH	10.65	30	Project is compliant	41	30	Mitigation may be required
CI	3.07	30	Project is compliant	23	30	Project is compliant
CJ	0.00	30	Project is compliant	0	30	Project is compliant
CK	2.90	30	Project is compliant	23	30	Project is compliant
CL	2.52	30	Project is compliant	22	30	Project is compliant
CM	2.78	30	Project is compliant	23	30	Project is compliant
CN	11.12	30	Project is compliant	43	30	Mitigation may be required
CO	2.47	30	Project is compliant	22	30	Project is compliant
CP	2.38	30	Project is compliant	22	30	Project is compliant
CQ	2.65	30	Project is compliant	23	30	Project is compliant
CR	2.28	30	Project is compliant	22	30	Project is compliant
CS	2.20	30	Project is compliant	22	30	Project is compliant
CT	2.27	30	Project is compliant	22	30	Project is compliant
CU	2.15	30	Project is compliant	22	30	Project is compliant
CV	2.20	30	Project is compliant	22	30	Project is compliant
CW	2.07	30	Project is compliant	22	30	Project is compliant
CX	8.28	30	Project is compliant	33	30	Mitigation may be required
CY	2.08	30	Project is compliant	22	30	Project is compliant
CZ	2.03	30	Project is compliant	22	30	Project is compliant
DA	0.00	30	Project is compliant	0	30	Project is compliant
DB	0.00	30	Project is compliant	0	30	Project is compliant
DC	2.02	30	Project is compliant	22	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
DD	3.97	30	Project is compliant	25	30	Project is compliant
DE	0.00	30	Project is compliant	0	30	Project is compliant
DF	2.30	30	Project is compliant	23	30	Project is compliant
DG	0.00	30	Project is compliant	0	30	Project is compliant
DH	2.22	30	Project is compliant	23	30	Project is compliant
DI	0.00	30	Project is compliant	0	30	Project is compliant
DJ	3.67	30	Project is compliant	24	30	Project is compliant
DK	2.07	30	Project is compliant	22	30	Project is compliant
DL	2.03	30	Project is compliant	21	30	Project is compliant
DM	0.00	30	Project is compliant	0	30	Project is compliant
DN	0.00	30	Project is compliant	0	30	Project is compliant
DO	2.15	30	Project is compliant	22	30	Project is compliant
DP	0.00	30	Project is compliant	0	30	Project is compliant
DQ	0.00	30	Project is compliant	0	30	Project is compliant
DR	0.00	30	Project is compliant	0	30	Project is compliant
DS	0.00	30	Project is compliant	0	30	Project is compliant
DT	3.75	30	Project is compliant	23	30	Project is compliant
DU	0.00	30	Project is compliant	0	30	Project is compliant
DV	0.00	30	Project is compliant	0	30	Project is compliant
DW	4.00	30	Project is compliant	22	30	Project is compliant
DX	0.00	30	Project is compliant	0	30	Project is compliant
DY	0.00	30	Project is compliant	0	30	Project is compliant
DZ	2.13	30	Project is compliant	22	30	Project is compliant
EA	0.00	30	Project is compliant	0	30	Project is compliant
EB	0.00	30	Project is compliant	0	30	Project is compliant
EC	0.00	30	Project is compliant	0	30	Project is compliant
ED	2.27	30	Project is compliant	23	30	Project is compliant
EE	2.35	30	Project is compliant	23	30	Project is compliant
EF	17.92	30	Project is compliant	33	30	Mitigation may be required
EG	2.17	30	Project is compliant	22	30	Project is compliant
EH	0.00	30	Project is compliant	0	30	Project is compliant
EI	0.00	30	Project is compliant	0	30	Project is compliant
EJ	2.20	30	Project is compliant	22	30	Project is compliant
EK	2.07	30	Project is compliant	21	30	Project is compliant
EL	0.00	30	Project is compliant	0	30	Project is compliant
EM	0.00	30	Project is compliant	0	30	Project is compliant
EN	2.13	30	Project is compliant	22	30	Project is compliant
EO	0.00	30	Project is compliant	0	30	Project is compliant
EP	0.00	30	Project is compliant	0	30	Project is compliant
EQ	2.33	30	Project is compliant	23	30	Project is compliant
ER	0.00	30	Project is compliant	0	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
ES	0.00	30	Project is compliant	0	30	Project is compliant
ET	0.00	30	Project is compliant	0	30	Project is compliant
EU	0.00	30	Project is compliant	0	30	Project is compliant
EV	0.00	30	Project is compliant	0	30	Project is compliant
EW	0.00	30	Project is compliant	0	30	Project is compliant
EX	0.00	30	Project is compliant	0	30	Project is compliant
EY	19.88	30	Project is compliant	31	30	Mitigation may be required
EZ	19.88	30	Project is compliant	31	30	Mitigation may be required
FA	0.00	30	Project is compliant	0	30	Project is compliant
FB	3.57	30	Project is compliant	23	30	Project is compliant
FC	4.27	30	Project is compliant	24	30	Project is compliant
FD	0.00	30	Project is compliant	0	30	Project is compliant
FE	5.03	30	Project is compliant	26	30	Project is compliant
FF	0.00	30	Project is compliant	0	30	Project is compliant
FG	5.33	30	Project is compliant	24	30	Project is compliant
FH	4.12	30	Project is compliant	24	30	Project is compliant
FI	3.08	30	Project is compliant	24	30	Project is compliant
FJ	0.00	30	Project is compliant	0	30	Project is compliant
FK	2.35	30	Project is compliant	22	30	Project is compliant
FL	2.32	30	Project is compliant	22	30	Project is compliant
FM	0.00	30	Project is compliant	0	30	Project is compliant
FN	0.00	30	Project is compliant	0	30	Project is compliant
FO	0.00	30	Project is compliant	0	30	Project is compliant
FP	0.00	30	Project is compliant	0	30	Project is compliant
FQ	0.00	30	Project is compliant	0	30	Project is compliant
FR	0.00	30	Project is compliant	0	30	Project is compliant
FS	0.00	30	Project is compliant	0	30	Project is compliant
FT	0.00	30	Project is compliant	0	30	Project is compliant
FU	10.03	30	Project is compliant	40	30	Mitigation may be required
FV	5.30	30	Project is compliant	23	30	Project is compliant
FW	0.00	30	Project is compliant	0	30	Project is compliant
FX	0.00	30	Project is compliant	0	30	Project is compliant
FY	0.00	30	Project is compliant	0	30	Project is compliant
FZ	0.00	30	Project is compliant	0	30	Project is compliant
GA	0.00	30	Project is compliant	0	30	Project is compliant
GB	0.00	30	Project is compliant	0	30	Project is compliant
GC	0.00	30	Project is compliant	0	30	Project is compliant
GD	0.00	30	Project is compliant	0	30	Project is compliant
GE	0.00	30	Project is compliant	0	30	Project is compliant
GF	2.33	30	Project is compliant	23	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
GG	0.00	30	Project is compliant	0	30	Project is compliant
GH	0.00	30	Project is compliant	0	30	Project is compliant
GI	0.00	30	Project is compliant	0	30	Project is compliant
GJ	0.00	30	Project is compliant	0	30	Project is compliant
GK	0.00	30	Project is compliant	0	30	Project is compliant
GL	0.18	30	Project is compliant	6	30	Project is compliant
GM	0.00	30	Project is compliant	0	30	Project is compliant
GN	0.00	30	Project is compliant	0	30	Project is compliant
GO	0.00	30	Project is compliant	0	30	Project is compliant
GP	0.00	30	Project is compliant	0	30	Project is compliant
GQ	0.00	30	Project is compliant	0	30	Project is compliant
GR	4.28	30	Project is compliant	17	30	Project is compliant
GS	0.00	30	Project is compliant	0	30	Project is compliant
GT	0.00	30	Project is compliant	0	30	Project is compliant
GU	1.05	30	Project is compliant	15	30	Project is compliant
GV	0.43	30	Project is compliant	10	30	Project is compliant
GW	0.00	30	Project is compliant	0	30	Project is compliant
GX	0.00	30	Project is compliant	0	30	Project is compliant
GY	0.00	30	Project is compliant	0	30	Project is compliant
GZ	0.00	30	Project is compliant	0	30	Project is compliant
HA	4.07	30	Project is compliant	23	30	Project is compliant
HB	0.00	30	Project is compliant	0	30	Project is compliant
HC	0.00	30	Project is compliant	0	30	Project is compliant
HD	0.00	30	Project is compliant	0	30	Project is compliant
HE	0.00	30	Project is compliant	0	30	Project is compliant
HF	2.55	30	Project is compliant	21	30	Project is compliant
HG	2.43	30	Project is compliant	21	30	Project is compliant
HH	2.45	30	Project is compliant	22	30	Project is compliant
HI	2.88	30	Project is compliant	23	30	Project is compliant
HJ	2.50	30	Project is compliant	23	30	Project is compliant
HK	0.00	30	Project is compliant	0	30	Project is compliant
HL	2.23	30	Project is compliant	21	30	Project is compliant
HM	0.00	30	Project is compliant	0	30	Project is compliant
HN	2.27	30	Project is compliant	21	30	Project is compliant
HO	0.00	30	Project is compliant	0	30	Project is compliant
HP	6.50	30	Project is compliant	28	30	Project is compliant
HQ	0.00	30	Project is compliant	0	30	Project is compliant
HR	0.00	30	Project is compliant	0	30	Project is compliant
HS	0.00	30	Project is compliant	0	30	Project is compliant
HT	0.00	30	Project is compliant	0	30	Project is compliant
HU	2.02	30	Project is compliant	21	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
HV	9.45	30	Project is compliant	34	30	Mitigation may be required
HW	10.15	30	Project is compliant	33	30	Mitigation may be required
HX	9.98	30	Project is compliant	34	30	Mitigation may be required
HY	0.00	30	Project is compliant	0	30	Project is compliant
HZ	9.32	30	Project is compliant	36	30	Mitigation may be required
IA	0.00	30	Project is compliant	0	30	Project is compliant
IB	1.97	30	Project is compliant	21	30	Project is compliant
IC	10.30	30	Project is compliant	36	30	Mitigation may be required
ID	1.75	30	Project is compliant	19	30	Project is compliant
IE	7.12	30	Project is compliant	31	30	Mitigation may be required
IF	2.90	30	Project is compliant	25	30	Project is compliant
IG	10.95	30	Project is compliant	36	30	Mitigation may be required
IH	2.13	30	Project is compliant	23	30	Project is compliant
II	9.62	30	Project is compliant	32	30	Mitigation may be required
IJ	1.70	30	Project is compliant	20	30	Project is compliant
IK	1.83	30	Project is compliant	20	30	Project is compliant
IL	12.40	30	Project is compliant	36	30	Mitigation may be required
IM	1.97	30	Project is compliant	21	30	Project is compliant
IN	4.40	30	Project is compliant	29	30	Project is compliant
IO	10.87	30	Project is compliant	34	30	Mitigation may be required
IP	10.03	30	Project is compliant	34	30	Mitigation may be required
IQ	2.17	30	Project is compliant	22	30	Project is compliant
IR	2.37	30	Project is compliant	23	30	Project is compliant
IS	2.37	30	Project is compliant	24	30	Project is compliant
IT	10.95	30	Project is compliant	35	30	Mitigation may be required
IU	4.83	30	Project is compliant	31	30	Mitigation may be required
IV	2.08	30	Project is compliant	22	30	Project is compliant
IW	3.93	30	Project is compliant	29	30	Project is compliant
IX	4.83	30	Project is compliant	31	30	Mitigation may be required
IY	2.37	30	Project is compliant	24	30	Project is compliant
IZ	2.85	30	Project is compliant	26	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
JA	2.15	30	Project is compliant	22	30	Project is compliant
JB	4.10	30	Project is compliant	29	30	Project is compliant
JC	2.87	30	Project is compliant	25	30	Project is compliant
JD	4.00	30	Project is compliant	29	30	Project is compliant
JE	2.67	30	Project is compliant	24	30	Project is compliant
JF	3.02	30	Project is compliant	26	30	Project is compliant
JG	4.35	30	Project is compliant	30	30	Project is compliant
JH	6.37	30	Project is compliant	32	30	Mitigation may be required
JI	7.75	30	Project is compliant	26	30	Project is compliant
JJ	9.87	30	Project is compliant	37	30	Mitigation may be required
JK	6.72	30	Project is compliant	27	30	Project is compliant
JL	6.83	30	Project is compliant	33	30	Mitigation may be required
JM	3.15	30	Project is compliant	26	30	Project is compliant
JN	6.90	30	Project is compliant	33	30	Mitigation may be required
JO	4.27	30	Project is compliant	29	30	Project is compliant
JP	4.10	30	Project is compliant	29	30	Project is compliant
JQ	3.45	30	Project is compliant	26	30	Project is compliant
JR	3.78	30	Project is compliant	27	30	Project is compliant
JS	6.85	30	Project is compliant	34	30	Mitigation may be required
JT	0.00	30	Project is compliant	0	30	Project is compliant
JU	0.00	30	Project is compliant	0	30	Project is compliant
JV	0.00	30	Project is compliant	0	30	Project is compliant
JW	7.25	30	Project is compliant	30	30	Project is compliant
JX	4.07	30	Project is compliant	31	30	Mitigation may be required
JY	11.27	30	Project is compliant	32	30	Mitigation may be required
JZ	9.25	30	Project is compliant	34	30	Mitigation may be required
KA	3.15	30	Project is compliant	23	30	Project is compliant
KB	2.35	30	Project is compliant	21	30	Project is compliant
KC	3.20	30	Project is compliant	28	30	Project is compliant
KD	1.20	30	Project is compliant	14	30	Project is compliant
KE	0.00	30	Project is compliant	0	30	Project is compliant
KF	0.00	30	Project is compliant	0	30	Project is compliant
KG	0.00	30	Project is compliant	0	30	Project is compliant
KH	5.67	30	Project is compliant	26	30	Project is compliant
KI	2.87	30	Project is compliant	19	30	Project is compliant
KJ	0.90	30	Project is compliant	11	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
KK	0.00	30	Project is compliant	0	30	Project is compliant
KL	0.00	30	Project is compliant	0	30	Project is compliant
KM	0.00	30	Project is compliant	0	30	Project is compliant
KN	0.00	30	Project is compliant	0	30	Project is compliant
KO	0.00	30	Project is compliant	0	30	Project is compliant
KP	0.00	30	Project is compliant	0	30	Project is compliant
KQ	0.00	30	Project is compliant	0	30	Project is compliant
KR	0.00	30	Project is compliant	0	30	Project is compliant
KS	0.00	30	Project is compliant	0	30	Project is compliant
KT	0.00	30	Project is compliant	0	30	Project is compliant
KU	0.00	30	Project is compliant	0	30	Project is compliant
KV	0.00	30	Project is compliant	0	30	Project is compliant
KW	0.00	30	Project is compliant	0	30	Project is compliant
KX	0.00	30	Project is compliant	0	30	Project is compliant
KY	0.00	30	Project is compliant	0	30	Project is compliant
KZ	0.00	30	Project is compliant	0	30	Project is compliant
LA	0.00	30	Project is compliant	0	30	Project is compliant
LB	0.00	30	Project is compliant	0	30	Project is compliant
LC	0.00	30	Project is compliant	0	30	Project is compliant
LD	0.00	30	Project is compliant	0	30	Project is compliant
LE	0.00	30	Project is compliant	0	30	Project is compliant
LF	0.00	30	Project is compliant	0	30	Project is compliant
LG	0.00	30	Project is compliant	0	30	Project is compliant
LH	0.00	30	Project is compliant	0	30	Project is compliant
LI	0.00	30	Project is compliant	0	30	Project is compliant
LJ	0.00	30	Project is compliant	0	30	Project is compliant
LK	0.00	30	Project is compliant	0	30	Project is compliant
LL	0.00	30	Project is compliant	0	30	Project is compliant
LM	0.00	30	Project is compliant	0	30	Project is compliant
LN	0.00	30	Project is compliant	0	30	Project is compliant
LO	0.00	30	Project is compliant	0	30	Project is compliant
LP	0.00	30	Project is compliant	0	30	Project is compliant
LQ	0.00	30	Project is compliant	0	30	Project is compliant
LR	0.00	30	Project is compliant	0	30	Project is compliant
LS	0.00	30	Project is compliant	0	30	Project is compliant
LT	0.00	30	Project is compliant	0	30	Project is compliant
LU	0.00	30	Project is compliant	0	30	Project is compliant
LV	0.00	30	Project is compliant	0	30	Project is compliant
LW	0.00	30	Project is compliant	0	30	Project is compliant
LX	5.92	30	Project is compliant	24	30	Project is compliant
LY	5.78	30	Project is compliant	24	30	Project is compliant
LZ	0.00	30	Project is compliant	0	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
MA	5.32	30	Project is compliant	23	30	Project is compliant
MB	0.00	30	Project is compliant	0	30	Project is compliant
MC	3.28	30	Project is compliant	19	30	Project is compliant
MD	3.87	30	Project is compliant	20	30	Project is compliant
ME	2.17	30	Project is compliant	15	30	Project is compliant
MF	1.00	30	Project is compliant	10	30	Project is compliant
MG	0.00	30	Project is compliant	0	30	Project is compliant
MH	0.52	30	Project is compliant	6	30	Project is compliant
MI	0.00	30	Project is compliant	0	30	Project is compliant
MJ	0.00	30	Project is compliant	0	30	Project is compliant
MK	0.00	30	Project is compliant	0	30	Project is compliant
ML	0.00	30	Project is compliant	0	30	Project is compliant
MM	0.00	30	Project is compliant	0	30	Project is compliant
MN	0.00	30	Project is compliant	0	30	Project is compliant
MO	0.00	30	Project is compliant	0	30	Project is compliant
MP	0.00	30	Project is compliant	0	30	Project is compliant
MQ	0.00	30	Project is compliant	0	30	Project is compliant
MR	0.00	30	Project is compliant	0	30	Project is compliant
MS	0.00	30	Project is compliant	0	30	Project is compliant
MT	0.00	30	Project is compliant	0	30	Project is compliant
MU	0.00	30	Project is compliant	0	30	Project is compliant
MV	0.00	30	Project is compliant	0	30	Project is compliant
MW	0.00	30	Project is compliant	0	30	Project is compliant
MX	0.00	30	Project is compliant	0	30	Project is compliant
MY	0.00	30	Project is compliant	0	30	Project is compliant
MZ	0.00	30	Project is compliant	0	30	Project is compliant
NA	0.00	30	Project is compliant	0	30	Project is compliant
NB	0.00	30	Project is compliant	0	30	Project is compliant
NC	0.00	30	Project is compliant	0	30	Project is compliant
ND	0.00	30	Project is compliant	0	30	Project is compliant
NE	0.00	30	Project is compliant	0	30	Project is compliant
NF	0.00	30	Project is compliant	0	30	Project is compliant
NG	0.00	30	Project is compliant	0	30	Project is compliant
NH	0.00	30	Project is compliant	0	30	Project is compliant
NI	0.00	30	Project is compliant	0	30	Project is compliant
NJ	0.00	30	Project is compliant	0	30	Project is compliant
NK	0.00	30	Project is compliant	0	30	Project is compliant
NL	0.00	30	Project is compliant	0	30	Project is compliant
NM	0.00	30	Project is compliant	0	30	Project is compliant
NN	0.00	30	Project is compliant	0	30	Project is compliant
NO	0.00	30	Project is compliant	0	30	Project is compliant
NP	0.00	30	Project is compliant	0	30	Project is compliant

Table 6: Compliance Assessment

Receptor Identification Code	Total Hours Per Year of Shadow Flicker			Maximum Minutes of Shadow Flicker on a Single Day		
	Project Prediction (Adjusted-Case)	Limit from EA Guide	Assessment	Project Prediction (Worst-Case)	Limit from EA Guide	Assessment
NQ	0.00	30	Project is compliant	0	30	Project is compliant
NR	0.00	30	Project is compliant	0	30	Project is compliant
NS	0.00	30	Project is compliant	0	30	Project is compliant
NT	0.00	30	Project is compliant	0	30	Project is compliant

It is important to note that shadow flicker modelling incorporates several conservative assumptions that tend to overestimate actual exposure durations. Most importantly for the predicted exceedances of the 30 minutes per day limit, the modelling assumes each potential receptor has windows facing in all directions (i.e., greenhouse mode) and the modelling does not account for shielding by trees, outbuildings, and other local structures. As such, it is likely that actual shadow flicker durations during Project operations will not exceed the 30 minutes per day limit. However, in the unlikely event of a shadow flicker issue during Project operations, temporary curtailment of 15 turbines (i.e., T002, T005, T015, T029, T041, T049, T062, T067, T096, T100, T106, T109, T129, T140, and T149) during specific dates/times could be implemented to reduce the duration of shadow flicker exposure. A potential wind turbine curtailment schedule for these 15 turbines is presented in Appendix A of this report.

5 SUMMARY AND DISCUSSION

A shadow flicker assessment was completed for the Project in accordance with guidance set out in the EA Guide (Nova Scotia 2024). The shadow flicker assessment considered potential effects to 383 potential receptors located within 2.1 km of the Project. Compliance with the EA Guide was assessed by comparing predicted shadow flicker levels to a limit of 30 hours per year and 30 minutes per day.

The shadow flicker assessment evaluated two conservative modelling scenarios: Worst-Case and Adjusted-Case. The Worst-Case assessment assumed the sun is always shining during daylight hours (i.e., no cloudy periods), all Project wind turbines are always active (i.e., rotors always turning), and all Project wind turbines are always oriented with their rotors perpendicular to the line joining the sun and all potential receptors. The Adjusted-Case assessment used historical weather data to estimate the probability of sunshine for each month of the year and to estimate the probability of different wind directions (and hence turbine orientations). Both assessment cases assumed that potential receptors are sensitive to shadow flicker in every direction (i.e., greenhouse mode) and neither assessment case accounted for screening of shadow flicker by vegetation, outbuildings, or other structures.

The shadow flicker assessment concluded the Project will comply with the 30 hours per year limit from the EA Guide (Nova Scotia 2024) at all potential receptors. The shadow flicker assessment also concluded that, with the implementation of an appropriate wind turbine curtailment schedule (see Appendix A), the Project could comply with the 30 minutes per day limit from the EA Guide (Nova Scotia 2024) at all potential receptors. As such, the Project will not result in unacceptable shadow flicker effects.

Signature Page

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6 REFERENCES

Nova Scotia (Nova Scotia Policy Division Environmental Assessment Branch). 2024. Environmental Assessment Supplemental Checklist: Wind Energy Project.

APPENDIX A

Curtailment Schedule

Appendix A – Shadow Flicker Curtailment Schedule

For each of the 39 potential receptors where modelling predicted potential non-compliance with daily shadow flicker limits (see Table 6 of the main report), the WindPro® software was used to identify the specific Project wind turbine(s) that contribute to the predicted shadow flicker and the specific dates and times when these wind turbine(s) may cause shadow flicker. Using this information, WSP developed a wind turbine curtailment schedule that results in predicted shadow flicker exposure less than 30 minutes per day for each potential receptor.

Curtailment may be required for up to 15 wind turbines: T002, T005, T015, T029, T041, T049, T062, T067, T096, T100, T106, T109, T129, T140, and T149. The following tables present a curtailment schedule that will be sufficient to achieve compliance with daily shadow flicker limits at all potential receptors. More specifically:

- Table A-1 provides a curtailment schedule for wind turbine T002
- Table A-2 provides a curtailment schedule for wind turbine T005
- Table A-3 provides a curtailment schedule for wind turbine T015
- Table A-4 provides a curtailment schedule for wind turbine T029
- Table A-5 provides a curtailment schedule for wind turbine T041
- Table A-6 provides a curtailment schedule for wind turbine T049
- Table A-7 provides a curtailment schedule for wind turbine T062
- Table A-8 provides a curtailment schedule for wind turbine T067
- Table A-9 provides a curtailment schedule for wind turbine T096
- Table A-10 provides a curtailment schedule for wind turbine T100
- Table A-11 provides a curtailment schedule for wind turbine T106
- Table A-12 provides a curtailment schedule for wind turbine T109
- Table A-13 provides a curtailment schedule for wind turbine T129
- Table A-14 provides a curtailment schedule for wind turbine T140
- Table A-15 provides a curtailment schedule for wind turbine T149

Table A-1: Curtailment Schedule for Wind Turbine T002

Date	Curtailment Period
Mar 19	any 1 minute(s) between 07:54 and 08:25
Mar 20	any 2 minute(s) between 07:53 and 08:25
Mar 21	any 3 minute(s) between 07:52 and 08:25
Mar 22	any 3 minute(s) between 07:52 and 08:25
Mar 23	any 4 minute(s) between 07:51 and 08:25
Mar 24	any 3 minute(s) between 07:51 and 08:24
Mar 25	any 3 minute(s) between 07:51 and 08:24
Mar 26	any 3 minute(s) between 07:50 and 08:23
Mar 27	any 1 minute(s) between 07:51 and 08:22
Sep 16	any 1 minute(s) between 07:40 and 08:11
Sep 17	any 2 minute(s) between 07:39 and 08:11
Sep 18	any 3 minute(s) between 07:39 and 08:12
Sep 19	any 4 minute(s) between 07:38 and 08:12
Sep 20	any 3 minute(s) between 07:38 and 08:11
Sep 21	any 4 minute(s) between 07:37 and 08:11
Sep 22	any 3 minute(s) between 07:37 and 08:10
Sep 23	any 2 minute(s) between 07:38 and 08:10
Sep 24	any 2 minute(s) between 07:37 and 08:09

Table A-2: Curtailment Schedule for Wind Turbine T005

Date	Curtailment Period
Apr 23	any 1 minute(s) between 19:06 and 19:37
Apr 24	any 4 minute(s) between 19:04 and 19:38
Apr 25	any 5 minute(s) between 19:04 and 19:39
Apr 26	any 6 minute(s) between 19:03 and 19:39
Apr 27	any 7 minute(s) between 19:02 and 19:39
Apr 28	any 7 minute(s) between 19:02 and 19:39
Apr 29	any 8 minute(s) between 19:01 and 19:39
Apr 30	any 9 minute(s) between 19:01 and 19:40
May 1	any 9 minute(s) between 19:01 and 19:40
May 2	any 9 minute(s) between 19:00 and 19:39
May 3	any 9 minute(s) between 19:01 and 19:40
May 4	any 9 minute(s) between 19:00 and 19:39
May 5	any 8 minute(s) between 19:01 and 19:39
May 6	any 8 minute(s) between 19:01 and 19:39
May 7	any 7 minute(s) between 19:01 and 19:38
May 8	any 6 minute(s) between 19:02 and 19:38
May 9	any 5 minute(s) between 19:02 and 19:37
May 10	any 4 minute(s) between 19:02 and 19:36
May 11	any 2 minute(s) between 19:03 and 19:35
May 12	any 1 minute(s) between 19:04 and 19:35
Aug 1	any 2 minute(s) between 19:14 and 19:46

Table A-2: Curtailment Schedule for Wind Turbine T005

Date	Curtailment Period
Aug 2	any 3 minute(s) between 19:13 and 19:46
Aug 3	any 5 minute(s) between 19:12 and 19:47
Aug 4	any 5 minute(s) between 19:12 and 19:47
Aug 5	any 6 minute(s) between 19:11 and 19:47
Aug 6	any 7 minute(s) between 19:10 and 19:47
Aug 7	any 8 minute(s) between 19:11 and 19:49
Aug 8	any 9 minute(s) between 19:10 and 19:49
Aug 9	any 8 minute(s) between 19:10 and 19:48
Aug 10	any 9 minute(s) between 19:09 and 19:48
Aug 11	any 9 minute(s) between 19:09 and 19:48
Aug 12	any 9 minute(s) between 19:09 and 19:48
Aug 13	any 8 minute(s) between 19:09 and 19:47
Aug 14	any 9 minute(s) between 19:09 and 19:48
Aug 15	any 8 minute(s) between 19:09 and 19:47
Aug 16	any 7 minute(s) between 19:09 and 19:46
Aug 17	any 5 minute(s) between 19:10 and 19:45
Aug 18	any 4 minute(s) between 19:10 and 19:44
Aug 19	any 3 minute(s) between 19:10 and 19:43
Aug 20	any 1 minute(s) between 19:12 and 19:43
Apr 23	any 1 minute(s) between 19:06 and 19:37

Table A-3: Curtailment Schedule for Wind Turbine T015

Date	Curtailment Period
Mar 26	any 1 minute(s) between 18:32 and 19:03
Mar 27	any 3 minute(s) between 18:31 and 19:04
Mar 28	any 3 minute(s) between 18:31 and 19:04
Mar 29	any 4 minute(s) between 18:30 and 19:04
Mar 30	any 3 minute(s) between 18:31 and 19:04
Mar 31	any 3 minute(s) between 18:31 and 19:04
Apr 1	any 2 minute(s) between 18:31 and 19:03
Apr 2	any 1 minute(s) between 18:31 and 19:02
Sep 10	any 1 minute(s) between 18:24 and 18:55
Sep 11	any 2 minute(s) between 18:23 and 18:55
Sep 12	any 3 minute(s) between 18:22 and 18:55
Sep 13	any 4 minute(s) between 18:21 and 18:55
Sep 14	any 3 minute(s) between 18:22 and 18:55
Sep 15	any 4 minute(s) between 18:21 and 18:55
Sep 16	any 4 minute(s) between 18:20 and 18:54
Sep 17	any 2 minute(s) between 18:20 and 18:52

Table A-4: Curtailment Schedule for Wind Turbine T029

Date	Curtailment Period
Jan 1	any 1 minute(s) between 15:29 and 16:00
Jan 2	any 1 minute(s) between 15:29 and 16:00
Jan 3	any 1 minute(s) between 15:30 and 16:01
Jan 4	any 1 minute(s) between 15:30 and 16:01
Jan 5	any 1 minute(s) between 15:33 and 16:02
Jan 6	any 2 minute(s) between 15:30 and 16:02
Jan 7	any 1 minute(s) between 15:31 and 16:02
Jan 8	any 1 minute(s) between 15:34 and 16:03
Jan 9	any 1 minute(s) between 15:32 and 16:03
Dec 3	any 1 minute(s) between 15:16 and 15:47
Dec 4	any 1 minute(s) between 15:16 and 15:47
Dec 5	any 1 minute(s) between 15:16 and 15:47
Dec 6	any 1 minute(s) between 15:17 and 15:48
Dec 7	any 1 minute(s) between 15:19 and 15:48
Dec 8	any 1 minute(s) between 15:17 and 15:48
Dec 9	any 1 minute(s) between 15:18 and 15:49
Dec 10	any 1 minute(s) between 15:18 and 15:49
Dec 11	any 1 minute(s) between 15:19 and 15:50
Dec 12	any 1 minute(s) between 15:19 and 15:50
Dec 13	any 1 minute(s) between 15:20 and 15:51
Dec 15	any 1 minute(s) between 15:21 and 15:52
Dec 16	any 1 minute(s) between 15:22 and 15:53
Dec 17	any 1 minute(s) between 15:22 and 15:53
Dec 20	any 1 minute(s) between 15:23 and 15:54
Dec 21	any 1 minute(s) between 15:23 and 15:54
Dec 22	any 1 minute(s) between 15:24 and 15:55
Dec 23	any 1 minute(s) between 15:24 and 15:55
Dec 27	any 1 minute(s) between 15:26 and 15:57
Dec 28	any 1 minute(s) between 15:27 and 15:58
Dec 29	any 1 minute(s) between 15:27 and 15:58
Dec 30	any 1 minute(s) between 15:28 and 15:59
Dec 31	any 1 minute(s) between 15:28 and 15:59

Table A-5: Curtailment Schedule for Wind Turbine T041

Date	Curtailment Period
Jan 1	any 2 minute(s) between 15:31 and 16:03
Jan 2	any 1 minute(s) between 15:32 and 16:03
Jan 3	any 1 minute(s) between 15:32 and 16:03
Jan 4	any 1 minute(s) between 15:33 and 16:04
Dec 8	any 1 minute(s) between 15:20 and 15:51
Dec 10	any 1 minute(s) between 15:21 and 15:52
Dec 11	any 2 minute(s) between 15:21 and 15:53
Dec 12	any 1 minute(s) between 15:22 and 15:53
Dec 13	any 2 minute(s) between 15:22 and 15:54
Dec 14	any 2 minute(s) between 15:23 and 15:55
Dec 15	any 2 minute(s) between 15:22 and 15:54
Dec 16	any 2 minute(s) between 15:23 and 15:55
Dec 17	any 2 minute(s) between 15:24 and 15:56
Dec 18	any 3 minute(s) between 15:23 and 15:56
Dec 19	any 3 minute(s) between 15:24 and 15:57
Dec 20	any 3 minute(s) between 15:25 and 15:58
Dec 21	any 3 minute(s) between 15:25 and 15:58
Dec 22	any 3 minute(s) between 15:26 and 15:59
Dec 23	any 3 minute(s) between 15:26 and 15:59
Dec 24	any 3 minute(s) between 15:26 and 15:59
Dec 25	any 3 minute(s) between 15:27 and 16:00
Dec 26	any 3 minute(s) between 15:27 and 16:00
Dec 27	any 2 minute(s) between 15:28 and 16:00
Dec 28	any 2 minute(s) between 15:28 and 16:00
Dec 29	any 3 minute(s) between 15:29 and 16:02
Dec 30	any 2 minute(s) between 15:30 and 16:02
Dec 31	any 2 minute(s) between 15:30 and 16:02

Table A-6: Curtailment Schedule for Wind Turbine T049

Date	Curtailment Period
Jan 1	any 1 minute(s) between 14:55 and 15:26
Dec 11	any 1 minute(s) between 14:45 and 15:16
Dec 12	any 2 minute(s) between 14:45 and 15:17
Dec 13	any 1 minute(s) between 14:46 and 15:17
Dec 14	any 2 minute(s) between 14:45 and 15:17
Dec 15	any 2 minute(s) between 14:46 and 15:18
Dec 16	any 3 minute(s) between 14:46 and 15:19
Dec 17	any 3 minute(s) between 14:47 and 15:20
Dec 18	any 3 minute(s) between 14:47 and 15:20
Dec 19	any 3 minute(s) between 14:48 and 15:21
Dec 20	any 3 minute(s) between 14:47 and 15:20
Dec 21	any 3 minute(s) between 14:48 and 15:21

Table A-6: Curtailment Schedule for Wind Turbine T049

Date	Curtailment Period
Dec 22	any 3 minute(s) between 14:48 and 15:21
Dec 23	any 3 minute(s) between 14:49 and 15:22
Dec 24	any 4 minute(s) between 14:49 and 15:23
Dec 25	any 3 minute(s) between 14:51 and 15:24
Dec 26	any 3 minute(s) between 14:51 and 15:24
Dec 27	any 3 minute(s) between 14:51 and 15:24
Dec 28	any 2 minute(s) between 14:52 and 15:24
Dec 29	any 2 minute(s) between 14:53 and 15:25
Dec 30	any 1 minute(s) between 14:54 and 15:25
Dec 31	any 1 minute(s) between 14:54 and 15:25

Table A-7: Curtailment Schedule for Wind Turbine T062

Date	Curtailment Period
Jan 31	any 1 minute(s) between 16:14 and 16:45
Feb 1	any 3 minute(s) between 16:14 and 16:47
Feb 2	any 3 minute(s) between 16:15 and 16:48
Feb 3	any 5 minute(s) between 16:14 and 16:49
Feb 4	any 6 minute(s) between 16:14 and 16:50
Feb 5	any 5 minute(s) between 16:15 and 16:50
Feb 6	any 6 minute(s) between 16:14 and 16:50
Feb 7	any 5 minute(s) between 16:15 and 16:50
Feb 8	any 5 minute(s) between 16:15 and 16:50
Feb 9	any 4 minute(s) between 16:15 and 16:49
Feb 10	any 3 minute(s) between 16:16 and 16:49
Feb 11	any 1 minute(s) between 16:17 and 16:48
Oct 30	any 1 minute(s) between 16:46 and 17:17
Oct 31	any 2 minute(s) between 16:46 and 17:18
Nov 1	any 3 minute(s) between 15:45 and 16:18
Nov 2	any 4 minute(s) between 15:45 and 16:19
Nov 3	any 5 minute(s) between 15:44 and 16:19
Nov 4	any 6 minute(s) between 15:44 and 16:20
Nov 5	any 5 minute(s) between 15:44 and 16:19
Nov 6	any 6 minute(s) between 15:44 and 16:20
Nov 7	any 5 minute(s) between 15:44 and 16:19
Nov 8	any 5 minute(s) between 15:45 and 16:20
Nov 9	any 4 minute(s) between 15:44 and 16:18
Nov 10	any 2 minute(s) between 15:45 and 16:17
Nov 11	any 1 minute(s) between 15:45 and 16:16

Table A-8: Curtailment Schedule for Wind Turbine T067

Date	Curtailment Period
Aug 18	any 1 minute(s) between 19:33 and 19:47

Table A-9: Curtailment Schedule for Wind Turbine T096

Date	Curtailment Period
Apr 27	any 2 minute(s) between 19:11 and 19:43
Apr 28	any 2 minute(s) between 19:10 and 19:42
Apr 29	any 2 minute(s) between 19:11 and 19:43
Apr 30	any 2 minute(s) between 19:10 and 19:42
May 1	any 3 minute(s) between 19:10 and 19:43
May 2	any 2 minute(s) between 19:10 and 19:42
May 3	any 2 minute(s) between 19:10 and 19:42
May 4	any 1 minute(s) between 19:11 and 19:42
May 5	any 1 minute(s) between 19:10 and 19:41
Aug 7	any 1 minute(s) between 19:20 and 19:51
Aug 8	any 1 minute(s) between 19:20 and 19:51
Aug 9	any 2 minute(s) between 19:19 and 19:51
Aug 10	any 2 minute(s) between 19:19 and 19:51
Aug 11	any 3 minute(s) between 19:18 and 19:51
Aug 12	any 2 minute(s) between 19:19 and 19:51
Aug 13	any 3 minute(s) between 19:18 and 19:51
Aug 14	any 3 minute(s) between 19:18 and 19:51
Aug 15	any 2 minute(s) between 19:18 and 19:50
Aug 16	any 1 minute(s) between 19:18 and 19:49

Table A-10: Curtailment Schedule for Wind Turbine T100

Date	Curtailment Period
Feb 11	any 2 minute(s) between 16:21 and 16:53
Feb 12	any 4 minute(s) between 16:20 and 16:54
Feb 13	any 6 minute(s) between 16:19 and 16:55
Feb 14	any 7 minute(s) between 16:18 and 16:55
Feb 15	any 9 minute(s) between 16:18 and 16:57
Feb 16	any 10 minute(s) between 16:17 and 16:57
Feb 17	any 9 minute(s) between 16:18 and 16:57
Feb 18	any 10 minute(s) between 16:17 and 16:57
Feb 19	any 11 minute(s) between 16:16 and 16:57
Feb 20	any 11 minute(s) between 16:17 and 16:58
Feb 21	any 10 minute(s) between 16:17 and 16:57
Feb 22	any 11 minute(s) between 16:16 and 16:57
Feb 23	any 10 minute(s) between 16:17 and 16:57
Feb 24	any 9 minute(s) between 16:17 and 16:56

Table A-10: Curtailment Schedule for Wind Turbine T100

Date	Curtailment Period
Feb 25	any 7 minute(s) between 16:18 and 16:55
Feb 26	any 6 minute(s) between 16:18 and 16:54
Feb 27	any 5 minute(s) between 16:19 and 16:54
Feb 28	any 3 minute(s) between 16:20 and 16:53
Oct 13	any 1 minute(s) between 16:54 and 17:25
Oct 14	any 3 minute(s) between 16:52 and 17:25
Oct 15	any 6 minute(s) between 16:51 and 17:27
Oct 16	any 7 minute(s) between 16:50 and 17:27
Oct 17	any 8 minute(s) between 16:50 and 17:28
Oct 18	any 9 minute(s) between 16:49 and 17:28
Oct 19	any 10 minute(s) between 16:48 and 17:28
Oct 20	any 10 minute(s) between 16:48 and 17:28
Oct 21	any 11 minute(s) between 16:47 and 17:28
Oct 22	any 11 minute(s) between 16:47 and 17:28
Oct 23	any 11 minute(s) between 16:47 and 17:28
Oct 24	any 11 minute(s) between 16:46 and 17:27
Oct 25	any 10 minute(s) between 16:47 and 17:27
Oct 26	any 9 minute(s) between 16:47 and 17:26
Oct 27	any 8 minute(s) between 16:48 and 17:26
Oct 28	any 7 minute(s) between 16:48 and 17:25
Oct 29	any 6 minute(s) between 16:49 and 17:25
Oct 30	any 3 minute(s) between 16:50 and 17:23
Oct 31	any 2 minute(s) between 16:51 and 17:23

Table A-11: Curtailment Schedule for Wind Turbine T106

Date	Curtailment Period
Apr 9	any 1 minute(s) between 06:54 and 07:25
Apr 10	any 2 minute(s) between 06:53 and 07:25
Apr 11	any 2 minute(s) between 06:54 and 07:26
Apr 12	any 2 minute(s) between 06:53 and 07:25
Apr 13	any 2 minute(s) between 06:53 and 07:25
Apr 14	any 2 minute(s) between 06:52 and 07:24
Apr 15	any 1 minute(s) between 06:53 and 07:24
Jul 19	any 1 minute(s) between 06:04 and 06:35
Jul 20	any 1 minute(s) between 06:04 and 06:35
Jul 21	any 1 minute(s) between 06:04 and 06:35
Aug 28	any 1 minute(s) between 06:54 and 07:25
Aug 29	any 2 minute(s) between 06:53 and 07:25
Aug 30	any 3 minute(s) between 06:52 and 07:25
Aug 31	any 2 minute(s) between 06:53 and 07:25
Sep 1	any 3 minute(s) between 06:52 and 07:25
Sep 2	any 2 minute(s) between 06:52 and 07:24
Sep 3	any 1 minute(s) between 06:52 and 07:23

Table A-12: Curtailment Schedule for Wind Turbine T109

Date	Curtailment Period
Jan 1	any 10 minute(s) between 14:33 and 15:13
Jan 2	any 10 minute(s) between 14:33 and 15:13
Jan 3	any 10 minute(s) between 14:34 and 15:14
Jan 4	any 9 minute(s) between 14:35 and 15:14
Jan 5	any 8 minute(s) between 14:36 and 15:14
Jan 6	any 8 minute(s) between 14:37 and 15:15
Jan 7	any 7 minute(s) between 14:37 and 15:14
Jan 8	any 6 minute(s) between 14:38 and 15:14
Jan 9	any 6 minute(s) between 14:39 and 15:15
Jan 10	any 4 minute(s) between 14:40 and 15:14
Jan 11	any 3 minute(s) between 14:41 and 15:14
Jan 12	any 1 minute(s) between 14:42 and 15:13
Nov 30	any 1 minute(s) between 14:24 and 14:55
Dec 1	any 3 minute(s) between 14:23 and 14:56
Dec 2	any 4 minute(s) between 14:23 and 14:57
Dec 3	any 5 minute(s) between 14:23 and 14:58
Dec 4	any 6 minute(s) between 14:22 and 14:58
Dec 5	any 7 minute(s) between 14:23 and 15:00
Dec 6	any 8 minute(s) between 14:23 and 15:01
Dec 7	any 8 minute(s) between 14:23 and 15:01
Dec 8	any 9 minute(s) between 14:23 and 15:02
Dec 9	any 10 minute(s) between 14:23 and 15:03
Dec 10	any 10 minute(s) between 14:23 and 15:03
Dec 11	any 10 minute(s) between 14:24 and 15:04
Dec 12	any 11 minute(s) between 14:23 and 15:04
Dec 13	any 12 minute(s) between 14:23 and 15:05
Dec 14	any 11 minute(s) between 14:24 and 15:05
Dec 15	any 12 minute(s) between 14:24 and 15:06
Dec 16	any 12 minute(s) between 14:25 and 15:07
Dec 17	any 12 minute(s) between 14:25 and 15:07
Dec 18	any 13 minute(s) between 14:25 and 15:08
Dec 19	any 12 minute(s) between 14:26 and 15:08
Dec 20	any 13 minute(s) between 14:26 and 15:09
Dec 21	any 12 minute(s) between 14:27 and 15:09
Dec 22	any 12 minute(s) between 14:27 and 15:09
Dec 23	any 12 minute(s) between 14:28 and 15:10
Dec 24	any 12 minute(s) between 14:28 and 15:10
Dec 25	any 13 minute(s) between 14:28 and 15:11
Dec 26	any 12 minute(s) between 14:30 and 15:12
Dec 27	any 12 minute(s) between 14:30 and 15:12
Dec 28	any 12 minute(s) between 14:30 and 15:12
Dec 29	any 11 minute(s) between 14:31 and 15:12
Dec 30	any 11 minute(s) between 14:31 and 15:12
Dec 31	any 11 minute(s) between 14:32 and 15:13

Table A-13: Curtailment Schedule for Wind Turbine T129

Date	Curtailment Period
Apr 11	any 1 minute(s) between 18:52 and 19:23
Apr 12	any 3 minute(s) between 18:52 and 19:25
Apr 13	any 4 minute(s) between 18:51 and 19:25
Apr 14	any 6 minute(s) between 18:50 and 19:26
Apr 15	any 8 minute(s) between 18:49 and 19:27
Apr 16	any 9 minute(s) between 18:50 and 19:29
Apr 17	any 10 minute(s) between 18:49 and 19:29
Apr 18	any 9 minute(s) between 18:49 and 19:28
Apr 19	any 10 minute(s) between 18:49 and 19:29
Apr 20	any 9 minute(s) between 18:49 and 19:28
Apr 21	any 8 minute(s) between 18:49 and 19:27
Apr 22	any 7 minute(s) between 18:50 and 19:27
Apr 23	any 5 minute(s) between 18:50 and 19:25
Apr 24	any 4 minute(s) between 18:50 and 19:24
Apr 25	any 2 minute(s) between 18:52 and 19:24
Aug 18	any 3 minute(s) between 18:57 and 19:30
Aug 19	any 4 minute(s) between 18:57 and 19:31
Aug 20	any 5 minute(s) between 18:56 and 19:31
Aug 21	any 7 minute(s) between 18:55 and 19:32
Aug 22	any 8 minute(s) between 18:54 and 19:32
Aug 23	any 9 minute(s) between 18:53 and 19:32
Aug 24	any 9 minute(s) between 18:52 and 19:31
Aug 25	any 9 minute(s) between 18:53 and 19:32
Aug 26	any 10 minute(s) between 18:52 and 19:32
Aug 27	any 9 minute(s) between 18:52 and 19:31
Aug 28	any 8 minute(s) between 18:51 and 19:29
Aug 29	any 6 minute(s) between 18:51 and 19:27
Aug 30	any 4 minute(s) between 18:51 and 19:03
Aug 31	any 2 minute(s) between 18:51 and 19:02

Table A-14: Curtailment Schedule for Wind Turbine T140

Date	Curtailment Period
May 23	any 1 minute(s) between 05:58 and 06:29
May 24	any 2 minute(s) between 05:57 and 06:29
May 25	any 1 minute(s) between 05:58 and 06:29
May 26	any 1 minute(s) between 05:58 and 06:29
May 27	any 1 minute(s) between 05:58 and 06:29
May 28	any 1 minute(s) between 05:59 and 06:30
May 29	any 2 minute(s) between 05:58 and 06:30
May 30	any 1 minute(s) between 05:58 and 06:29
May 31	any 1 minute(s) between 05:59 and 06:30
Jun 2	any 1 minute(s) between 05:51 and 06:22

Table A-14: Curtailment Schedule for Wind Turbine T140

Date	Curtailment Period
Jun 3	any 1 minute(s) between 05:51 and 06:22
Jun 4	any 2 minute(s) between 05:51 and 06:23
Jun 5	any 1 minute(s) between 05:52 and 06:23
Jun 6	any 2 minute(s) between 05:51 and 06:23
Jun 7	any 3 minute(s) between 05:51 and 06:24
Jun 8	any 2 minute(s) between 05:52 and 06:24
Jun 9	any 3 minute(s) between 05:51 and 06:24
Jun 10	any 3 minute(s) between 05:51 and 06:24
Jun 11	any 3 minute(s) between 05:52 and 06:25
Jun 12	any 3 minute(s) between 05:52 and 06:25
Jun 13	any 3 minute(s) between 05:52 and 06:25
Jun 14	any 4 minute(s) between 05:52 and 06:26
Jun 15	any 4 minute(s) between 05:52 and 06:26
Jun 16	any 3 minute(s) between 05:53 and 06:26
Jun 17	any 3 minute(s) between 05:53 and 06:26
Jun 18	any 3 minute(s) between 05:53 and 06:26
Jun 19	any 3 minute(s) between 05:53 and 06:26
Jun 20	any 3 minute(s) between 05:53 and 06:26
Jun 21	any 3 minute(s) between 05:53 and 06:26
Jun 22	any 3 minute(s) between 05:54 and 06:27
Jun 23	any 3 minute(s) between 05:54 and 06:27
Jun 24	any 3 minute(s) between 05:54 and 06:27
Jun 25	any 3 minute(s) between 05:54 and 06:27
Jun 26	any 3 minute(s) between 05:55 and 06:28
Jun 27	any 3 minute(s) between 05:55 and 06:28
Jun 28	any 4 minute(s) between 05:55 and 06:29
Jun 29	any 3 minute(s) between 05:55 and 06:28
Jun 30	any 3 minute(s) between 05:56 and 06:29
Jul 1	any 3 minute(s) between 05:56 and 06:29
Jul 2	any 3 minute(s) between 05:56 and 06:29
Jul 3	any 3 minute(s) between 05:56 and 06:29
Jul 4	any 2 minute(s) between 05:57 and 06:29
Jul 5	any 3 minute(s) between 05:56 and 06:29
Jul 6	any 2 minute(s) between 05:57 and 06:29
Jul 7	any 2 minute(s) between 05:58 and 06:30
Jul 8	any 2 minute(s) between 05:58 and 06:30
Jul 9	any 1 minute(s) between 05:58 and 06:29
Jul 12	any 1 minute(s) between 06:07 and 06:38
Jul 14	any 1 minute(s) between 06:07 and 06:38
Jul 15	any 1 minute(s) between 06:07 and 06:38
Jul 16	any 1 minute(s) between 06:07 and 06:38
Jul 17	any 2 minute(s) between 06:07 and 06:39
Jul 18	any 1 minute(s) between 06:08 and 06:39
Jul 19	any 1 minute(s) between 06:08 and 06:39
Jul 20	any 1 minute(s) between 06:08 and 06:39
Jul 21	any 1 minute(s) between 06:08 and 06:39

Table A-15: Curtailment Schedule for Wind Turbine T149

Date	Curtailment Period
Jan 1	any 5 minute(s) between 15:32 and 15:50
Jan 2	any 5 minute(s) between 15:33 and 15:50
Jan 3	any 5 minute(s) between 15:33 and 15:50
Jan 4	any 5 minute(s) between 15:34 and 15:51
Jan 5	any 6 minute(s) between 15:34 and 15:51
Jan 6	any 5 minute(s) between 15:34 and 15:51
Jan 7	any 6 minute(s) between 15:34 and 15:51
Jan 8	any 6 minute(s) between 15:35 and 16:00
Jan 9	any 6 minute(s) between 15:35 and 16:00
Jan 10	any 6 minute(s) between 15:36 and 16:00
Jan 11	any 6 minute(s) between 15:36 and 16:01
Jan 12	any 6 minute(s) between 15:36 and 16:01
Jan 13	any 6 minute(s) between 15:37 and 16:07
Jan 14	any 6 minute(s) between 15:37 and 16:07
Jan 15	any 6 minute(s) between 15:50 and 16:06
Jan 16	any 5 minute(s) between 15:52 and 16:07
Jan 17	any 4 minute(s) between 15:52 and 16:13
Jan 18	any 4 minute(s) between 15:52 and 16:13
Jan 19	any 4 minute(s) between 15:53 and 16:14
Jan 20	any 4 minute(s) between 15:53 and 16:14
Jan 21	any 4 minute(s) between 15:53 and 16:14
Jan 22	any 5 minute(s) between 15:54 and 16:13
Jan 23	any 15 minute(s) between 16:01 and 16:25
Jan 24	any 4 minute(s) between 16:01 and 16:25
Jan 25	any 5 minute(s) between 16:01 and 16:27
Jan 26	any 6 minute(s) between 16:01 and 16:27
Jan 27	any 7 minute(s) between 16:01 and 16:27
Jan 28	any 7 minute(s) between 16:01 and 16:27
Jan 29	any 7 minute(s) between 16:02 and 16:39
Jan 30	any 7 minute(s) between 16:13 and 16:39
Jan 31	any 6 minute(s) between 16:14 and 16:39
Feb 1	any 6 minute(s) between 16:13 and 16:38
Feb 2	any 5 minute(s) between 16:03 and 16:38
Feb 3	any 4 minute(s) between 16:04 and 16:38
Feb 4	any 3 minute(s) between 16:05 and 16:38
Feb 5	any 2 minute(s) between 16:05 and 16:37
Feb 6	any 1 minute(s) between 16:23 and 16:37
Feb 7	any 2 minute(s) between 16:23 and 16:54
Feb 8	any 3 minute(s) between 16:23 and 16:54
Feb 9	any 2 minute(s) between 16:24 and 16:56
Feb 10	any 2 minute(s) between 16:24 and 16:56
Feb 11	any 1 minute(s) between 16:25 and 16:56
Feb 12	any 1 minute(s) between 16:24 and 16:55

Table A-15: Curtailment Schedule for Wind Turbine T149

Date	Curtailment Period
Feb 22	any 2 minute(s) between 16:47 and 17:19
Feb 23	any 3 minute(s) between 16:47 and 17:20
Feb 24	any 3 minute(s) between 16:47 and 17:20
Feb 25	any 4 minute(s) between 16:46 and 17:20
Feb 26	any 3 minute(s) between 16:46 and 17:19
Feb 27	any 2 minute(s) between 16:47 and 17:19
Feb 28	any 2 minute(s) between 16:47 and 17:19
Mar 1	any 1 minute(s) between 16:47 and 17:18
Mar 10	any 1 minute(s) between 18:11 and 18:42
Mar 11	any 1 minute(s) between 18:11 and 18:42
Mar 12	any 1 minute(s) between 18:10 and 18:41
Mar 13	any 1 minute(s) between 18:10 and 18:41
Oct 1	any 1 minute(s) between 17:49 and 18:20
Oct 2	any 1 minute(s) between 17:49 and 18:20
Oct 3	any 1 minute(s) between 17:49 and 18:20
Oct 13	any 1 minute(s) between 17:20 and 17:51
Oct 14	any 2 minute(s) between 17:19 and 17:51
Oct 15	any 3 minute(s) between 17:19 and 17:52
Oct 16	any 4 minute(s) between 17:18 and 17:52
Oct 17	any 3 minute(s) between 17:18 and 17:51
Oct 18	any 1 minute(s) between 15:28 and 15:59 AND any 3 minute(s) between 17:18 and 17:51
Oct 18	any 1 minute(s) between 15:29 and 16:00 AND any 3 minute(s) between 17:18 and 17:51
Oct 20	any 1 minute(s) between 15:29 and 16:00
Oct 21	any 2 minute(s) between 15:28 and 16:00
Oct 22	any 2 minute(s) between 15:29 and 16:01
Oct 23	any 2 minute(s) between 15:29 and 16:01
Oct 24	any 2 minute(s) between 15:30 and 16:02
Oct 25	any 1 minute(s) between 15:30 and 16:01
Oct 26	any 1 minute(s) between 15:30 and 16:01
Oct 30	any 1 minute(s) between 16:54 and 17:25
Oct 31	any 2 minute(s) between 16:53 and 17:25
Nov 1	any 2 minute(s) between 15:53 and 16:25
Nov 2	any 2 minute(s) between 15:53 and 16:25
Nov 3	any 3 minute(s) between 15:53 and 16:26
Nov 4	any 2 minute(s) between 15:53 and 16:25
Nov 5	any 1 minute(s) between 15:36 and 16:07
Nov 6	any 3 minute(s) between 15:34 and 16:07
Nov 7	any 4 minute(s) between 15:34 and 16:08
Nov 8	any 4 minute(s) between 15:34 and 16:08
Nov 9	any 5 minute(s) between 15:34 and 16:09
Nov 10	any 6 minute(s) between 15:33 and 16:09
Nov 11	any 7 minute(s) between 15:33 and 16:10

Table A-15: Curtailment Schedule for Wind Turbine T149

Date	Curtailment Period
Nov 12	any 7 minute(s) between 15:33 and 16:10
Nov 13	any 6 minute(s) between 15:34 and 16:10
Nov 14	any 7 minute(s) between 15:33 and 15:58
Nov 15	any 7 minute(s) between 15:34 and 16:00
Nov 16	any 6 minute(s) between 15:34 and 16:00
Nov 17	any 4 minute(s) between 15:35 and 16:01
Nov 18	any 4 minute(s) between 15:35 and 16:01
Nov 19	any 5 minute(s) between 15:36 and 16:02
Nov 20	any 5 minute(s) between 15:27 and 15:48
Nov 21	any 4 minute(s) between 15:27 and 15:49
Nov 22	any 4 minute(s) between 15:28 and 15:50
Nov 23	any 4 minute(s) between 15:28 and 15:50
Nov 24	any 4 minute(s) between 15:29 and 15:51
Nov 25	any 5 minute(s) between 15:29 and 15:52
Nov 26	any 5 minute(s) between 15:29 and 15:52
Nov 27	any 6 minute(s) between 15:30 and 15:46
Nov 28	any 6 minute(s) between 15:17 and 15:47
Nov 29	any 6 minute(s) between 15:17 and 15:47
Nov 30	any 6 minute(s) between 15:17 and 15:42
Dec 1	any 6 minute(s) between 15:18 and 15:43
Dec 2	any 6 minute(s) between 15:19 and 15:44 AND any 1 minute(s) between 15:52 and 16:23
Dec 3	any 6 minute(s) between 15:19 and 15:44 AND any 1 minute(s) between 15:53 and 16:24
Dec 4	any 6 minute(s) between 15:19 and 15:44 AND any 1 minute(s) between 15:52 and 16:23
Dec 5	any 6 minute(s) between 15:19 and 15:45 AND any 2 minute(s) between 15:52 and 16:24
Dec 6	any 5 minute(s) between 15:20 and 15:37
Dec 7	any 6 minute(s) between 15:20 and 15:37
Dec 8	any 5 minute(s) between 15:21 and 15:38
Dec 9	any 5 minute(s) between 15:21 and 15:39
Dec 10	any 5 minute(s) between 15:22 and 15:39 AND any 1 minute(s) between 15:44 and 16:15
Dec 11	any 5 minute(s) between 15:22 and 15:40 AND any 1 minute(s) between 15:45 and 16:16
Dec 12	any 6 minute(s) between 15:23 and 15:41
Dec 13	any 5 minute(s) between 15:24 and 15:41
Dec 14	any 6 minute(s) between 15:25 and 15:42
Dec 15	any 6 minute(s) between 15:25 and 15:43
Dec 16	any 6 minute(s) between 15:25 and 15:43
Dec 17	any 5 minute(s) between 15:21 and 15:43
Dec 18	any 6 minute(s) between 15:22 and 15:44
Dec 19	any 6 minute(s) between 15:22 and 15:44
Dec 20	any 6 minute(s) between 15:22 and 15:45

Table A-15: Curtailment Schedule for Wind Turbine T149

Date	Curtailment Period
Dec 21	any 6 minute(s) between 15:22 and 15:45
Dec 22	any 6 minute(s) between 15:23 and 15:46
Dec 23	any 6 minute(s) between 15:23 and 15:46
Dec 24	any 6 minute(s) between 15:25 and 15:47
Dec 25	any 6 minute(s) between 15:25 and 15:47
Dec 26	any 6 minute(s) between 15:25 and 15:47
Dec 27	any 5 minute(s) between 15:25 and 15:47
Dec 28	any 6 minute(s) between 15:26 and 15:49
Dec 29	any 6 minute(s) between 15:31 and 15:49
Dec 30	any 5 minute(s) between 15:32 and 15:49
Dec 31	any 5 minute(s) between 15:32 and 15:49



APPENDIX G

GROUNDWATER WELLS

Well Number	Address	Community	Year Installed	Well Depth (m)	Casing Depth (m)	Depth to Bedrock (m)	Static (m)	Yield (Lpm)	Elevation	Well Type	Water Use
670605	-	LARRYS RIVER	1967-07-25	30.45	4.87	1.52	9.14	18.16	7	DRILLED	Domestic
670667	-	LARRYS RIVER	1967-07-26	15.22	2.44	0.91	3.04	18.16	7	DRILLED	Domestic
670613	-	LARRYS RIVER	1967-07-27	15.22	3.96	1.22	3.04	45.4	7	DRILLED	Domestic
720142	-	LARRYS RIVER	1972-11-03	29.23	6.7	2.44	3.04	13.62	7	DRILLED	Domestic
720141	-	LARRYS RIVER	1972-11-07	32.58	6.7	1.83	7.61	9.08	7	DRILLED	Domestic
730271	-	LARRYS RIVER	1973-07-18	48.72	7	4.87	7.31	2.27	7	DRILLED	Domestic
822175	-	NEW HARBOUR	1982-08-04	45.68	9.74	5.48	-	-	2	DRILLED	Domestic
852180	-	UPPER NEW HARBOUR	1985-03-14	60.9	21.32	19.79	-	4.54	3	DRILLED	-
872108	-	LARRYS RIVER	1987-08-10	21.62	6.09	1.83	1.52	22.7	75	DRILLED	Domestic
872109	-	LARRYS RIVER	1987-08-12	45.98	6.09	-	1.52	9.08	75	DRILLED	Domestic
880337	-	LUNDY	1988-05-10	42.63	6.39	3.04	3.04	13.62	121	DRILLED	Domestic
880366	-	GOLDBORO	1988-07-14	91.35	6.39	3.65	4.26	3.18	58	DRILLED	Domestic
880971	-	DRUM HEAD	1988-09-11	54.81	12.18	5.48	2.13	3.18	13	DRILLED	Domestic
880972	-	NEW HARBOUR EAST	1988-09-15	112.66	15.53	9.44	7.61	13.62	0	DRILLED	Domestic
891299	-	LUNDY	1989-06-01	36.54	12.79	9.14	6.09	9.99	136	DRILLED	-
891337	451 EAST RIVER ROAD, NEW GLASGOW	LUNDY	1989-08-30	33.5	9.14	2.44	3.04	45.4	154	DRILLED	-
892096	-	ISAACS HARBOUR NORTH	1989-09-21	70.34	11.57	9.14	5.48	6.81	5	DRILLED	-
902808	-	LARRYS RIVER	1990-07-09	3.04	9.14	1.22	-	-	7	DUG	-
902301	-	ROACHVALE	1990-07-19	68.51	49.63	48.72	6.39	4.54	74	DRILLED	-
912115	SUNNYVILLE	WEST COOKS COVE	1991-06-25	52.37	6.09	3.04	3.04	9.08	51	DRILLED	Domestic
912127	SUNNYVILLE	WEST COOKS COVE	1991-06-28	37.45	6.09	3.04	3.04	18.16	51	DRILLED	Domestic
912322	-	NEW HARBOUR	1991-08-08	4.57	0.76	-	3.04	-	2	DUG	-
912326	-	ROACHVALE	1991-08-14	3.81	0.76	-	1.52	-	90	DUG	-
912328	-	LARRYS RIVER	1991-10-14	3.65	-	-	-	-	7	DUG	-
920897	7 HARDING AVENUE	NEW HARBOUR	1992-06-20	12.18	9.14	7.61	7.31	18.16	24	DRILLED	Domestic
931260	-	NEW HARBOUR WEST	1993-07-15	60.9	10.66	5.79	9.14	9.08	26	DRILLED	Commercial
942907	-	ISAACS HARBOUR NORTH	1994-10-30	30.45	11.57	10.35	7.61	54.48	5	DRILLED	Domestic
962798	-	NEW HARBOUR	1996-06-28	3.81	3.81	-	-	204.3	2	DUG	Domestic
962803	-	LARRYS RIVER	1996-08-12	3.65	-	-	-	204.3	7	DUG	-
972760	-	TOR BAY	1997-11-13	7	7.31	-	0.91	717.32	0	DUG	Domestic
972759	-	TOR BAY	1997-11-24	4.57	4.57	-	3.35	1816	0	DUG	Domestic
982218	WELL #2	WEST COOKS COVE	1998-08-03	59.99	12.18	5.18	3.65	6.81	77	DRILLED	Domestic
980503	-	UPPER NEW HARBOUR	1998-10-14	85.26	10.35	5.48	24.36	0.91	72	DRILLED	Domestic
980504	-	NEW HARBOUR WEST	1998-10-15	54.81	18.27	13.7	12.18	13.62	24	DRILLED	Domestic
981180	NEW HARBOUR	UPPER NEW HARBOUR	1998-11-18	21.32	15.22	-	7.61	31.78	6	DRILLED	Domestic
981181	-	GOLDBORO	1998-11-19	36.54	7.61	3.96	9.14	18.16	58	DRILLED	Domestic
992389	-	ROACHVALE	1999-07-14	16.75	16.75	15.22	2.74	54.48	52	DRILLED	Domestic
990227	-	ISAACS HARBOUR	1999-07-30	85.26	12.18	8.22	24.36	2.27	0	DRILLED	Domestic
993225	-	ROACHVALE	1999-08-10	16.75	16.75	-	1.83	54.48	90	DRILLED	Domestic
992385	-	ROACHVALE	1999-08-11	85.26	30.45	27.71	5.18	2.27	52	DRILLED	Domestic
991246	-	NEW HARBOUR	1999-08-30	85.26	7	2.44	10.66	4.54	7	DRILLED	Domestic
992822	-	CODDLES HARBOUR	1999-09-24	4.57	4.57	-	2.44	181.6	6	DUG	Domestic
10514	EAST SIDE NEW HARBOUR	NEW HARBOUR EAST	2001-09-05	10.66	10.66	-	1.83	68.1	11	DRILLED	Domestic
10551	-	LUNDY	2001-10-31	54.81	12.18	10.35	6.09	3.4	96	DRILLED	Domestic
11447	-	NEW HARBOUR	2001-12-04	60.9	15.53	14.31	4.57	4.54	13	DRILLED	Domestic
11448	-	NEW HARBOUR	2001-12-05	85.26	18.27	15.53	-	1.14	2	DRILLED	Domestic
11449	NEW HARBOUR	NEW HARBOUR EAST	2001-12-06	79.17	18.27	16.44	-	2.27	11	DRILLED	Domestic
20445	-	LUNDY	2002-04-30	48.72	8.07	4.57	-	18.16	104	DRILLED	Domestic
20447	-	LARRYS RIVER	2002-05-01	30.45	6.09	4.57	-	22.7	7	DRILLED	Domestic
20448	-	LARRYS RIVER	2002-05-02	42.63	9.14	1.52	-	9.08	17	DRILLED	Domestic
30324	-	GOLDBORO	2003-05-28	85.26	7	4.57	7.61	2.27	58	DRILLED	Domestic
61325	-	NEW HARBOUR	2006-09-01	91.35	-	-	-	-	2	DRILLED	Public (not municipal)

Well Number	Address	Community	Year Installed	Well Depth (m)	Casing Depth (m)	Depth to Bedrock (m)	Static (m)	Yield (Lpm)	Elevation	Well Type	Water Use
10661	-	SEAL HARBOUR	2001-10-20	4.26	4.57	4.26	2.13	272.4	3	DUG	Domestic
41107	2453 LARRYS RIVER ROAD	LUNDY	2004-04-13	42.63	18.27	12.79	6.09	27.24	163	DRILLED	Domestic
20446	-	LARRYS RIVER	2002-05-01	42.63	10.35	4.26	-	45.4	14	DRILLED	Domestic
650074	NEW HARBOUR SCHOOL	NEW HARBOUR	1965-12-01	82.22	8.53	7.31	-	-	41	DRILLED	-
730360	-	LARRYS RIVER	1973-05-28	155.3	17.66	8.53	5.18	22.7	41	DRILLED	-
730357	-	LARRYS RIVER	1973-10-26	86.78	14.62	13.7	6.09	27.24	41	DRILLED	-
81977	13114 HIGHWAY #316	GOLDBORO	2008-08-26	4.26	-	-	-	-	8	DUG	Domestic
100051	12736 HIGHWAY #316	GOLDBORO	2010-01-07	86.78	10.66	6.7	6.09	2.27	15	DRILLED	Domestic
11330	353 TOR BAY ROAD, RR#1 LARRYS RIVER	TOR BAY	2001-11-22	48.72	9.14	6.7	-	6.81	4	DRILLED	Domestic
51734	Larrys River Road	LUNDY	2005-09-14	42.63	12.18	9.14	6.09	27.24	124	DRILLED	Domestic
60462	19 DICK GIFFINS HILL	GOLDBORO	2006-07-25	44.15	8.53	5.48	3.04	68.1	14	DRILLED	Domestic
41126	322 ISAACS HARBOUR ROAD	ISAACS HARBOUR	2004-09-21	73.08	9.74	2.44	3.04	3.4	6	DRILLED	Domestic
71233	6407 HIGHWAY #316	LARRYS RIVER	2007-04-24	38.06	9.14	6.39	3.04	13.62	3	DRILLED	Domestic
52465	-	LARRYS RIVER	2005-09-01	53.29	12.18	1.83	6.09	27.24	13	DRILLED	Domestic
51709	9129 Highway #316	NEW HARBOUR	2005-09-16	73.08	12.18	6.09	3.04	15.89	25	DRILLED	Commercial
60089	6401 HIGHWAY #316	LARRYS RIVER	2006-01-25	31.97	9.14	7.61	6.09	113.5	3	DRILLED	Domestic
60851	9129 HIGHWAY #316	NEW HARBOUR	2006-10-24	50.24	10.66	5.48	6.09	13.62	25	DRILLED	Commercial
71292	189 LUNDY ROAD (LARRYS RIVER ROAD)	LARRYS RIVER	2007-01-09	31.97	7.61	2.13	-	31.78	21	DRILLED	Domestic
80314	HIGHWAY #316 (GOLDBORO GAS PLANT ROAD)	GOLDBORO	2008-01-10	91.35	12.18	5.48	0.91	13.62	41	DRILLED	Commercial
81756	93 NORTH DONAHUE LANE, DONAHUE LAKE	LUNDY	2008-09-18	24.36	18.27	13.7	3.04	36.32	104	DRILLED	Domestic
100049	9028 HIGHWAY #316, NEW HARBOUR	NEW HARBOUR WEST	2010-03-16	50.24	12.18	6.7	6.09	18.16	21	DRILLED	Domestic

Notes

Shading indicates well located within 800 m of the Project Footprint

APPENDIX H

ACCDC REPORT

Data Report 9158: Guysborough County, NS

Prepared 06 March, 2026

Kristen Tenwolde

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Map 1. A 100 km buffer around the study area

1 Preface

The Atlantic Canada Conservation Data Centre (AC CDC; www.accdc.com) is a member of the NatureServe network, a collaborative alliance of natural heritage programs and conservation data centres operating across all 50 U.S. states, nine Canadian provinces, three territories, and several countries in Central and South America. Established over five decades ago, the NatureServe network employs a standardized and scientifically rigorous methodology for the collection, analysis, and dissemination of biodiversity data. Since its founding in 1997, the AC CDC has served as the authoritative source of information on species at risk and ecological communities within the jurisdictions of New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Although AC CDC operates as a non-governmental organization, it receives core funding and support from six federal agencies and four provincial governments and is supplemented by external grants and data processing fees.

In response to formal requests and for a service fee, the AC CDC queries its database and provides customized data reports detailing the known occurrences of rare and endangered flora and fauna within a defined area of interest. These reports are further supplemented by spatial information on protected and conserved areas and sites identified as ecologically significant or sensitive. This service supports evidence-based decision-making in environmental assessments, land-use planning, and natural resource management and is vital to the conservation of biodiversity in Atlantic Canada.

1.1 Data List

Included datasets:

Table 1: Included Datasets

Filename	Contents
GuysboroughCNS_9158ob.xls	Rare or legally protected Flora and Fauna in your study area
GuysboroughCNS_9158ob100km.xls	A list of Rare and legally protected Flora and Fauna within 100 km of your study area
GuysboroughCNS_9158msa.xls	Managed and Biologically Significant Areas in your study area
GuysboroughCNS_9158ff_py.xls	Rare Freshwater Fish in your study area (DFO database)
GuysboroughCNS_9158bp.xls	Rare and common Pelagic Birds in your study area (CWS database)

The Atlantic Canada Conservation Data Centre (AC CDC) makes every effort to ensure the accuracy of the data it manages; however, it assumes no responsibility for any errors or omissions in the data provided. By accepting data from the AC CDC, recipients agree to the following terms of use:

1. Data must be used only by qualified personnel who are aware of landowner sensitivities and the potential risks that disclosure of rare and/or endangered species locations may pose to those species.
2. Data may be used only by the designated Data User. Any third-party requiring access must submit a separate request to the AC CDC.
3. Data must be deleted and no longer used 12 months after receipt. Continued use requires submission of a new request for updated data.
4. All data provided reflects the contents of the AC CDC's database at the time of the request.
5. Each record includes an estimate of locational uncertainty, which must be considered when assessing the record's relevance to a specific location. Please refer to the accompanying Data Dictionary for further details.
6. AC CDC data responses are not to be construed as exhaustive inventories of taxa in an area of interest.
7. The absence of a taxon does not imply that the species is absent from the area of interest.

1.2 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:

Table 2: AC CDC Contacts

Department	Name	Title	Phone	Email
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	Charity Robicheau	Senior Conservation Data Analyst	NA	charity.robicheau@accdc.ca
Billing	Jean Breau	Financial Manager / Executive Assistant	(506) 364-2657	jean.breau@accdc.ca

Additional contacts:

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

New Brunswick: For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in New Brunswick, please contact Hubert Askanas, Energy and Resource Development: (506) 453-5873.

Nova Scotia: For provincial information about rare taxa and protected areas, or information about game animals, deer yards, old growth forests, archeological sites, fish habitat etc., in Nova Scotia, please contact Donna Hurlburt, NS DLF: (902) 679-6886.

To determine if location-sensitive species (section 4.3) occur near your study site please contact a NS DLF Regional Biologist:

Table 3: NS DLF Regional Biologists

Region	Name	Phone	Email
Western	Emma Vost	(902) 670-8187	Emma.Vost@novascotia.ca
Western	Sarah Spencer	(902) 541-0081	Sarah.Spencer@novascotia.ca
Eastern	Harrison Moore	(902) 497-4119	Harrison.Moore@novascotia.ca
Eastern	Maureen Cameron-MacMillan	(902) 295-2554	Maureen.Cameron-MacMillan@novascotia.ca
Central	Shavonne Meyer	(902) 893-0816	Shavonne.Meyer@novascotia.ca
Central	Kimberly George	(902) 890-1046	Kimberly.George@novascotia.ca

Prince Edward Island: For provincial information about rare taxa and protected areas, or information about game animals, fish habitat etc., in Prince Edward Island, please contact Garry Gregory, PEI Dept of Communities, Land and Environment: (902) 569-7595.

2 Rare and Endangered Species

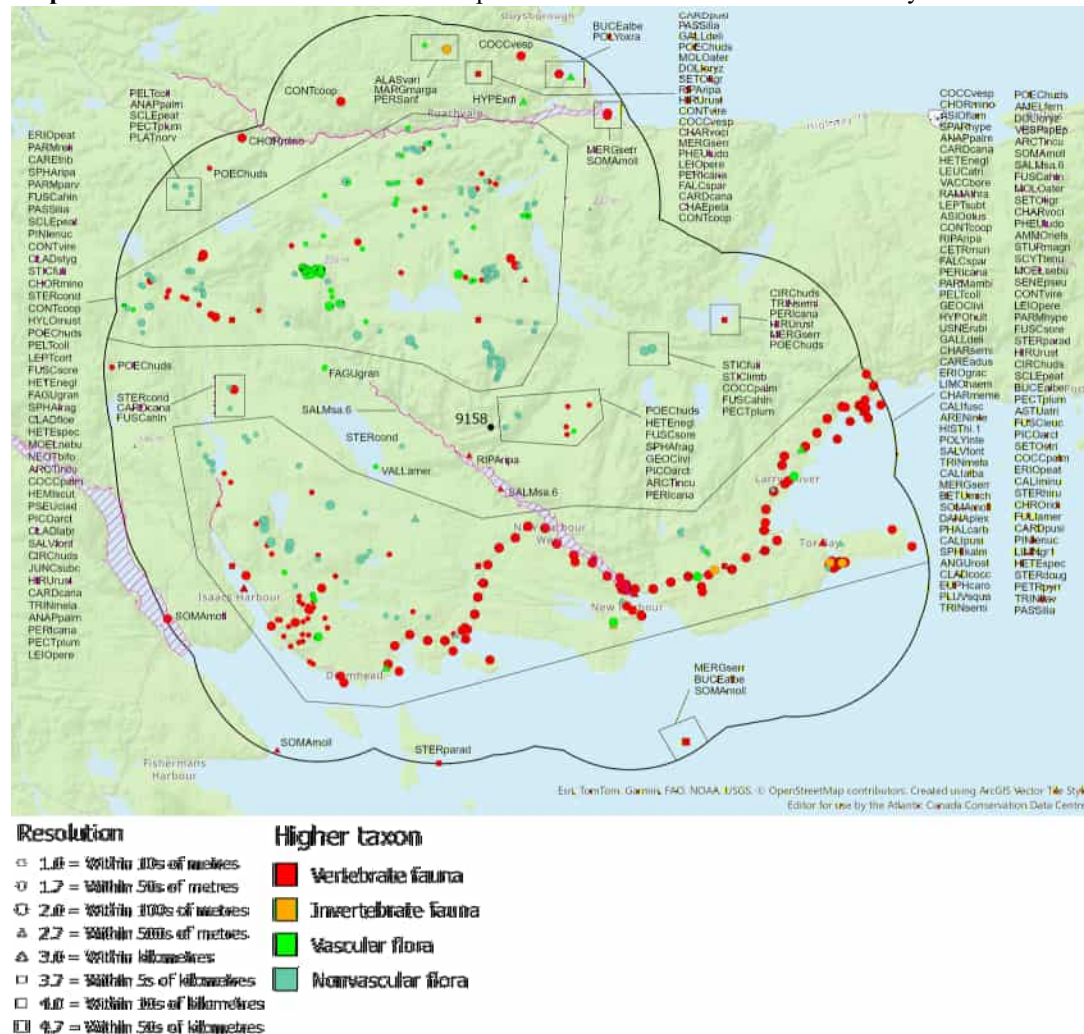
2.1 Flora

The study area contains 87 records of 16 vascular and 310 records of 35 nonvascular flora (Map 2 and attached: *ob.xls), excluding 'location-sensitive' species.

2.2 Fauna

The study area contains 731 records of 61 vertebrate and 10 records of 5 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.



3 Special Areas

3.1 Managed Area(s)

The GIS scan identified 17 managed areas in the vicinity of the study area (Map 3 and attached file: *msa.xls).

3.2 Significant Area(s)

The GIS scan identified 8 biologically significant sites in the vicinity of the study area (Map 3 and attached file: *msa.xls).

Significant Areas are sites with a conservation designation and management that qualifies them for listing in the Canadian Protected and Conserved Areas Database (CPCAD; [link](#)). The absence of a “Significant Area” within a site or region does not indicate an absence of ecologically significant properties.

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



4 Rare Species Lists

Rare and/or endangered taxa (excluding “location-sensitive” species, section 4.3) within the study area are listed in order of concern, beginning with legally listed taxa. The number of observations per taxon and the distance in kilometers from the study area centroid to the closest observation ($\pm$ the precision, in km, of the record) are provided. [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

Table 4: Flora

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	21	10.0 $\pm$ 0.01
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle Lichen	Threatened	NA	NA	S3	2	7.3 $\pm$ 0.01
N	<i>Pectenium plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	14	10.0 $\pm$ 0.01
N	<i>Sclerophora peronella</i> (Atlantic pop.)	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern	NA	S3S4	6	11.6 $\pm$ 0.01
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk	NA	NA	S2S3	3	14.8 $\pm$ 0.05
N	<i>Sticta limbata</i>	Powdered Moon Lichen	NA	NA	NA	S1	4	7.0 $\pm$ 0.01
N	<i>Hypogymnia hultenii</i>	Powdered Honeycomb Lichen	NA	NA	NA	S1	4	11.7 $\pm$ 0.5
N	<i>Cladonia labradorica</i>	Labrador Lichen	NA	NA	NA	S1S2	1	14.8 $\pm$ 0.05
N	<i>Parmotrema reticulatum</i>	Netted Ruffle Lichen	NA	NA	NA	S1S2	1	11.2 $\pm$ 0.5
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen	NA	NA	NA	S1S2	4	11.2 $\pm$ 0.5
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen	NA	NA	NA	S2S3	2	11.5 $\pm$ 0.01
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen	NA	NA	NA	S2S3	1	8.8 $\pm$ 0.5
N	<i>Usnea rubicunda</i>	Red Beard Lichen	NA	NA	NA	S2S3	1	8.6 $\pm$ 0.01
N	<i>Cetraria muricata</i>	Spiny Heath Lichen	NA	NA	NA	S2S3	1	4.8 $\pm$ 1.7
N	<i>Scytinium tenuissimum</i>	Birdnest Jellyskin Lichen	NA	NA	NA	S2S3	1	11.9 $\pm$ 0.01
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen	NA	NA	NA	S2S3	2	11.7 $\pm$ 0.5
N	<i>Fuscopannaria sorediata</i>	a Lichen	NA	NA	NA	S2S3	9	1.2 $\pm$ 0.01
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen	NA	NA	NA	S2S3	1	14.8 $\pm$ 0.01
N	<i>Fuscopannaria ahlneri</i>	Roughened Shingle Lichen	NA	NA	NA	S3	23	10.0 $\pm$ 0.01
N	<i>Platismatia norvegica</i>	Oldgrowth Rag Lichen	NA	NA	NA	S3	1	15.3 $\pm$ 0.01
N	<i>Peltigera collina</i>	Tree Pelt Lichen	NA	NA	NA	S3	15	10.2 $\pm$ 0.01
N	<i>Sphagnum riparium</i>	Streamside Peat Moss	NA	NA	NA	S3?	1	8.9 $\pm$ 0.01
N	<i>Cladonia stygia</i>	Black-footed Reindeer Lichen	NA	NA	NA	S3?	2	2.7 $\pm$ 0.01
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen	NA	NA	NA	S3S4	9	4.3 $\pm$ 0.01
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen	NA	NA	NA	S3S4	41	0.6 $\pm$ 0.01
N	<i>Scytinium subtile</i>	Appressed Jellyskin Lichen	NA	NA	NA	S3S4	2	6.2 $\pm$ 0.01
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen	NA	NA	NA	S3S4	2	13.0 $\pm$ 0.01
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen	NA	NA	NA	S3S4	7	4.8 $\pm$ 0.01
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen	NA	NA	NA	S3S4	2	15.2 $\pm$ 0.01
N	<i>Parmeliopsis hyperopta</i>	Gray Starburst Lichen	NA	NA	NA	S3S4	1	11.7 $\pm$ 0.5

Table 4: Flora (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen	NA	NA	NA	S3S4	10	1.2 ± 0.01
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen	NA	NA	NA	S3S4	73	10.1 ± 0.01
N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen	NA	NA	NA	S3S4	7	10.8 ± 0.01
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen	NA	NA	NA	S3S4	21	11.6 ± 0.01
N	<i>Heterodermia neglecta</i>	Fringe Lichen	NA	NA	NA	S3S4	15	1.2 ± 0.01
P	<i>Sparganium hyperboreum</i>	Northern Burreed	NA	NA	NA	S2	2	11.0 ± 0.1
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort	NA	NA	NA	S2S3	1	13.3 ± 1.0
P	<i>Polygonum oxyspermum ssp. raii</i>	Ray's Knotweed	NA	NA	NA	S2S3	1	14.6 ± 1.0
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry	NA	NA	NA	S2S3	1	12.6 ± 1.0
P	<i>Vallisneria americana</i>	Wild Celery	NA	NA	NA	S2S3	1	4.9 ± 0.01
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort	NA	NA	NA	S3	2	12.5 ± 0.1
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch	NA	NA	NA	S3	8	10.0 ± 0.01
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb	NA	NA	NA	S3	1	15.8 ± 0.01
P	<i>Carex adusta</i>	Lesser Brown Sedge	NA	NA	NA	S3	1	10.1 ± 0.01
P	<i>Carex tribuloides</i>	Blunt Broom Sedge	NA	NA	NA	S3	2	12.6 ± 0.01
P	<i>Eriophorum gracile</i>	Slender Cottongrass	NA	NA	NA	S3	1	10.7 ± 1.0
P	<i>Neottia bifolia</i>	Southern Twayblade	NA	NA	NA	S3	16	10.0 ± 0.01
P	<i>Vaccinium boreale</i>	Northern Blueberry	NA	NA	NA	S3S4	2	12.6 ± 1.0
P	<i>Fagus grandifolia</i>	American Beech	NA	NA	NA	S3S4	43	10.0 ± 0.2
P	<i>Geocaulon lividum</i>	Northern Comandra	NA	NA	NA	S3S4	4	10.2 ± 0.01
P	<i>Juncus subcaudatus</i>	Woods-Rush	NA	NA	NA	S3S4	1	6.0 ± 0.01

4.2 Fauna

Table 5: Fauna

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Salmo salar pop. 6</i>	Atlantic Salmon - Nova Scotia Southern Upland population	Endangered	NA	NA	S1	3	11.5 ± 0.5
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	2	11.0 ± 7.07
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	2	14.1 ± 0.1
A	<i>Asio flammeus</i>	Short-eared Owl	Threatened	Special Concern	NA	S1B	2	11.9 ± 7.07
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened	NA	NA	S1M	1	15.2 ± 0.2
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S2S3M	1	14.4 ± 7.07
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S3B	10	1.4 ± 0.5
A	<i>Limnodromus griseus ssp. 1</i>	Short-billed Dowitcher hendersoni/griseus	Threatened	NA	NA	S3M	2	8.4 ± 0.2
A	<i>Anguilla rostrata</i>	American Eel	Threatened	NA	NA	S3N	1	9.2 ± 0.2
A	<i>Tringa flavipes</i>	Lesser Yellowlegs	Threatened	NA	NA	S3S4M	2	15.4 ± 0.2
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened	NA	SHB	1	15.2 ± 0.15

Table 5: Fauna (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened	NA	SUB	2	4.4 ± 7.07
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Endangered	S2S3B	34	10.4 ± 0.01
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2S3B	2	10.9 ± 0.15
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Special Concern	Threatened	Vulnerable	S2S3B	2	12.0 ± 0.25
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Endangered	S3B	44	10.3 ± 0.01
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Special Concern	Threatened	S3B	34	10.0 ± 0.25
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N	6	11.9 ± 7.07
A	<i>Histrionicus histrionicus pop. 1</i>	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S3N	1	15.1 ± 0.2
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Special Concern	Threatened	S3S4B	6	11.7 ± 0.03
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	4	14.3 ± 0.25
A	<i>Fulica americana</i>	American Coot	Not At Risk	NA	NA	S1B	1	8.0 ± 0.2
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk	NA	NA	S3	1	6.2 ± 0.5
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk	NA	NA	S3B	15	14.6 ± 0.15
A	<i>Circus hudsonius</i>	Northern Harrier	Not At Risk	NA	NA	S3B,S4M	7	10.3 ± 0.01
A	<i>Ammodramus nelsoni</i>	Nelson's Sparrow	Not At Risk	NA	NA	S3S4B	2	11.0 ± 7.07
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover	NA	NA	NA	S1B,S3S4M	6	15.2 ± 0.2
A	<i>Vespertilionidae sp. not Eptesicus</i>	Bat species not Big Brown Bat	NA	NA	NA	S1S2	2	11.6 ± 0.01
A	<i>Calidris minutilla</i>	Least Sandpiper	NA	NA	NA	S1S2B,S2S4M	1	15.3 ± 0.2
A	<i>Somateria mollissima</i>	Common Eider	NA	NA	NA	S2B,S3M,S2N	47	11.0 ± 7.07
A	<i>Pinicola enucleator</i>	Pine Grosbeak	NA	NA	NA	S2S3B,S5N	5	10.0 ± 0.01
A	<i>Calidris fuscicollis</i>	White-rumped Sandpiper	NA	NA	NA	S2S4M	1	15.3 ± 0.2
A	<i>Asio otus</i>	Long-eared Owl	NA	NA	NA	S3	2	10.5 ± 0.15
A	<i>Perisoreus canadensis</i>	Canada Jay	NA	NA	NA	S3	21	10.4 ± 7.07
A	<i>Poecile hudsonicus</i>	Boreal Chickadee	NA	NA	NA	S3	98	10.3 ± 0.01
A	<i>Salvelinus fontinalis</i>	Brook Trout	NA	NA	NA	S3	2	12.0 ± 1.0
A	<i>Setophaga striata</i>	Blackpoll Warbler	NA	NA	NA	S3?B,S5M	25	10.5 ± 0.01
A	<i>Pluvialis squatarola</i>	Black-bellied Plover	NA	NA	NA	S3?M	2	15.0 ± 0.2
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NA	NA	NA	S3?M	2	15.3 ± 0.2
A	<i>Charadrius vociferus</i>	Killdeer	NA	NA	NA	S3B	3	11.9 ± 0.25
A	<i>Tringa semipalmata</i>	Willet	NA	NA	NA	S3B	119	10.4 ± 7.07
A	<i>Sterna paradisaea</i>	Arctic Tern	NA	NA	NA	S3B	3	13.8 ± 7.07
A	<i>Molothrus ater</i>	Brown-headed Cowbird	NA	NA	NA	S3B	6	14.4 ± 7.07
A	<i>Phalacrocorax carbo</i>	Great Cormorant	NA	NA	NA	S3B,S3N	1	8.7 ± 0.49
A	<i>Falco sparverius</i>	American Kestrel	NA	NA	NA	S3B,S4M	2	12.1 ± 1.53
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NA	NA	NA	S3B,S4M	21	10.6 ± 0.01
A	<i>Gallinago delicata</i>	Wilson's Snipe	NA	NA	NA	S3B,S4M	15	10.5 ± 0.25
A	<i>Cardellina pusilla</i>	Wilson's Warbler	NA	NA	NA	S3B,S4M	33	10.0 ± 0.25
A	<i>Passerella iliaca</i>	Fox Sparrow	NA	NA	NA	S3B,S4M	25	10.0 ± 0.25
A	<i>Leiophrys peregina</i>	Tennessee Warbler	NA	NA	NA	S3B,S5M	44	10.0 ± 0.25
A	<i>Arenaria interpres</i>	Ruddy Turnstone	NA	NA	NA	S3M,S1N	1	15.3 ± 0.2
A	<i>Calidris alba</i>	Sanderling	NA	NA	NA	S3M,S2S3N	2	15.3 ± 0.2
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull	NA	NA	NA	S3N	1	8.4 ± 0.2
A	<i>Astur atricapillus</i>	American Goshawk	NA	NA	NA	S3S4	2	11.0 ± 7.07
A	<i>Picoides arcticus</i>	Black-backed Woodpecker	NA	NA	NA	S3S4	5	11.0 ± 7.07

Table 5: Fauna (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	NA	NA	NA	S3S4B	1	8.5 ± 0.25
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NA	NA	NA	S3S4B	4	14.4 ± 7.07
A	<i>Setophaga tigrina</i>	Cape May Warbler	NA	NA	NA	S3S4B,S4M	14	10.0 ± 0.25
A	<i>Mergus serrator</i>	Red-breasted Merganser	NA	NA	NA	S3S4B,S4N	22	10.4 ± 7.07
A	<i>Bucephala albeola</i>	Bufflehead	NA	NA	NA	S3S4N	4	14.6 ± 0.2
A	<i>Leucophaeus atricilla</i>	Laughing Gull	NA	NA	NA	SHB	1	8.5 ± 0.25
I	<i>Danaus plexippus</i>	Monarch	Endangered	Endangered	Endangered	S2?B,S3M	6	14.8 ± 0.2
I	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Threatened	S3	1	15.5 ± 0.1
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell	NA	NA	NA	S2S3	1	15.5 ± 0.1
I	<i>Polygonia interrogationis</i>	Question Mark	NA	NA	NA	S3B	1	10.8 ± 0.1
I	<i>Sphinx kalmiae</i>	Laurel Sphinx Moth	NA	NA	NA	S3S4	1	15.3 ± 0.2

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 highlighted below.

Table 6: Nova Scotia Location Sensitive Species

Scientific Name	Common Name	SARA	Prov Legal Prot	Known within the Study Site?
<i>Alces alces americana</i>	Moose – Mainland population	NA	Endangered	Yes
<i>Fraxinus nigra</i>	Black Ash	NA	Threatened	No
<i>Emydoidea blandingii</i>	Blanding’s Turtle - Nova Scotia pop.	Endangered	Endangered	No
<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Yes
<i>Falco peregrinus pop. 1</i>	Peregrine Falcon - anatum/tundrius pop.	NA	Vulnerable	No
<i>Bat Hibernaculum or bat species occurrence</i>	NA	[Endangered]1	[Endangered]1	Yes
<i>Snake hibernaculum</i>	NA	[Threatened] ²	[Threatened] ²	No

Occurrences between **October 15 – April 15** are considered location sensitive. 1 *Myotis lucifugus*, *Myotis septentrionalis*, and *Perimyotis subflavus* are all **Endangered** under the Federal Species at Risk Act and the NS Endangered Species Act.

2 *Thamnophis sauritus* (Eastern Ribbonsnake) is **Threatened** under both Acts.

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.

Table 7: Source Bibliography

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Table 7: Source Bibliography (*continued*)

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5 Rare Species within 100 km

A 100 km buffer around the study area contains 26440 records of 149 vertebrate and 719 records of 55 invertebrate fauna; 3707 records of 209 vascular and 4461 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 the study area centroid to the closest observation ($\pm$ the precision, in km, of the record).

Table 8: Species within 100 km

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Myotis lucifugus</i>	Little Brown Myotis	Endangered	Endangered	Endangered	S1	199	14.5 $\pm$ 1.8	NS
A	<i>Myotis septentrionalis</i>	Northern Myotis	Endangered	Endangered	Endangered	S1	8	44.2 $\pm$ 1.8	NS
A	<i>Perimyotis subflavus</i>	Tricolored Bat	Endangered	Endangered	Endangered	S1	2	75.8 $\pm$ 0.01	NS
A	<i>Salmo salar</i> pop. 4	Atlantic Salmon - Eastern Cape Breton population	Endangered	NA	NA	S1	15	47.4 $\pm$ 0.5	NS
A	<i>Salmo salar</i> pop. 6	Atlantic Salmon - Nova Scotia Southern Upland population	Endangered	NA	NA	S1	42	11.5 $\pm$ 0.5	NS
A	<i>Charadrius melodus melodus</i>	Piping Plover melodus subspecies	Endangered	Endangered	Endangered	S1B	570	11.0 $\pm$ 7.07	NS
A	<i>Sterna dougallii</i>	Roseate Tern	Endangered	Endangered	Endangered	S1B	101	14.1 $\pm$ 0.1	NS
A	<i>Dermochelys coriacea</i> pop. 2	Leatherback Sea Turtle - Atlantic population	Endangered	Endangered	NA	S1S2N	2	45.5 $\pm$ 0.2	NS
A	<i>Lasionycteris noctivagans</i>	Silver-haired Bat	Endangered	NA	NA	SUB,S1M	3	78.0 $\pm$ 0.01	NS
A	<i>Lasiurus borealis</i>	Eastern Red Bat	Endangered	NA	NA	SUB,S1M	1	85.9 $\pm$ 0.1	NS
A	<i>Lasiurus cinereus</i>	Hoary Bat	Endangered	NA	NA	SUB,S1M	2	58.6 $\pm$ 0.2	NS
A	<i>Asio flammeus</i>	Short-eared Owl	Threatened	Special Concern	NA	S1B	9	11.9 $\pm$ 7.07	NS
A	<i>Limosa haemastica</i>	Hudsonian Godwit	Threatened	NA	NA	S1M	9	15.2 $\pm$ 0.2	NS
A	<i>Glyptemys insculpta</i>	Wood Turtle	Threatened	Threatened	Threatened	S2	8024	15.5 $\pm$ 1.8	NS
A	<i>Catharus bicknelli</i>	Bicknell's Thrush	Threatened	Threatened	Endangered	S2B	4	66.5 $\pm$ 7.07	NS
A	<i>Chaetura pelagica</i>	Chimney Swift	Threatened	Threatened	Endangered	S2S3B,S2S3M	621	14.4 $\pm$ 7.07	NS
A	<i>Acipenser oxyrinchus</i> pop. 2	Atlantic Sturgeon - Maritimes populations	Threatened	NA	NA	S2S3N	1	36.0 $\pm$ 3.5	NS
A	<i>Riparia riparia</i>	Bank Swallow	Threatened	Threatened	Endangered	S3B	597	1.4 $\pm$ 0.5	NS
A	<i>Hydrobates leucorhous</i> pop. 1	Leach's Storm-Petrel - Atlantic Population	Threatened	NA	NA	S3B	78	15.4 $\pm$ 0.15	NS
A	<i>Limnodromus griseus</i> ssp. 1	Short-billed Dowitcher hendersoni/griseus	Threatened	NA	NA	S3M	143	15.4 $\pm$ 0.34	NS
A	<i>Anguilla rostrata</i>	American Eel	Threatened	NA	NA	S3N	19	28.6 $\pm$ 0.2	NS
A	<i>Tringa flavipes</i>	Lesser Yellowlegs	Threatened	NA	NA	S3S4M	258	15.4 $\pm$ 0.2	NS
A	<i>Sturnella magna</i>	Eastern Meadowlark	Threatened	Threatened	NA	SHB	2	15.2 $\pm$ 0.15	NS
A	<i>Catharus minimus minimus</i>	Gray-checked Thrush minimus subspecies	Threatened	NA	NA	SUB	10	30.0 $\pm$ 7.07	NS
A	<i>Hylocichla mustelina</i>	Wood Thrush	Threatened	Threatened	NA	SUB	7	26.5 $\pm$ 7.07	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Bubo scandiacus</i>	Snowy Owl	Threatened	NA	NA	SUN	23	30.2 ± 1.8	NS
A	<i>Salmo salar</i> pop. 12	Atlantic Salmon - Gaspe - Southern Gulf of St. Lawrence population	Special Concern	NA	NA	S1	23	40.5 ± 1.0	NS
A	<i>Antrostomus vociferus</i>	Eastern Whip-Poor-Will	Special Concern	Threatened	Threatened	S1B	2	60.1 ± 7.07	NS
A	<i>Passerculus sandwichensis princeps</i>	Ipswich Sparrow	Special Concern	Special Concern	NA	S1B	14	20.8 ± 3.81	NS
A	<i>Bucephala islandica</i> pop. 1	Barrow's Goldeneye - Eastern Population	Special Concern	Special Concern	NA	S1N,SUM	26	24.0 ± 0.2	NS
A	<i>Balaenoptera physalus</i> pop. 1	Fin Whale - Atlantic population	Special Concern	Special Concern	NA	S2S3	2	90.4 ± 0.2	NS
A	<i>Cardellina canadensis</i>	Canada Warbler	Special Concern	Threatened	Endangered	S2S3B	696	10.4 ± 0.01	NS
A	<i>Euphagus carolinus</i>	Rusty Blackbird	Special Concern	Special Concern	Endangered	S2S3B	225	10.9 ± 0.15	NS
A	<i>Dolichonyx oryzivorus</i>	Bobolink	Special Concern	Threatened	Vulnerable	S2S3B	347	12.0 ± 0.25	NS
A	<i>Phalaropus lobatus</i>	Red-necked Phalarope	Special Concern	Special Concern	NA	S2S3M	1	21.3 ± 0.2	NS
A	<i>Morone saxatilis</i> pop. 1	Striped Bass - Southern Gulf of St. Lawrence population	Special Concern	NA	NA	S2S3N	1	53.5 ± 1.0	NS
A	<i>Chelydra serpentina</i>	Snapping Turtle	Special Concern	Special Concern	Vulnerable	S3	209	17.0 ± 1.8	NS
A	<i>Hirundo rustica</i>	Barn Swallow	Special Concern	Threatened	Endangered	S3B	706	10.3 ± 0.01	NS
A	<i>Contopus cooperi</i>	Olive-sided Flycatcher	Special Concern	Special Concern	Threatened	S3B	1024	10.0 ± 0.25	NS
A	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	Special Concern	Special Concern	Vulnerable	S3B,S3N	574	11.9 ± 7.07	NS
A	<i>Histrionicus histrionicus</i> pop. 1	Harlequin Duck - Eastern population	Special Concern	Special Concern	Endangered	S3N	48	15.1 ± 0.2	NS
A	<i>Chordeiles minor</i>	Common Nighthawk	Special Concern	Special Concern	Threatened	S3S4B	303	11.7 ± 0.03	NS
A	<i>Contopus virens</i>	Eastern Wood-Pewee	Special Concern	Special Concern	Vulnerable	S3S4B	464	14.3 ± 0.25	NS
A	<i>Phocoena phocoena</i> pop. 1	Harbour Porpoise - Northwest Atlantic Population	Special Concern	NA	NA	S4	17	45.3 ± 0.2	NS
A	<i>Chrysemys picta picta</i>	Eastern Painted Turtle	Special Concern	Special Concern	NA	S4	11	49.2 ± 1.0	NS
A	<i>Aegolius funereus</i>	Boreal Owl	Not At Risk	NA	NA	S1?B,SUM	6	31.9 ± 7.07	NS
A	<i>Fulica americana</i>	American Coot	Not At Risk	NA	NA	S1B	6	21.2 ± 0.2	NS
A	<i>Chlidonias niger</i>	Black Tern	Not At Risk	NA	NA	S1B	4	15.4 ± 0.34	NS
A	<i>Astur cooperii</i>	Cooper's Hawk	Not At Risk	NA	NA	S1B,S1N	15	21.5 ± 0.2	NS
A	<i>Falco peregrinus</i> pop. 1	Peregrine Falcon - anatum/tundrus	Not At Risk	NA	Vulnerable	S1B,S3M	9	20.7 ± 0.89	NS
A	<i>Sorex dispar gaspensis</i>	Gaspé Shrew	Not At Risk	Special Concern	NA	S2	3	93.2 ± 0.5	NS
A	<i>Lynx canadensis</i>	Canada Lynx	Not At Risk	NA	Endangered	S2S3	135	22.8 ± 1.8	NS
A	<i>Hemidactylium scutatum</i>	Four-toed Salamander	Not At Risk	NA	NA	S3	13	33.0 ± 0.5	NS
A	<i>Megaptera novaeangliae</i> pop. 2	Humpback Whale - Western North Atlantic Population	Not At Risk	NA	NA	S3	12	45.3 ± 0.2	NS
A	<i>Sterna hirundo</i>	Common Tern	Not At Risk	NA	NA	S3B	504	14.6 ± 0.15	NS
A	<i>Circus hudsonius</i>	Northern Harrier	Not At Risk	NA	NA	S3B,S4M	240	10.3 ± 0.01	NS
A	<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	Not At Risk	NA	NA	S3S4	2	46.2 ± 0.2	NS
A	<i>Ammodramus nelsoni</i>	Nelson's Sparrow	Not At Risk	NA	NA	S3S4B	109	11.0 ± 7.07	NS
A	<i>Buteo lagopus</i>	Rough-legged Hawk	Not At Risk	NA	NA	S3S4N	9	19.0 ± 6.1	NS
A	<i>Calidris canutus rufa</i>	Red Knot rufa subspecies	E,SC	Endangered	Endangered	S2S3M,SUN	31	15.4 ± 0.34	NS
A	<i>Alces alces americana</i>	Moose	NA	NA	Endangered	S1	152	10.4 ± 0.01	NS
A	<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	NA	NA	NA	S1	11	59.2 ± 0.2	NS
A	<i>Picoides dorsalis</i>	American Three-toed Woodpecker	NA	NA	NA	S1?	6	25.0 ± 7.07	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	NA	NA	NA	S1B	1	62.3 ± 7.07	NS
A	<i>Oxyura jamaicensis</i>	Ruddy Duck	NA	NA	NA	S1B	7	53.1 ± 7.07	NS
A	<i>Antigone canadensis</i>	Sandhill Crane	NA	NA	NA	S1B	5	36.8 ± 0.2	NS
A	<i>Haematopus palliatus</i>	American Oystercatcher	NA	NA	NA	S1B	7	42.0 ± 7.07	NS
A	<i>Bartramia longicauda</i>	Upland Sandpiper	NA	NA	NA	S1B	1	21.2 ± 0.2	NS
A	<i>Uria aalge</i>	Common Murre	NA	NA	NA	S1B	1	69.0 ± 0.2	NS
A	<i>Mimus polyglottos</i>	Northern Mockingbird	NA	NA	NA	S1B	18	15.4 ± 0.37	NS
A	<i>Toxostoma rufum</i>	Brown Thrasher	NA	NA	NA	S1B	8	30.1 ± 0.2	NS
A	<i>Salmo salar</i>	Atlantic Salmon	NA	NA	NA	S1B,S1N	2	53.2 ± 0.2	NS
A	<i>Charadrius semipalmatus</i>	Semipalmated Plover	NA	NA	NA	S1B,S3S4M	335	15.2 ± 0.2	NS
A	<i>Anas acuta</i>	Northern Pintail	NA	NA	NA	S1B,S4M	14	46.9 ± 1.0	NS
A	<i>Vireo gilvus</i>	Eastern Warbling Vireo	NA	NA	NA	S1B,SUM	7	30.7 ± 0.2	NS
A	<i>Passerina cyanea</i>	Indigo Bunting	NA	NA	NA	S1B,SUM	20	28.4 ± 0.2	NS
A	<i>Vespertilionidae sp.</i>	bat species	NA	NA	NA	S1S2	60	28.3 ± 0.1	NS
A	<i>Vespertilionidae sp. not Eptesicus</i>	Bat species not Big Brown Bat	NA	NA	NA	S1S2	12	11.6 ± 0.01	NS
A	<i>Calidris minutilla</i>	Least Sandpiper	NA	NA	NA	S1S2B,S2S4M	192	15.3 ± 0.2	NS
A	<i>Poocetes gramineus</i>	Vesper Sparrow	NA	NA	NA	S1S2B,SUM	6	25.0 ± 7.07	NS
A	<i>Microtus chrotorrhinus</i>	Rock Vole	NA	NA	NA	S2	10	93.2 ± 0.5	NS
A	<i>Pluvialis dominica</i>	American Golden-Plover	NA	NA	NA	S2?M	26	50.8 ± 0.2	NS
A	<i>Empidonax traillii</i>	Willow Flycatcher	NA	NA	NA	S2B	4	47.9 ± 7.07	NS
A	<i>Somateria mollissima</i>	Common Eider	NA	NA	NA	S2B,S3M,S2N	689	11.0 ± 7.07	NS
A	<i>Numenius phaeopus hudsonicus</i>	Whimbrel	NA	NA	NA	S2M	83	15.4 ± 0.34	NS
A	<i>Larus hyperboreus</i>	Glaucous Gull	NA	NA	NA	S2N	9	20.7 ± 0.83	NS
A	<i>Martes americana</i>	American Marten	NA	NA	Endangered	S2S3	26	37.1 ± 1.8	NS
A	<i>Rallus limicola</i>	Virginia Rail	NA	NA	NA	S2S3B	7	35.9 ± 7.07	NS
A	<i>Icterus galbula</i>	Baltimore Oriole	NA	NA	NA	S2S3B	57	15.4 ± 5.49	NS
A	<i>Morone saxatilis</i>	Striped Bass	NA	NA	NA	S2S3B,S2S3N	7	49.0 ± 0.2	NS
A	<i>Pinicola enucleator</i>	Pine Grosbeak	NA	NA	NA	S2S3B,S5N	106	10.0 ± 0.01	NS
A	<i>Calidris melanotos</i>	Pectoral Sandpiper	NA	NA	NA	S2S3M	38	15.4 ± 0.37	NS
A	<i>Phalaropus fulicarius</i>	Red Phalarope	NA	NA	NA	S2S3M	3	21.4 ± 0.36	NS
A	<i>Calidris alpina</i>	Dunlin	NA	NA	NA	S2S3M,S2N	52	19.9 ± 0.2	NS
A	<i>Calidris fuscicollis</i>	White-rumped Sandpiper	NA	NA	NA	S2S4M	92	15.3 ± 0.2	NS
A	<i>Asio otus</i>	Long-eared Owl	NA	NA	NA	S3	22	10.5 ± 0.15	NS
A	<i>Perisoreus canadensis</i>	Canada Jay	NA	NA	NA	S3	553	10.4 ± 7.07	NS
A	<i>Poecile hudsonicus</i>	Boreal Chickadee	NA	NA	NA	S3	1075	10.3 ± 0.01	NS
A	<i>Salvelinus fontinalis</i>	Brook Trout	NA	NA	NA	S3	60	12.0 ± 1.0	NS
A	<i>Salvelinus namaycush</i>	Lake Trout	NA	NA	NA	S3	1	89.6 ± 0.5	NS
A	<i>Synaptomys cooperi</i>	Southern Bog Lemming	NA	NA	NA	S3	4	93.2 ± 0.5	NS
A	<i>Pekania pennanti</i>	Fisher	NA	NA	NA	S3	7	33.4 ± 0.01	NS
A	<i>Tyrannus tyrannus</i>	Eastern Kingbird	NA	NA	NA	S3?B	91	15.4 ± 0.34	NS
A	<i>Setophaga pinus</i>	Pine Warbler	NA	NA	NA	S3?B	27	21.4 ± 0.2	NS
A	<i>Vireo philadelphicus</i>	Philadelphia Vireo	NA	NA	NA	S3?B,S4M	21	15.4 ± 0.34	NS
A	<i>Setophaga striata</i>	Blackpoll Warbler	NA	NA	NA	S3?B,S5M	155	10.5 ± 0.01	NS
A	<i>Pluvialis squatarola</i>	Black-bellied Plover	NA	NA	NA	S3?M	220	15.0 ± 0.2	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
A	<i>Calidris pusilla</i>	Semipalmated Sandpiper	NA	NA	NA	S3?M	266	15.3 ± 0.2	NS
A	<i>Spatula discors</i>	Blue-winged Teal	NA	NA	NA	S3B	84	17.8 ± 7.07	NS
A	<i>Charadrius vociferus</i>	Killdeer	NA	NA	NA	S3B	208	11.9 ± 0.25	NS
A	<i>Tringa semipalmata</i>	Willet	NA	NA	NA	S3B	684	10.4 ± 7.07	NS
A	<i>Rissa tridactyla</i>	Black-legged Kittiwake	NA	NA	NA	S3B	19	15.6 ± 0.2	NS
A	<i>Sterna paradisaea</i>	Arctic Tern	NA	NA	NA	S3B	127	13.8 ± 7.07	NS
A	<i>Fratercula arctica</i>	Atlantic Puffin	NA	NA	NA	S3B	4	15.4 ± 0.34	NS
A	<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	NA	NA	NA	S3B	51	25.0 ± 7.07	NS
A	<i>Piranga olivacea</i>	Scarlet Tanager	NA	NA	NA	S3B	10	30.0 ± 0.4	NS
A	<i>Molothrus ater</i>	Brown-headed Cowbird	NA	NA	NA	S3B	62	14.4 ± 7.07	NS
A	<i>Alosa pseudoharengus</i>	Alewife	NA	NA	NA	S3B	23	28.6 ± 1.0	NS
A	<i>Phalacrocorax carbo</i>	Great Cormorant	NA	NA	NA	S3B,S3N	141	15.4 ± 0.34	NS
A	<i>Botaurus lentiginosus</i>	American Bittern	NA	NA	NA	S3B,S4M	213	24.4 ± 7.07	NS
A	<i>Spatula clypeata</i>	Northern Shoveler	NA	NA	NA	S3B,S4M	10	55.1 ± 0.2	NS
A	<i>Mareca strepera</i>	Gadwall	NA	NA	NA	S3B,S4M	17	18.3 ± 0.2	NS
A	<i>Falco sparverius</i>	American Kestrel	NA	NA	NA	S3B,S4M	273	12.1 ± 1.53	NS
A	<i>Tringa melanoleuca</i>	Greater Yellowlegs	NA	NA	NA	S3B,S4M	376	10.6 ± 0.01	NS
A	<i>Gallinago delicata</i>	Wilson's Snipe	NA	NA	NA	S3B,S4M	477	10.5 ± 0.25	NS
A	<i>Cardellina pusilla</i>	Wilson's Warbler	NA	NA	NA	S3B,S4M	138	10.0 ± 0.25	NS
A	<i>Passerella iliaca</i>	Fox Sparrow	NA	NA	NA	S3B,S4M	130	10.0 ± 0.25	NS
A	<i>Leiothlypis peregrina</i>	Tennessee Warbler	NA	NA	NA	S3B,S5M	444	10.0 ± 0.25	NS
A	<i>Branta bernicla</i>	Brant	NA	NA	NA	S3M	3	26.5 ± 16.6	NS
A	<i>Arenaria interpres</i>	Ruddy Turnstone	NA	NA	NA	S3M,S1N	117	15.3 ± 0.2	NS
A	<i>Calidris alba</i>	Sanderling	NA	NA	NA	S3M,S2S3N	148	15.3 ± 0.2	NS
A	<i>Podiceps auritus pop. 2</i>	Horned Grebe - Western population	NA	Special Concern	NA	S3N	32	18.7 ± 0.24	NS
A	<i>Calidris maritima</i>	Purple Sandpiper	NA	NA	NA	S3N	34	15.4 ± 0.34	NS
A	<i>Chroicocephalus ridibundus</i>	Black-headed Gull	NA	NA	NA	S3N	85	26.0 ± 0.29	NS
A	<i>Lanius borealis</i>	Northern Shrike	NA	NA	NA	S3N	9	29.9 ± 1.04	NS
A	<i>Astur atricapillus</i>	American Goshawk	NA	NA	NA	S3S4	106	11.0 ± 7.07	NS
A	<i>Picoides arcticus</i>	Black-backed Woodpecker	NA	NA	NA	S3S4	115	11.0 ± 7.07	NS
A	<i>Podilymbus podiceps</i>	Pied-billed Grebe	NA	NA	NA	S3S4B	42	33.7 ± 7.07	NS
A	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	NA	NA	NA	S3S4B	136	25.0 ± 7.07	NS
A	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	NA	NA	NA	S3S4B	345	14.4 ± 7.07	NS
A	<i>Setophaga tigrina</i>	Cape May Warbler	NA	NA	NA	S3S4B,S4M	205	10.0 ± 0.25	NS
A	<i>Mergus serrator</i>	Red-breasted Merganser	NA	NA	NA	S3S4B,S4N	201	10.4 ± 7.07	NS
A	<i>Leiothlypis celata</i>	Orange-crowned Warbler	NA	NA	NA	S3S4M	17	21.3 ± 0.2	NS
A	<i>Bucephala albeola</i>	Bufflehead	NA	NA	NA	S3S4N	74	14.6 ± 0.2	NS
A	<i>Aythya americana</i>	Redhead	NA	NA	NA	SHB	10	28.8 ± 0.82	NS
A	<i>Leucophaeus atricilla</i>	Laughing Gull	NA	NA	NA	SHB	6	15.4 ± 0.34	NS
A	<i>Progne subis</i>	Purple Martin	NA	NA	NA	SHB	5	15.4 ± 0.34	NS
A	<i>Eremophila alpestris</i>	Horned Lark	NA	NA	NA	SHB,S5M,S4N	5	78.3 ± 0.53	NS
A	<i>Morus bassanus</i>	Northern Gannet	NA	NA	NA	SXB	137	15.4 ± 0.56	NS
I	<i>Bombus bohemicus</i>	Ashton Cuckoo Bumble Bee	Endangered	Endangered	Endangered	S1	5	56.5 ± 5.0	NS
I	<i>Danaus plexippus</i>	Monarch	Endangered	Endangered	Endangered	S2?B,S3M	184	9.4 ± 1.53	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
I	<i>Alasmidonta varicosa</i>	Brook Floater	Special Concern	Special Concern	Threatened	S3	9	15.5 ± 0.1	NS
I	<i>Bombus terricola</i>	Yellow-banded Bumble Bee	Special Concern	Special Concern	Vulnerable	S3	119	29.9 ± 0.2	NS
I	<i>Coccinella transversoguttata richardsoni</i>	Transverse Lady Beetle	Special Concern	Special Concern	Endangered	SH	1	93.4 ± 2.5	NS
I	<i>Cimex adjunctus</i>	Eastern Bat Bug	NA	NA	NA	S1?	1	46.2 ± 2.5	NS
I	<i>Euphyes bimacula</i>	Two-spotted Skipper	NA	NA	NA	S1S2	2	27.8 ± 0.1	NS
I	<i>Haematopota rara</i>	Shy Cleg	NA	NA	NA	S1S3	1	75.7 ± 0.05	NS
I	<i>Tharsalea dorcas</i>	Dorcas Copper	NA	NA	NA	S2	21	73.0 ± 0.01	NS
I	<i>Tharsalea dospassosi</i>	Maritime Copper	NA	NA	NA	S2	1	91.7 ± 0.05	NS
I	<i>Neurocordulia michaeli</i>	Broad-tailed Shadowdragon	NA	NA	NA	S2	26	36.2 ± 0.05	NS
I	<i>Pantala hymenaea</i>	Spot-Winged Glider	NA	NA	NA	S2?B	2	32.3 ± 0.01	NS
I	<i>Nymphalis l-album j-album</i>	Compton Tortoiseshell	NA	NA	NA	S2S3	2	90.5 ± 0.2	NS
I	<i>Aglais milberti</i>	Milbert's Tortoiseshell	NA	NA	NA	S2S3	1	96.2 ± 2.5	NS
I	<i>Lanthus vernalis</i>	Southern Pygmy Clubtail	NA	NA	NA	S2S3	8	50.3 ± 0.05	NS
I	<i>Alasmidonta undulata</i>	Triangle Floater	NA	NA	NA	S2S3	5	37.9 ± 0.55	NS
I	<i>Margaritifera margaritifera</i>	Eastern Pearlshell	NA	NA	NA	S2S3	86	15.5 ± 0.1	NS
I	<i>Sphaeroderus nitidicollis</i>	Polished Snail-eating Beetle	NA	NA	NA	S3	1	44.4 ± 0.2	NS
I	<i>Psephenus herricki</i>	Herrick's Water Penny Beetle	NA	NA	NA	S3	1	63.7 ± 0.2	NS
I	<i>Platydacus fossator</i>	Digging Rove Beetle	NA	NA	NA	S3	2	29.9 ± 0.2	NS
I	<i>Chrysochus auratus</i>	Dogbane Leaf Beetle	NA	NA	NA	S3	1	29.9 ± 0.2	NS
I	<i>Naemia seriata</i>	Seaside Lady Beetle	NA	NA	NA	S3	3	21.1 ± 0.2	NS
I	<i>Tachyerges ephippiatus</i>	Caparison Weevil	NA	NA	NA	S3	1	29.9 ± 0.2	NS
I	<i>Chilocorus stigma</i>	Twice-stabbed Lady Beetle	NA	NA	NA	S3	1	66.6 ± 0.2	NS
I	<i>Iphthiminius opacus</i>	Cloudy Darkling Beetle	NA	NA	NA	S3	1	78.5 ± 0.01	NS
I	<i>Monochamus marmorator</i>	Balsam Fir Sawyer	NA	NA	NA	S3	2	29.9 ± 0.2	NS
I	<i>Satyrium calanus falacer</i>	Falacer Hairstreak	NA	NA	NA	S3	1	95.5 ± 2.5	NS
I	<i>Callophrys lanoraicensis</i>	Bog Elfin	NA	NA	NA	S3	2	75.5 ± 0.2	NS
I	<i>Strymon melinus</i>	Gray Hairstreak	NA	NA	NA	S3	2	62.1 ± 0.1	NS
I	<i>Phanogomphus descriptus</i>	Harpoon Clubtail	NA	NA	NA	S3	16	62.1 ± 0.05	NS
I	<i>Ophiogomphus aspersus</i>	Brook Snaketail	NA	NA	NA	S3	5	62.1 ± 0.05	NS
I	<i>Ophiogomphus mainensis</i>	Maine Snaketail	NA	NA	NA	S3	14	60.8 ± 0.1	NS
I	<i>Ophiogomphus rupinsulensis</i>	Rusty Snaketail	NA	NA	NA	S3	36	36.2 ± 0.05	NS
I	<i>Enallagma vernale</i>	Vernal Bluet	NA	NA	NA	S3	4	57.8 ± 0.05	NS
I	<i>Polygonia interrogationis</i>	Question Mark	NA	NA	NA	S3B	18	10.8 ± 0.1	NS
I	<i>Bombus fervidus</i>	Golden Northern Bumble Bee	NA	NA	NA	S3S4	5	44.4 ± 5.0	NS
I	<i>Lasioglossum georgeickworti</i>	George Eickwort's Sweat Bee	NA	NA	NA	S3S4	1	94.4 ± 0.15	NS
I	<i>Cecropterus pylades</i>	Northern Cloudywing	NA	NA	NA	S3S4	20	39.1 ± 0.01	NS
I	<i>Amblyscirtes hegon</i>	Pepper and Salt Skipper	NA	NA	NA	S3S4	7	33.1 ± 0.68	NS
I	<i>Argynnis aphrodite winni</i>	Aphrodite Fritillary	NA	NA	NA	S3S4	4	47.7 ± 100.0	NS
I	<i>Polygonia faunus</i>	Green Comma	NA	NA	NA	S3S4	7	39.4 ± 0.05	NS
I	<i>Oeneis jutta ascerta</i>	Jutta Arctic	NA	NA	NA	S3S4	4	45.8 ± 0.01	NS
I	<i>Palpita magniferalis</i>	Splendid Palpita Moth	NA	NA	NA	S3S4	5	58.3 ± 0.2	NS
I	<i>Ceratonia undulosa</i>	Waved Sphinx Moth	NA	NA	NA	S3S4	11	46.6 ± 0.2	NS
I	<i>Sphinx chersis</i>	Great Ash Sphinx Moth	NA	NA	NA	S3S4	7	44.1 ± 0.2	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
I	<i>Sphinx kalmiae</i>	Laurel Sphinx Moth	NA	NA	NA	S3S4	18	14.4 ± 0.59	NS
I	<i>Aeshna clepsydra</i>	Mottled Darner	NA	NA	NA	S3S4	3	49.9 ± 0.05	NS
I	<i>Boyeria grafiana</i>	Ocellated Darner	NA	NA	NA	S3S4	9	36.5 ± 0.05	NS
I	<i>Gomphaeschna furcillata</i>	Harlequin Darner	NA	NA	NA	S3S4	4	49.7 ± 0.05	NS
I	<i>Erythrodiplax berenice</i>	Seaside Dragonlet	NA	NA	NA	S3S4	11	50.5 ± 0.01	NS
I	<i>Nannothemis bella</i>	Elfin Skimmer	NA	NA	NA	S3S4	5	49.7 ± 0.05	NS
I	<i>Sympetrum danae</i>	Black Meadowhawk	NA	NA	NA	S3S4	7	18.0 ± 1.0	NS
I	<i>Amphiagrion saucium</i>	Eastern Red Damsel	NA	NA	NA	S3S4	4	77.8 ± 0.05	NS
I	<i>Icaricia saepiolus amica</i>	Greenish Blue	NA	NA	NA	SH	1	95.7 ± 2.5	NS
I	<i>Polygonia gracilis</i>	Hoary Comma	NA	NA	NA	SH	1	96.2 ± 2.5	NS
N	<i>Erioderma mollissimum</i>	Graceful Felt Lichen	Endangered	Endangered	Endangered	S1	18	54.7 ± 0.01	NS
N	<i>Erioderma pedicellatum</i> (Atlantic pop.)	Boreal Felt Lichen - Atlantic pop.	Endangered	Endangered	Endangered	S1	583	6.0 ± 0.01	NS
N	<i>Peltigera hydrothyria</i>	Eastern Waterfan	Threatened	Threatened	Threatened	S1	32	27.2 ± 0.01	NS
N	<i>Anzia colpodes</i>	Black-foam Lichen	Threatened	Threatened	Threatened	S3	12	53.6 ± 0.5	NS
N	<i>Pannaria lurida</i>	Wrinkled Shingle Lichen	Threatened	Threatened	Threatened	S3	101	69.3 ± 0.01	NS
N	<i>Fuscopannaria leucosticta</i>	White-rimmed Shingle Lichen	Threatened	NA	NA	S3	9	7.3 ± 0.01	NS
N	<i>Heterodermia squamulosa</i>	Scaly Fringe Lichen	Threatened	NA	NA	S3	7	34.0 ± 0.01	NS
N	<i>Pectenaria plumbea</i>	Blue Felt Lichen	Special Concern	Special Concern	Vulnerable	S3	1023	6.6 ± 0.2	NS
N	<i>Sclerophora peronella</i> (Atlantic pop.)	Frosted Glass-whiskers (Atlantic population)	Special Concern	Special Concern	NA	S3S4	33	7.9 ± 0.01	NS
N	<i>Pseudevernia cladonia</i>	Ghost Antler Lichen	Not At Risk	NA	NA	S2S3	7	4.6 ± 0.01	NS
N	<i>Chaenotheca servitii</i>	Flexuous Golden Stubble	Data Deficient	NA	NA	S1	1	86.0 ± 1.0	NS
N	<i>Erioderma pedicellatum</i>	Boreal Felt Lichen	NA	NA	Endangered	S1	1	98.0 ± 7.54	NS
N	<i>Cinclidium stygium</i>	Sooty Cupola Moss	NA	NA	NA	S1	2	80.4 ± 0.01	NS
N	<i>Cyrtio-hypnum minutulum</i>	Tiny Cedar Moss	NA	NA	NA	S1	1	85.8 ± 0.01	NS
N	<i>Cladonia brevis</i>	Short Peg Lichen	NA	NA	NA	S1	1	76.0 ± 0.0	NS
N	<i>Lathagrium cristatum</i>	Fingered Jelly Lichen	NA	NA	NA	S1	3	93.6 ± 4.0	NS
N	<i>Scytinium schraderi</i>	Wrinkled Jellyskin Lichen	NA	NA	NA	S1	1	92.8 ± 1.0	NS
N	<i>Lichina confinis</i>	Marine Seaweed Lichen	NA	NA	NA	S1	1	98.7 ± 2.0	NS
N	<i>Polychidium muscicola</i>	Eyed Mossthorns Woollybear Lichen	NA	NA	NA	S1	1	35.7 ± 0.05	NS
N	<i>Sticta limbata</i>	Powdered Moon Lichen	NA	NA	NA	S1	6	7.0 ± 0.01	NS
N	<i>Peltigera lepidophora</i>	Scaly Pelt Lichen	NA	NA	NA	S1	2	93.8 ± 0.01	NS
N	<i>Hypogymnia hultenii</i>	Powdered Honeycomb Lichen	NA	NA	NA	S1	18	8.5 ± 0.5	NS
N	<i>Conardia compacta</i>	Coast Creeping Moss	NA	NA	NA	S1?	1	93.7 ± 2.0	NS
N	<i>Lathagrium undulatum</i> var. <i>granulosum</i>	Granular Jelly Flakes Lichen	NA	NA	NA	S1?	1	84.5 ± 1.0	NS
N	<i>Scytinium intermedium</i>	Forty-five Jellyskin Lichen	NA	NA	NA	S1?	3	59.0 ± 4.0	NS
N	<i>Peltigera malacea</i>	Vinless Pelt Lichen	NA	NA	NA	S1?	1	66.1 ± 0.01	NS
N	<i>Hamatocaulis vernicosus</i>	a Moss	NA	NA	NA	S1S2	1	84.0 ± 0.01	NS
N	<i>Enchylium bachmanianum</i>	Bachman's Jelly Lichen	NA	NA	NA	S1S2	2	96.0 ± 1.0	NS
N	<i>Placidium squamulosum</i>	Limy Soil Stipplescale Lichen	NA	NA	NA	S1S2	1	93.6 ± 4.0	NS
N	<i>Cladonia labradorica</i>	Labrador Lichen	NA	NA	NA	S1S2	1	14.8 ± 0.05	NS
N	<i>Parmotrema reticulatum</i>	Netted Ruffle Lichen	NA	NA	NA	S1S2	1	11.2 ± 0.5	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Parmeliella parvula</i>	Poor-man's Shingles Lichen	NA	NA	NA	S1S2	33	4.6 ± 0.01	NS
N	<i>Barbilophozia lycopodioides</i>	Greater Pawwort	NA	NA	NA	S1S3	1	89.4 ± 0.01	NS
N	<i>Peltigera neckeri</i>	Black-saddle Pelt Lichen	NA	NA	NA	S1S3	4	33.9 ± 0.01	NS
N	<i>Lejeunea lamacerina</i>	Western Pouncewort	NA	NA	NA	S2	1	41.4 ± 0.2	NS
N	<i>Anacamptodon splachnoides</i>	a Moss	NA	NA	NA	S2	1	38.5 ± 0.2	NS
N	<i>Scorpidium scorpioides</i>	Hooked Scorpion Moss	NA	NA	NA	S2	10	73.8 ± 0.5	NS
N	<i>Scorpidium cossonii</i>	CossonΓÇÖs Hook Moss	NA	NA	NA	S2	6	74.1 ± 0.01	NS
N	<i>Nephroma arcticum</i>	Arctic Kidney Lichen	NA	NA	NA	S2	1	92.5 ± 0.5	NS
N	<i>Nephroma resupinatum</i>	a lichen	NA	NA	NA	S2	2	33.8 ± 0.5	NS
N	<i>Anomodon viticulosus</i>	a Moss	NA	NA	NA	S2?	2	93.5 ± 1.0	NS
N	<i>Atrichum angustatum</i>	Lesser Smoothcap Moss	NA	NA	NA	S2?	1	56.3 ± 3.0	NS
N	<i>Drepanocladus polygamus</i>	Polygamous Hook Moss	NA	NA	NA	S2?	3	62.5 ± 0.01	NS
N	<i>Pseudocampylum radicale</i>	Long-stalked Fine Wet Moss	NA	NA	NA	S2?	1	76.2 ± 0.01	NS
N	<i>Oligotrichum hercynicum</i>	Hercynian Hair Moss	NA	NA	NA	S2?	3	88.5 ± 0.01	NS
N	<i>Platydictya jungermannioides</i>	False Willow Moss	NA	NA	NA	S2?	5	59.0 ± 0.01	NS
N	<i>Tortella fragilis</i>	Fragile Twisted Moss	NA	NA	NA	S2?	4	90.6 ± 0.01	NS
N	<i>Platylorella lescurii</i>	a Moss	NA	NA	NA	S2?	1	98.3 ± 0.2	NS
N	<i>Scorpidium revolvens</i>	Limprihtia Moss	NA	NA	NA	S2S3	6	73.4 ± 0.01	NS
N	<i>Moelleropsis nebulosa</i>	Blue-gray Moss Shingle Lichen	NA	NA	NA	S2S3	42	11.5 ± 0.01	NS
N	<i>Moelleropsis nebulosa ssp. frullaniae</i>	Blue-gray Moss Shingle Lichen	NA	NA	NA	S2S3	1	59.0 ± 0.5	NS
N	<i>Ramalina thrausta</i>	Angelhair Ramalina Lichen	NA	NA	NA	S2S3	11	8.8 ± 0.5	NS
N	<i>Usnea hirta</i>	Bristly Beard Lichen	NA	NA	NA	S2S3	1	87.8 ± 0.2	NS
N	<i>Usnea rubicunda</i>	Red Beard Lichen	NA	NA	NA	S2S3	3	8.6 ± 0.01	NS
N	<i>Ahtiana aurescens</i>	Eastern Candlewax Lichen	NA	NA	NA	S2S3	6	37.0 ± 0.01	NS
N	<i>Cetraria muricata</i>	Spiny Heath Lichen	NA	NA	NA	S2S3	2	4.8 ± 1.7	NS
N	<i>Cladonia incrassata</i>	Powder-foot British Soldiers Lichen	NA	NA	NA	S2S3	1	59.7 ± 0.05	NS
N	<i>Scytinium tenuissimum</i>	Birdnest Jellyskin Lichen	NA	NA	NA	S2S3	17	11.9 ± 0.01	NS
N	<i>Parmeliopsis ambigua</i>	Green Starburst Lichen	NA	NA	NA	S2S3	3	8.8 ± 0.5	NS
N	<i>Usnea mutabilis</i>	Bloody Beard Lichen	NA	NA	NA	S2S3	1	75.8 ± 0.5	NS
N	<i>Fuscopannaria sorediata</i>	a Lichen	NA	NA	NA	S2S3	20	1.2 ± 0.01	NS
N	<i>Hypotrachyna revoluta</i>	Granulating Loop Lichen	NA	NA	NA	S2S3	1	29.2 ± 0.01	NS
N	<i>Cladonia coccifera</i>	Eastern Boreal Pixie-cup Lichen	NA	NA	NA	S2S3	3	14.8 ± 0.01	NS
N	<i>Usnea flammea</i>	Coastal Bushy Beard Lichen	NA	NA	NA	S2S3	3	30.8 ± 0.01	NS
N	<i>Jubula pennsylvanica</i>	a liverwort	NA	NA	NA	S3	3	41.4 ± 0.2	NS
N	<i>Dicranella palustris</i>	Drooping-Leaved Fork Moss	NA	NA	NA	S3	2	47.3 ± 0.05	NS
N	<i>Anomodon tristis</i>	a Moss	NA	NA	NA	S3	1	65.1 ± 0.01	NS
N	<i>Tetraplodon angustatus</i>	Toothed-leaved Nitrogen Moss	NA	NA	NA	S3	3	34.5 ± 0.01	NS
N	<i>Tetraplodon mnioides</i>	Entire-leaved Nitrogen Moss	NA	NA	NA	S3	1	42.2 ± 0.01	NS
N	<i>Amanita atkinsoniana</i>	Atkinson's Amanita	NA	NA	NA	S3	1	42.9 ± 2.71	NS
N	<i>Aureoboletus russellii</i>	a fungus	NA	NA	NA	S3	1	45.6 ± 0.2	NS
N	<i>Rostania occulta</i>	Crusted Tarpaper Lichen	NA	NA	NA	S3	4	41.6 ± 0.5	NS
N	<i>Collema nigrescens</i>	Blistered Tarpaper Lichen	NA	NA	NA	S3	4	69.1 ± 0.01	NS
N	<i>Solorina saccata</i>	Woodland Owl Lichen	NA	NA	NA	S3	13	46.8 ± 0.05	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Fuscopannaria ahlneri</i>	Roughened Shingle Lichen	NA	NA	NA	S3	144	2.2 ± 0.01	NS
N	<i>Scytinium lichenoides</i>	Tattered Jellyskin Lichen	NA	NA	NA	S3	20	46.5 ± 0.2	NS
N	<i>Leptogium milligranum</i>	Stretched Jellyskin Lichen	NA	NA	NA	S3	1	65.5 ± 0.01	NS
N	<i>Nephroma bellum</i>	Naked Kidney Lichen	NA	NA	NA	S3	12	28.0 ± 0.01	NS
N	<i>Placynthium nigrum</i>	Common Ink Lichen	NA	NA	NA	S3	1	69.7 ± 10.0	NS
N	<i>Platismatia norvegica</i>	Oldgrowth Rag Lichen	NA	NA	NA	S3	138	15.3 ± 0.01	NS
N	<i>Punctelia appalachensis</i>	Appalachian Speckleback Lichen	NA	NA	NA	S3	2	54.0 ± 0.2	NS
N	<i>Viridothelium virens</i>	a lichen	NA	NA	NA	S3	1	98.2 ± 5.0	NS
N	<i>Ephebe lanata</i>	Waterside Rockshag Lichen	NA	NA	NA	S3	3	30.1 ± 0.01	NS
N	<i>Phaeophyscia pusilloides</i>	Pompom-tipped Shadow Lichen	NA	NA	NA	S3	7	63.8 ± 0.2	NS
N	<i>Peltigera collina</i>	Tree Pelt Lichen	NA	NA	NA	S3	201	4.7 ± 0.01	NS
N	<i>Calliergon giganteum</i>	Giant Spear Moss	NA	NA	NA	S3?	4	93.2 ± 0.01	NS
N	<i>Sphagnum lindbergii</i>	Lindberg's Peat Moss	NA	NA	NA	S3?	4	27.3 ± 0.01	NS
N	<i>Sphagnum riparium</i>	Streamside Peat Moss	NA	NA	NA	S3?	3	8.9 ± 0.01	NS
N	<i>Cladonia stygia</i>	Black-footed Reindeer Lichen	NA	NA	NA	S3?	32	2.7 ± 0.01	NS
N	<i>Ctenidium molluscum</i>	Mollusc Ctenidium moss	NA	NA	NA	S3S4	2	55.5 ± 2.0	NS
N	<i>Dicranella schreberiana</i>	Schreber's Forklet Moss	NA	NA	NA	S3S4	1	58.5 ± 0.2	NS
N	<i>Dicranum leioneuron</i>	a Dicranum Moss	NA	NA	NA	S3S4	1	47.7 ± 0.01	NS
N	<i>Encalypta ciliata</i>	Fringed Extinguisher Moss	NA	NA	NA	S3S4	1	22.3 ± 2.5	NS
N	<i>Encalypta procera</i>	Slender Extinguisher Moss	NA	NA	NA	S3S4	13	56.5 ± 0.01	NS
N	<i>Fissidens taxifolius</i>	Yew-leaved Pocket Moss	NA	NA	NA	S3S4	3	93.5 ± 0.01	NS
N	<i>Sphagnum platyphyllum</i>	Flat-leaved Peat Moss	NA	NA	NA	S3S4	4	73.8 ± 0.01	NS
N	<i>Splachnum ampullaceum</i>	Cruet Dung Moss	NA	NA	NA	S3S4	2	74.9 ± 0.01	NS
N	<i>Schistidium agassizii</i>	Elf Bloom Moss	NA	NA	NA	S3S4	1	36.6 ± 3.0	NS
N	<i>Collema leptaleum</i>	Crumpled Bat's Wing Lichen	NA	NA	NA	S3S4	84	58.2 ± 0.2	NS
N	<i>Enchylium tenax</i>	Soil Tarpaper Lichen	NA	NA	NA	S3S4	11	59.0 ± 0.01	NS
N	<i>Sticta fuliginosa</i>	Peppered Moon Lichen	NA	NA	NA	S3S4	35	4.3 ± 0.01	NS
N	<i>Arctoparmelia incurva</i>	Finger Ring Lichen	NA	NA	NA	S3S4	61	0.6 ± 0.01	NS
N	<i>Scytinium teretiusculum</i>	Curly Jellyskin Lichen	NA	NA	NA	S3S4	4	59.0 ± 0.01	NS
N	<i>Leptogium acadiense</i>	Acadian Jellyskin Lichen	NA	NA	NA	S3S4	39	18.8 ± 0.01	NS
N	<i>Scytinium subtile</i>	Appressed Jellyskin Lichen	NA	NA	NA	S3S4	20	6.2 ± 0.01	NS
N	<i>Cladonia floerkeana</i>	Gritty British Soldiers Lichen	NA	NA	NA	S3S4	3	13.0 ± 0.01	NS
N	<i>Vahlia leucophaea</i>	Shelter Shingle Lichen	NA	NA	NA	S3S4	9	64.4 ± 0.2	NS
N	<i>Heterodermia speciosa</i>	Powdered Fringe Lichen	NA	NA	NA	S3S4	42	4.8 ± 0.01	NS
N	<i>Leptogium corticola</i>	Blistered Jellyskin Lichen	NA	NA	NA	S3S4	42	15.2 ± 0.01	NS
N	<i>Melanohalea olivacea</i>	Spotted Camouflage Lichen	NA	NA	NA	S3S4	1	79.8 ± 0.2	NS
N	<i>Parmelia fertilis</i>	Fertile Shield Lichen	NA	NA	NA	S3S4	19	34.0 ± 0.01	NS
N	<i>Parmeliopsis hyperopta</i>	Gray Starburst Lichen	NA	NA	NA	S3S4	1	11.7 ± 0.5	NS
N	<i>Parmotrema perlatum</i>	Powdered Ruffle Lichen	NA	NA	NA	S3S4	1	55.9 ± 0.01	NS
N	<i>Peltigera hymenina</i>	Cloudy Pelt Lichen	NA	NA	NA	S3S4	3	57.7 ± 0.5	NS
N	<i>Sphaerophorus fragilis</i>	Fragile Coral Lichen	NA	NA	NA	S3S4	11	1.2 ± 0.01	NS
N	<i>Coccocarpia palmicola</i>	Salted Shell Lichen	NA	NA	NA	S3S4	910	4.4 ± 0.01	NS
N	<i>Stereocaulon condensatum</i>	Granular Soil Foam Lichen	NA	NA	NA	S3S4	19	3.7 ± 0.01	NS
N	<i>Physcia tenella</i>	Fringed Rosette Lichen	NA	NA	NA	S3S4	1	55.5 ± 3.5	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
N	<i>Anaptychia palmulata</i>	Shaggy Fringed Lichen	NA	NA	NA	S3S4	279	4.5 ± 0.01	NS
N	<i>Evernia prunastri</i>	Valley Oakmoss Lichen	NA	NA	NA	S3S4	9	43.7 ± 0.5	NS
N	<i>Heterodermia neglecta</i>	Fringe Lichen	NA	NA	NA	S3S4	148	1.2 ± 0.01	NS
P	<i>Fraxinus nigra</i>	Black Ash	Threatened	NA	Threatened	S2	305	29.7 ± 0.0	NS
P	<i>Juncus caesariensis</i>	New Jersey Rush	Special Concern	Special Concern	Vulnerable	S3	120	73.8 ± 0.1	NS
P	<i>Floerkea proserpinacoides</i>	False Mermaidweed	Not At Risk	NA	NA	S2S3	15	44.7 ± 1.0	NS
P	<i>Acer saccharinum</i>	Silver Maple	NA	NA	NA	S1	1	57.9 ± 0.2	NS
P	<i>Arnica lonchophylla</i>	Northern Arnica	NA	NA	NA	S1	1	59.4 ± 7.07	NS
P	<i>Betula minor</i>	Dwarf White Birch	NA	NA	NA	S1	1	26.9 ± 0.01	NS
P	<i>Cardamine dentata</i>	Toothed Bittercress	NA	NA	NA	S1	1	73.1 ± 0.5	NS
P	<i>Cochlearia tridactylites</i>	Limestone Scurvy-grass	NA	NA	NA	S1	12	20.0 ± 0.1	NS
P	<i>Stellaria crassifolia</i>	Fleshy Stitchwort	NA	NA	NA	S1	1	81.0 ± 2.0	NS
P	<i>Hudsonia tomentosa</i>	Woolly Beach-heath	NA	NA	NA	S1	7	50.3 ± 1.7	NS
P	<i>Bistorta vivipara</i>	Alpine Bistort	NA	NA	NA	S1	1	67.9 ± 1.0	NS
P	<i>Montia fontana</i>	Water Blinks	NA	NA	NA	S1	2	43.8 ± 3.0	NS
P	<i>Agalinis tenuifolia</i>	Slender Agalinis	NA	NA	NA	S1	1	85.8 ± 0.01	NS
P	<i>Scrophularia lanceolata</i>	Lance-leaved Figwort	NA	NA	NA	S1	1	21.3 ± 1.5	NS
P	<i>Carex alopecoidea</i>	Foxtail Sedge	NA	NA	NA	S1	4	48.5 ± 0.2	NS
P	<i>Carex granularis</i>	Limestone Meadow Sedge	NA	NA	NA	S1	21	76.2 ± 0.01	NS
P	<i>Carex tenuiflora</i>	Sparse-Flowered Sedge	NA	NA	NA	S1	2	73.6 ± 0.5	NS
P	<i>Carex tinctoria</i>	Tinged Sedge	NA	NA	NA	S1	2	48.5 ± 0.2	NS
P	<i>Carex viridula ssp. brachyrrhyncha</i>	Greenish Sedge	NA	NA	NA	S1	1	90.6 ± 0.01	NS
P	<i>Carex viridula var. elatior</i>	Greenish Sedge	NA	NA	NA	S1	28	72.9 ± 0.01	NS
P	<i>Carex grisea</i>	Inflated Narrow-leaved Sedge	NA	NA	NA	S1	6	50.1 ± 0.01	NS
P	<i>Cyperus lupulinus ssp. macilentus</i>	Hop Flatsedge	NA	NA	NA	S1	15	49.7 ± 0.01	NS
P	<i>Eleocharis erythropoda</i>	Red-stemmed Spikerush	NA	NA	NA	S1	2	84.5 ± 0.01	NS
P	<i>Rhynchospora capillacea</i>	Slender Beakrush	NA	NA	NA	S1	3	90.6 ± 0.01	NS
P	<i>Scirpus atrovirens</i>	Dark-green Bulrush	NA	NA	NA	S1	2	90.6 ± 0.01	NS
P	<i>Malaxis monophyllos var. brachypoda</i>	North American White Adder's-mouth	NA	NA	NA	S1	1	34.4 ± 7.07	NS
P	<i>Calamagrostis stricta ssp. inexpansa</i>	Slim-stemmed Reed Grass	NA	NA	NA	S1	3	65.4 ± 0.01	NS
P	<i>Elymus hystrix</i>	Spreading Wild Rye	NA	NA	NA	S1	1	85.6 ± 1.6	NS
P	<i>Potamogeton nodosus</i>	Long-leaved Pondweed	NA	NA	NA	S1	1	45.6 ± 5.0	NS
P	<i>Sparganium angustifolium</i>	Branching Bur-Reed	NA	NA	NA	S1	1	42.5 ± 1.0	NS
P	<i>Equisetum palustre</i>	Marsh Horsetail	NA	NA	NA	S1	8	89.3 ± 0.01	NS
P	<i>Botrychium ascendens</i>	Upswept Moonwort	NA	NA	NA	S1	3	93.9 ± 0.01	NS
P	<i>Solidago hispida</i>	Hairy Goldenrod	NA	NA	NA	S1?	1	80.7 ± 7.07	NS
P	<i>Allium schoenoprasum</i>	Wild Chives	NA	NA	NA	S1?	1	99.1 ± 0.2	NS
P	<i>Allium schoenoprasum var. sibiricum</i>	Wild Chives	NA	NA	NA	S1?	1	52.3 ± 7.07	NS
P	<i>Sanicula odorata</i>	Clustered Sanicle	NA	NA	NA	S1S2	2	66.6 ± 0.5	NS
P	<i>Anemone virginiana var. alba</i>	Virginia Anemone	NA	NA	NA	S1S2	6	89.4 ± 0.1	NS
P	<i>Parnassia parviflora</i>	Small-flowered Grass-of-Parnassus	NA	NA	NA	S1S2	11	76.4 ± 1.5	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Carex haydenii</i>	Hayden's Sedge	NA	NA	NA	S1S2	3	65.8 ± 5.0	NS
P	<i>Selaginella selaginoides</i>	Low Spikemoss	NA	NA	NA	S1S2	2	72.0 ± 0.8	NS
P	<i>Carex vacillans</i>	Estuarine Sedge	NA	NA	NA	S1S3	4	48.5 ± 0.5	NS
P	<i>Zizia aurea</i>	Golden Alexanders	NA	NA	NA	S2	8	36.6 ± 0.5	NS
P	<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower	NA	NA	NA	S2	2	43.9 ± 0.1	NS
P	<i>Ageratina altissima</i>	White Snakeroot	NA	NA	NA	S2	2	53.8 ± 7.07	NS
P	<i>Stellaria humifusa</i>	Saltmarsh Starwort	NA	NA	NA	S2	4	45.6 ± 0.1	NS
P	<i>Desmodium canadense</i>	Canada Tick-trefoil	NA	NA	NA	S2	10	94.6 ± 0.01	NS
P	<i>Comandra umbellata</i>	Bastard's Toadflax	NA	NA	NA	S2	43	49.2 ± 0.2	NS
P	<i>Carex gynocrates</i>	Northern Bog Sedge	NA	NA	NA	S2	11	76.7 ± 0.01	NS
P	<i>Carex pellita</i>	Woolly Sedge	NA	NA	NA	S2	7	94.6 ± 0.01	NS
P	<i>Carex livida</i>	Livid Sedge	NA	NA	NA	S2	23	48.1 ± 0.01	NS
P	<i>Juncus greenii</i>	Greene's Rush	NA	NA	NA	S2	1	50.4 ± 1.5	NS
P	<i>Juncus alpinoarticulatus ssp. americanus</i>	Northern Green Rush	NA	NA	NA	S2	9	42.2 ± 5.0	NS
P	<i>Luzula spicata</i>	Spiked Woodrush	NA	NA	NA	S2	1	50.4 ± 0.01	NS
P	<i>Lilium canadense</i>	Canada Lily	NA	NA	NA	S2	55	36.2 ± 1.2	NS
P	<i>Cypripedium parviflorum var. pubescens</i>	Yellow Lady's-slipper	NA	NA	NA	S2	31	44.2 ± 0.2	NS
P	<i>Cypripedium parviflorum var. makasin</i>	Small Yellow Lady's-Slipper	NA	NA	NA	S2	14	31.8 ± 0.01	NS
P	<i>Cypripedium reginae</i>	Showy Lady's-Slipper	NA	NA	NA	S2	185	48.1 ± 0.01	NS
P	<i>Platanthera flava var. herbiola</i>	Pale Green Orchid	NA	NA	NA	S2	2	23.4 ± 1.5	NS
P	<i>Platanthera macrophylla</i>	Large Round-Leaved Orchid	NA	NA	NA	S2	8	31.9 ± 1.67	NS
P	<i>Bromus latiglumis</i>	Broad-Glumed Brome	NA	NA	NA	S2	11	53.6 ± 0.01	NS
P	<i>Cinna arundinacea</i>	Sweet Wood Reed Grass	NA	NA	NA	S2	24	53.3 ± 0.01	NS
P	<i>Elymus wiegandii</i>	Wiegand's Wild Rye	NA	NA	NA	S2	2	56.9 ± 0.01	NS
P	<i>Sparganium hyperboreum</i>	Northern Burreed	NA	NA	NA	S2	3	9.4 ± 0.1	NS
P	<i>Cryptogramma stelleri</i>	Steller's Rockbrake	NA	NA	NA	S2	17	89.8 ± 0.01	NS
P	<i>Crataegus submollis</i>	Quebec Hawthorn	NA	NA	NA	S2?	2	67.2 ± 7.07	NS
P	<i>Osmorhiza longistylis</i>	Smooth Sweet Cicely	NA	NA	NA	S2S3	15	43.3 ± 0.01	NS
P	<i>Bidens hyperborea</i>	Estuary Beggarticks	NA	NA	NA	S2S3	1	54.7 ± 1.0	NS
P	<i>Draba arabisans</i>	Rock Whitlow-Grass	NA	NA	NA	S2S3	3	91.0 ± 1.6	NS
P	<i>Oxybasis rubra</i>	Red Goosefoot	NA	NA	NA	S2S3	1	62.3 ± 7.07	NS
P	<i>Hypericum majus</i>	Large St John's-wort	NA	NA	NA	S2S3	4	96.7 ± 0.01	NS
P	<i>Hypericum x dissimulatum</i>	Disguised St. John's-wort	NA	NA	NA	S2S3	1	13.3 ± 1.0	NS
P	<i>Cornus suecica</i>	Swedish Bunchberry	NA	NA	NA	S2S3	2	44.8 ± 6.0	NS
P	<i>Empetrum atropurpureum</i>	Purple Crowberry	NA	NA	NA	S2S3	1	43.1 ± 3.0	NS
P	<i>Euphorbia polygonifolia</i>	Seaside Spurge	NA	NA	NA	S2S3	15	48.9 ± 0.01	NS
P	<i>Myriophyllum farwellii</i>	Farwell's Water Milfoil	NA	NA	NA	S2S3	4	30.4 ± 0.25	NS
P	<i>Hedeoma pulegioides</i>	American False Pennyroyal	NA	NA	NA	S2S3	3	60.0 ± 0.2	NS
P	<i>Polygonum aviculare ssp. buxiforme</i>	Box Knotweed	NA	NA	NA	S2S3	1	96.1 ± 0.2	NS
P	<i>Polygonum oxyspermum ssp. raii</i>	Ray's Knotweed	NA	NA	NA	S2S3	8	14.6 ± 1.0	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Rumex triangulivalvis</i>	Triangular-valve Dock	NA	NA	NA	S2S3	4	52.9 ± 6.0	NS
P	<i>Anemonastrum canadense</i>	Canada Anemone	NA	NA	NA	S2S3	2	48.7 ± 3.0	NS
P	<i>Amelanchier fernaldii</i>	Fernald's Serviceberry	NA	NA	NA	S2S3	1	12.6 ± 1.0	NS
P	<i>Salix pellita</i>	Satiny Willow	NA	NA	NA	S2S3	1	39.9 ± 1.6	NS
P	<i>Carex hystericina</i>	Porcupine Sedge	NA	NA	NA	S2S3	30	48.9 ± 0.5	NS
P	<i>Eleocharis ovata</i>	Ovate Spikerush	NA	NA	NA	S2S3	1	16.7 ± 0.01	NS
P	<i>Scirpus pedicellatus</i>	Stalked Bulrush	NA	NA	NA	S2S3	3	54.0 ± 0.01	NS
P	<i>Vallisneria americana</i>	Wild Celery	NA	NA	NA	S2S3	1	4.9 ± 0.01	NS
P	<i>Spiranthes casei</i> var. <i>novaescotiae</i>	Case's Ladies'-Tresses	NA	NA	NA	S2S3	3	37.2 ± 1.89	NS
P	<i>Spiranthes lucida</i>	Shining Ladies'-Tresses	NA	NA	NA	S2S3	33	77.0 ± 1.65	NS
P	<i>Calamagrostis stricta</i>	Slim-stemmed Reed Grass	NA	NA	NA	S2S3	1	74.3 ± 0.01	NS
P	<i>Potamogeton friesii</i>	Fries' Pondweed	NA	NA	NA	S2S3	6	57.9 ± 0.01	NS
P	<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern	NA	NA	NA	S2S3	5	89.4 ± 10.0	NS
P	<i>Woodsia glabella</i>	Smooth Cliff Fern	NA	NA	NA	S2S3	2	89.4 ± 7.07	NS
P	<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Narrow Triangle Moonwort	NA	NA	NA	S2S3	6	74.7 ± 0.2	NS
P	<i>Botrychium simplex</i>	Least Moonwort	NA	NA	NA	S2S3	3	75.6 ± 1.0	NS
P	<i>Thuja occidentalis</i>	Eastern White Cedar	NA	NA	Vulnerable	S3	21	52.9 ± 0.2	NS
P	<i>Angelica atropurpurea</i>	Purple-stemmed Angelica	NA	NA	NA	S3	12	52.3 ± 0.01	NS
P	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	NA	NA	NA	S3	15	60.1 ± 7.07	NS
P	<i>Senecio pseudoarnica</i>	Seabeach Ragwort	NA	NA	NA	S3	28	12.5 ± 0.2	NS
P	<i>Symphyotrichum boreale</i>	Boreal Aster	NA	NA	NA	S3	69	72.9 ± 0.01	NS
P	<i>Symphyotrichum ciliolatum</i>	Fringed Blue Aster	NA	NA	NA	S3	3	17.2 ± 0.01	NS
P	<i>Impatiens pallida</i>	Pale Jewelweed	NA	NA	NA	S3	9	33.7 ± 7.07	NS
P	<i>Caulophyllum thalictroides</i>	Blue Cohosh	NA	NA	NA	S3	30	43.2 ± 0.01	NS
P	<i>Betula michauxii</i>	Michaux's Dwarf Birch	NA	NA	NA	S3	20	9.9 ± 0.01	NS
P	<i>Betula pumila</i>	Bog Birch	NA	NA	NA	S3	2	75.7 ± 0.01	NS
P	<i>Palustricodon aparinoides</i>	Marsh Bellflower	NA	NA	NA	S3	9	42.4 ± 0.5	NS
P	<i>Lobelia kalmii</i>	Brook Lobelia	NA	NA	NA	S3	75	69.1 ± 0.01	NS
P	<i>Sagina nodosa</i>	Knotted Pearlwort	NA	NA	NA	S3	3	42.8 ± 5.0	NS
P	<i>Sagina nodosa</i> ssp. <i>borealis</i>	Knotted Pearlwort	NA	NA	NA	S3	2	99.1 ± 0.01	NS
P	<i>Stellaria longifolia</i>	Long-leaved Starwort	NA	NA	NA	S3	1	57.3 ± 0.01	NS
P	<i>Triosteum aurantiacum</i>	Orange-fruited Tinker's Weed	NA	NA	NA	S3	181	43.1 ± 0.01	NS
P	<i>Crassula aquatica</i>	Water Pygmyweed	NA	NA	NA	S3	2	66.5 ± 7.07	NS
P	<i>Cuscuta acadiana</i>	Acadian Dodder	NA	NA	NA	S3	7	48.9 ± 7.07	NS
P	<i>Halenia deflexa</i>	Spurred Gentian	NA	NA	NA	S3	23	38.4 ± 1.0	NS
P	<i>Geranium bicknellii</i>	Bicknell's Crane's-bill	NA	NA	NA	S3	1	53.1 ± 0.2	NS
P	<i>Myriophyllum verticillatum</i>	Whorled Water Milfoil	NA	NA	NA	S3	5	73.0 ± 0.01	NS
P	<i>Utricularia resupinata</i>	Inverted Bladderwort	NA	NA	NA	S3	1	89.8 ± 0.8	NS
P	<i>Epilobium densum</i>	Downy Willowherb	NA	NA	NA	S3	13	34.1 ± 0.5	NS
P	<i>Persicaria arifolia</i>	Halberd-leaved Tearthumb	NA	NA	NA	S3	9	15.8 ± 0.01	NS
P	<i>Plantago rugelii</i>	Rugel's Plantain	NA	NA	NA	S3	1	85.8 ± 0.01	NS
P	<i>Samolus parviflorus</i>	Seaside Brookweed	NA	NA	NA	S3	15	50.4 ± 0.01	NS
P	<i>Pyrola minor</i>	Lesser Pyrola	NA	NA	NA	S3	4	90.1 ± 2.0	NS

Table 8: Species within 100 km (*continued*)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Anemone quinquefolia</i>	Wood Anemone	NA	NA	NA	S3	8	36.5 ± 0.4	NS
P	<i>Anemone virginiana</i>	Virginia Anemone	NA	NA	NA	S3	31	51.1 ± 0.01	NS
P	<i>Caltha palustris</i>	Yellow Marsh Marigold	NA	NA	NA	S3	3	56.1 ± 0.01	NS
P	<i>Galium kamtschaticum</i>	Northern Wild Licorice	NA	NA	NA	S3	6	84.8 ± 0.2	NS
P	<i>Galium labradoricum</i>	Labrador Bedstraw	NA	NA	NA	S3	48	72.9 ± 0.01	NS
P	<i>Salix pedicellaris</i>	Bog Willow	NA	NA	NA	S3	6	75.1 ± 0.01	NS
P	<i>Saxifraga paniculata</i> ssp. <i>laestadii</i>	Laestadius' Saxifrage	NA	NA	NA	S3	1	86.6 ± 7.07	NS
P	<i>Tiarella stolonifera</i>	Stoloniferous Foamflower	NA	NA	NA	S3	2	45.9 ± 3.81	NS
P	<i>Laportea canadensis</i>	Canada Wood Nettle	NA	NA	NA	S3	12	43.2 ± 3.0	NS
P	<i>Pilea pumila</i>	Dwarf Clearweed	NA	NA	NA	S3	1	79.8 ± 6.0	NS
P	<i>Viola nephrophylla</i>	Northern Bog Violet	NA	NA	NA	S3	8	58.6 ± 0.01	NS
P	<i>Carex adusta</i>	Lesser Brown Sedge	NA	NA	NA	S3	3	10.1 ± 0.01	NS
P	<i>Carex bebbii</i>	Bebb's Sedge	NA	NA	NA	S3	25	46.0 ± 7.07	NS
P	<i>Carex castanea</i>	Chestnut Sedge	NA	NA	NA	S3	15	72.7 ± 0.01	NS
P	<i>Carex cryptolepis</i>	Hidden-scaled Sedge	NA	NA	NA	S3	12	41.8 ± 1.5	NS
P	<i>Carex eburnea</i>	Bristle-leaved Sedge	NA	NA	NA	S3	114	54.8 ± 5.0	NS
P	<i>Carex hirtifolia</i>	Pubescent Sedge	NA	NA	NA	S3	14	43.3 ± 0.01	NS
P	<i>Carex lupulina</i>	Hop Sedge	NA	NA	NA	S3	13	31.7 ± 0.2	NS
P	<i>Carex rosea</i>	Rosy Sedge	NA	NA	NA	S3	5	35.5 ± 0.01	NS
P	<i>Carex tenera</i>	Tender Sedge	NA	NA	NA	S3	3	42.6 ± 3.5	NS
P	<i>Carex tribuloides</i>	Blunt Broom Sedge	NA	NA	NA	S3	13	12.6 ± 0.01	NS
P	<i>Carex atratiformis</i>	Scabrous Black Sedge	NA	NA	NA	S3	2	89.4 ± 7.07	NS
P	<i>Eleocharis flavescens</i> var. <i>olivacea</i>	Bright-green Spikerush	NA	NA	NA	S3	3	47.5 ± 0.1	NS
P	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush	NA	NA	NA	S3	15	76.6 ± 0.01	NS
P	<i>Eriophorum gracile</i>	Slender Cottongrass	NA	NA	NA	S3	8	10.7 ± 1.0	NS
P	<i>Schoenoplectus americanus</i>	Olney's Bulrush	NA	NA	NA	S3	1	50.4 ± 0.01	NS
P	<i>Juncus stygius</i> ssp. <i>americanus</i>	Moor Rush	NA	NA	NA	S3	28	71.8 ± 1.0	NS
P	<i>Oreojuncus trifidus</i>	Highland Rush	NA	NA	NA	S3	1	92.6 ± 0.75	NS
P	<i>Cypripedium parviflorum</i>	Yellow Lady's-slipper	NA	NA	NA	S3	128	31.8 ± 0.01	NS
P	<i>Goodyera pubescens</i>	Downy Rattlesnake-Plantain	NA	NA	NA	S3	1	36.6 ± 0.01	NS
P	<i>Neottia bifolia</i>	Southern Twayblade	NA	NA	NA	S3	57	6.3 ± 0.2	NS
P	<i>Platanthera hookeri</i>	Hooker's Orchid	NA	NA	NA	S3	3	39.6 ± 0.1	NS
P	<i>Platanthera huronensis</i>	Fragrant Green Orchid	NA	NA	NA	S3	6	55.6 ± 0.2	NS
P	<i>Dichanthelium linearifolium</i>	Narrow-leaved Panic Grass	NA	NA	NA	S3	1	96.8 ± 7.07	NS
P	<i>Poa glauca</i>	Glaucous Blue Grass	NA	NA	NA	S3	8	89.8 ± 0.01	NS
P	<i>Stuckenia filiformis</i>	Thread-leaved Pondweed	NA	NA	NA	S3	24	52.9 ± 0.01	NS
P	<i>Potamogeton praelongus</i>	White-stemmed Pondweed	NA	NA	NA	S3	11	33.7 ± 10.0	NS
P	<i>Potamogeton richardsonii</i>	Richardson's Pondweed	NA	NA	NA	S3	6	41.5 ± 0.6	NS
P	<i>Potamogeton zosteriformis</i>	Flat-stemmed Pondweed	NA	NA	NA	S3	1	98.9 ± 7.07	NS
P	<i>Asplenium viride</i>	Green Spleenwort	NA	NA	NA	S3	21	55.9 ± 0.2	NS
P	<i>Dryopteris fragrans</i>	Fragrant Wood Fern	NA	NA	NA	S3	1	35.6 ± 7.07	NS
P	<i>Polystichum lonchitis</i>	Northern Holly Fern	NA	NA	NA	S3	5	71.2 ± 5.0	NS
P	<i>Sceptridium dissectum</i>	Dissected Moonwort	NA	NA	NA	S3	3	54.7 ± 1.0	NS
P	<i>Polypodium appalachianum</i>	Appalachian Polypody	NA	NA	NA	S3	7	32.4 ± 0.01	NS

Table 8: Species within 100 km (continued)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Persicaria amphibia</i> var. <i>emersa</i>	Long-root Smartweed	NA	NA	NA	S3?	1	53.5 ± 0.01	NS
P	<i>Diphasiastrum x sabinifolium</i>	Savin-leaved Ground-cedar	NA	NA	NA	S3?	3	61.7 ± 5.0	NS
P	<i>Bidens vulgata</i>	Tall Beggarticks	NA	NA	NA	S3S4	1	86.9 ± 0.01	NS
P	<i>Erigeron hyssopifolius</i>	Hyssop-leaved Fleabane	NA	NA	NA	S3S4	59	51.0 ± 0.2	NS
P	<i>Hieracium paniculatum</i>	Panicled Hawkweed	NA	NA	NA	S3S4	1	75.1 ± 0.2	NS
P	<i>Bidens beckii</i>	Water Beggarticks	NA	NA	NA	S3S4	7	46.8 ± 0.5	NS
P	<i>Packera paupercula</i>	Balsam Groundsel	NA	NA	NA	S3S4	139	46.5 ± 0.2	NS
P	<i>Atriplex glabriuscula</i> var. <i>franktonii</i>	Frankton's Saltbush	NA	NA	NA	S3S4	2	38.4 ± 0.01	NS
P	<i>Shepherdia canadensis</i>	Soapberry	NA	NA	NA	S3S4	28	89.0 ± 0.01	NS
P	<i>Vaccinium boreale</i>	Northern Blueberry	NA	NA	NA	S3S4	12	12.6 ± 1.0	NS
P	<i>Vaccinium cespitosum</i>	Dwarf Bilberry	NA	NA	NA	S3S4	38	36.1 ± 0.01	NS
P	<i>Fagus grandifolia</i>	American Beech	NA	NA	NA	S3S4	433	6.0 ± 0.01	NS
P	<i>Proserpinaca pectinata</i>	Comb-leaved Mermaidweed	NA	NA	NA	S3S4	2	96.2 ± 1.0	NS
P	<i>Decodon verticillatus</i>	Swamp Loosestrife	NA	NA	NA	S3S4	1	74.6 ± 7.07	NS
P	<i>Persicaria pensylvanica</i>	Pennsylvania Smartweed	NA	NA	NA	S3S4	15	50.2 ± 0.01	NS
P	<i>Fallopia scandens</i>	Climbing False Buckwheat	NA	NA	NA	S3S4	25	37.9 ± 0.01	NS
P	<i>Rumex pallidus</i>	Seabeach Dock	NA	NA	NA	S3S4	1	55.8 ± 0.01	NS
P	<i>Fragaria vesca</i> ssp. <i>americana</i>	Woodland Strawberry	NA	NA	NA	S3S4	50	56.4 ± 0.01	NS
P	<i>Potentilla canadensis</i>	Canada Cinquefoil	NA	NA	NA	S3S4	1	43.2 ± 2.6	NS
P	<i>Galium aparine</i>	Common Bedstraw	NA	NA	NA	S3S4	9	50.8 ± 0.01	NS
P	<i>Geocaulon lividum</i>	Northern Comandra	NA	NA	NA	S3S4	83	3.4 ± 0.01	NS
P	<i>Limosella australis</i>	Southern Mudwort	NA	NA	NA	S3S4	3	72.5 ± 5.0	NS
P	<i>Ulmus americana</i>	White Elm	NA	NA	NA	S3S4	64	35.9 ± 0.01	NS
P	<i>Viola selkirkii</i>	Great-Spurred Violet	NA	NA	NA	S3S4	1	42.4 ± 1.0	NS
P	<i>Triglochin gaspensis</i>	Gaspé Arrowgrass	NA	NA	NA	S3S4	21	44.4 ± 0.01	NS
P	<i>Juncus acuminatus</i>	Sharp-Fruit Rush	NA	NA	NA	S3S4	4	55.3 ± 0.01	NS
P	<i>Juncus subcaudatus</i>	Woods-Rush	NA	NA	NA	S3S4	10	6.0 ± 0.01	NS
P	<i>Luzula parviflora</i> ssp. <i>melanocarpa</i>	Black-fruited Woodrush	NA	NA	NA	S3S4	3	54.2 ± 0.01	NS
P	<i>Goodyera repens</i>	Lesser Rattlesnake-plantain	NA	NA	NA	S3S4	14	58.5 ± 0.01	NS
P	<i>Liparis loeselii</i>	Loesel's Twayblade	NA	NA	NA	S3S4	14	32.9 ± 0.01	NS
P	<i>Platanthera obtusata</i>	Blunt-leaved Orchid	NA	NA	NA	S3S4	13	19.7 ± 0.01	NS
P	<i>Platanthera orbiculata</i>	Small Round-leaved Orchid	NA	NA	NA	S3S4	5	33.1 ± 0.01	NS
P	<i>Alopecurus aequalis</i>	Short-awned Foxtail	NA	NA	NA	S3S4	5	57.9 ± 0.01	NS
P	<i>Dichanthelium clandestinum</i>	Deer-tongue Panic Grass	NA	NA	NA	S3S4	99	36.3 ± 0.01	NS
P	<i>Koeleria spicata</i>	Narrow False Oats	NA	NA	NA	S3S4	2	93.0 ± 0.01	NS
P	<i>Asplenium trichomanes</i>	Maidenhair Spleenwort	NA	NA	NA	S3S4	4	39.6 ± 0.2	NS
P	<i>Equisetum pratense</i>	Meadow Horsetail	NA	NA	NA	S3S4	14	72.7 ± 0.01	NS
P	<i>Diphasiastrum complanatum</i>	Northern Ground-cedar	NA	NA	NA	S3S4	3	56.5 ± 0.2	NS
P	<i>Diphasiastrum sitchense</i>	Sitka Ground-cedar	NA	NA	NA	S3S4	21	34.5 ± 0.01	NS
P	<i>Huperzia appressa</i>	Mountain Firmoss	NA	NA	NA	S3S4	1	87.0 ± 1.0	NS
P	<i>Sceptridium multifidum</i>	Leathery Moonwort	NA	NA	NA	S3S4	4	20.2 ± 0.2	NS
P	<i>Botrychium matricariifolium</i>	Daisy-leaved Moonwort	NA	NA	NA	S3S4	3	57.7 ± 10.0	NS

Table 8: Species within 100 km (continued)

Taxonomic Group	Scientific Name	Common Name	COSEWIC	SARA	Prov Legal Prot	Prov Rarity Rank	# recs	Distance (km)	Prov
P	<i>Viola canadensis</i>	Canada Violet	NA	NA	NA	SH	1	91.6 ± 0.25	NS
P	<i>Iris prismatica</i>	Slender Blue Flag	NA	NA	NA	SH	2	40.8 ± 7.07	NS

5.1 Source Bibliography (100 km)

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.

Table 9: Source Bibliography (100 km)

# recs	Citation
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3950	East Coast Aquatics Inc. 2023. Year 3 (2022) Wood Turtle Monitoring Hwy 104 Sutherlands River To Antigonish.
3733	Eaton, S. 2014. Nova Scotia Wood Turtle Database. Environment and Climate Change Canada, 4843 recs.
2755	Pardieck, K.L., Ziolkowski Jr., D.J., Lutmerding, M., Aponte, V.I., and Hudson, M-A.R. 2020. North American Breeding Bird Survey Dataset 1966 - 2019: U.S. Geological Survey data release, https://doi.org/10.5066/P9J6QUF6
1819	iNaturalist.ca. 2023. iNaturalist Data Export December 2022. iNaturalist.org; iNaturalist.ca, Web site: 128634 recs.
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318	Belliveau, A.G. 2020. E.C. Smith Herbarium and Atlantic Canada Conservation Data Centre Fieldwork 2019, 2020. E.C. Smith Herbarium.
314	Benjamin, L.K. (compiler). 2012. Significant Habitat & Species Database. Nova Scotia Dept Natural Resources, 4965 recs.
313	Wilhelm, S.I. et al. 2011. Colonial Waterbird Database. Canadian Wildlife Service, Sackville, 2698 sites, 9718 recs (8192 obs).
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Table 9: Source Bibliography (100 km) (*continued*)

# recs	Citation
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165	iNaturalist.ca. 2024. iNaturalist Data Export December 2023 botany records. iNaturalist.org; iNaturalist.ca.
153	Newell, R.E. 2000. E.C. Smith Herbarium Database. Acadia University, Wolfville NS, 7139 recs.
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96	Newell, R.E. 2005. E.C. Smith Digital Herbarium. E.C. Smith Herbarium, Irving Biodiversity Collection, Acadia University, Web site: http://luxor.acadiau.ca/library/Herbarium/project/ . 582 recs.
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83	Toms, B. 2018. Bat Species data from www.batconservation.ca for Nova Scotia. Mersey Tobeatic Research Institute, 547 Records.
78	Belliveau, A.G. 2018. Atlantic Canada Conservation Data Centre Fieldwork 2017. Atlantic Canada Conservation Data Centre.
76	Chapman-Lam, C.J. 2021. Atlantic Canada Conservation Data Centre 2020 botanical fieldwork. Atlantic Canada Conservation Data Centre, 17309 recs.
72	Benjamin, L.K. 2012. NSDNR fieldwork & consultant reports 2008-2012. Nova Scotia Dept Natural Resources, 196 recs.
72	Klymko, J. 2018. Maritimes Butterfly Atlas database. Atlantic Canada Conservation Data Centre.
71	Blaney, C.S.; Korol, J.B.; Crowell, I. 2023. 2022 AC CDC Botany program field data. Atlantic Canada Conservation Data Centre, 5293 records.
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67	MacDonald, E.C. 2018. Piping Plover nest records from 2010-2017. Canadian Wildlife Service.
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Table 9: Source Bibliography (100 km) (*continued*)

# recs	Citation
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34	Hallet, Tristan. 2025. Botany Fieldwork. Atlantic Canada Conservation Data Centre, 5157 recs.
34	Munro, Marian K. Tracked lichen specimens, Nova Scotia Provincial Museum of Natural History Herbarium. Atlantic Canada Conservation Data Centre. 2019.
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24	Neily, T.H. 2019. Tom Neily NS Bryophyte records (2009-2013). T.H. Neily, Atlantic Canada Conservation Data Centre, 1029 specimen records.
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18	Adams, J. & Herman, T.B. 1998. Thesis, Unpublished map of <i>C. insculpta</i> sightings. Acadia University, Wolfville NS, 88 recs.
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17	Canadian Wildlife Service, Dartmouth. 2010. Piping Plover censuses 2007-09, 304 recs.
17	Nova Scotia Nature Trust. 2013. Nova Scotia Nature Trust 2013 Species records. Nova Scotia Nature Trust, 95 recs.
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16	Blaney, C.S.; Spicer, C.D. 2001. Fieldwork 2001. Atlantic Canada Conservation Data Centre. Sackville NB, 981 recs.
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Table 9: Source Bibliography (100 km) (*continued*)

# recs	Citation
16	Porter, C.J.M. 2014. Field work data 2007-2014. Nova Scotia Nature Trust, 96 recs.
16	Rock, J. 2020. Atlantic Canada Piping Plover field surveys: Nesting pairs by beach, 2018-2020. Environment and Climate Change Canada - Canadian Wildlife Service, 216 records.
15	Brunelle, P.-M. (compiler). 2009. ADIP/MDDS Odonata Database: data to 2006 inclusive. Atlantic Dragonfly Inventory Program (ADIP), 24200 recs.
15	Liv Monck-Whipp. 2024. Incidental observations from Nova Scotia Nature Trust 2024 field season. Nova Scotia Nature Trust.
15	Williams, M. Cape Breton University Digital Herbarium. Cape Breton University Digital Herbarium. 2013.
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14	Churchill, J.L. 2019. Atlantic Canada Conservation Data Centre Fieldwork 2019. Atlantic Canada Conservation Data Centre.
14	Crowell, Iain. 2023. Field data - 2023. Atlantic Canada Conservation Data Centre.
14	Nickerson, Shayla. 2020. UINR Field Observations 2020-2021. Unama'ki Institute of Natural Resources.
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12	Downes, C. 1998-2000. Breeding Bird Survey Data. Canadian Wildlife Service, Ottawa, 111 recs.
12	Newell, R.E. 2004. Assessment and update status report on the New Jersey Rush (<i>Juncus caesariensis</i>) in Canada. Committee on the Status of Endangered Wildlife in Canada, 15 recs.
12	Power, T.; Gilhen, J. 2018. Status, distribution, and nesting ecology of Snapping Turtle (<i>Chelydra serpentina</i>) on Cape Breton Island, Nova Scotia, Canada. <i>The Canadian Field Naturalist</i> , 132(1): 8-17.
11	Environment and Climate Change Canada. 2025. Piping Plover Census records from 2023-2024. Canadian Wildlife Service, 134 records.
11	Frances MacKinnon. 2023. SAR records from Bear Head Energy EA. NS Department of Natural Resources and Renewables.
10	Cameron, R.P. 2013. 2013 rare species field data. Nova Scotia Department of Environment, 71 recs.
10	e-Butterfly. 2016. Export of Maritimes records and photos. Maxim Larrivee, Sambo Zhang (ed.) e-butterfly.org.
10	McNeil, J.A. 2020. Snapping Turtle and Eastern Painted Turtle records, 2020. Mersey Tobeatic Research Institute.
10	Paquet, Julie. 2024. Atlantic Canada Piping Plover census data from 2021 and 2022. Environment and Climate Change Canada - Canadian Wildlife Service, 140 records.
9	Bryson, I. 2020. Nova Scotia and Newfoundland rare species observations, 2018-2020. Nova Scotia Environment.
9	Cameron, R.P. 2012. Rob Cameron 2012 vascular plant data. NS Department of Environment, 30 recs.
9	Unama'ki Institute of Natural Resources. 2022. Wisqoq (Black Ash) records in Port Hood, NS. pers. comm., 9 records.
9	White, S. 2018. Notable species sightings, 2016-2017. East Coast Aquatics.
9	Whittam, R.M. 1999. Status Report on the Roseate Tern (update) in Canada. Committee on the Status of Endangered Wildlife in Canada, 36 recs.
8	Archibald, D.R. 2003. NS Freshwater Mussel Fieldwork. Nova Scotia Dept Natural Resources, 213 recs.
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8	Chaput, G. 2002. Atlantic Salmon: Maritime Provinces Overview for 2001. Dept of Fisheries & Oceans, Atlantic Region, Science Stock Status Report D3-14. 39 recs.
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7	Korol, Burke. 2023. Field data - 2023. Atlantic Canada Conservation Data Centre.
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Table 9: Source Bibliography (100 km) (*continued*)

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7	Paquet, Julie. 2019. Atlantic Canada Shorebird Survey ACSS database for 2019. Environment Canada, Canadian Wildlife Service.
7	Robinson, S.L. 2011. 2011 ND dune survey field data. Atlantic Canada Conservation Data Centre, 2715 recs.
6	Basquill, S.P. 2012. 2012 Bryophyte specimen data. Nova Scotia Department of Natural Resources, 37 recs.
6	Belland, R.J. Maritimes moss records from various herbarium databases. 2014.
6	Gallop, John. 2021. Sheet Harbour rare lichen observations. McCallum Environmental.
6	Munro, Marian K. Nova Scotia Provincial Museum of Natural History Herbarium Database. Nova Scotia Provincial Museum of Natural History, Halifax, Nova Scotia. 2014.
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5	Blaney, C.S.; Mazerolle, D.M.; Oberndorfer, E. 2007. Fieldwork 2007. Atlantic Canada Conservation Data Centre. Sackville NB, 13770 recs.
5	Cameron, R.P. 2009. Cyanolichen database. Nova Scotia Environment & Labour, 1724 recs.
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4	Francis MacKinnon. 2023. Multiple Environmental Assessment studies in NS - 2023. Nova Scotia Department of Natural Resources.
4	Gillis, J. 2015. Rare plant records from Cape Breton gypsum sites. Pers. comm., 25 rare plant records.
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4	McNeil, Jeffie. 2023. 2022 Turtle Records. Mersey Tobeatic Research Institute.
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4	Robicheau, Charity. 2023. Field data from 2023. Atlantic Canada Conservation Data Centre, 14 records.
4	Robinson, S.L. 2014. 2013 Field Data. Atlantic Canada Conservation Data Centre.
4	Rousseau, J. 1938. Notes Floristiques sur l'est de la Nouvelle-Ecosse in Contributions de l'Institut Botanique de l'Universite de Montreal. Universite de Montreal, 32, 13-62. 11 recs.
4	Skomorowski, Joanna. 2024. 2022 Nova Scotia Nature Trust SAR occurrences. Nova Scotia Nature Trust, 58 records.
4	Westwood, A., Staicer, C. 2016. Nova Scotia landbird Species at Risk observations. Dalhousie University.
3	Anonymous. 2023. Peltigera Hydrotheria records. Anonymous, 3 recs.
3	Basquill, S.P. 2003. Fieldwork 2003. Atlantic Canada Conservation Data Centre, Sackville NB, 69 recs.
3	Basquill, S.P. 2012. 2012 rare vascular plant field data. Nova Scotia Department of Natural Resources, 37 recs.
3	Blaney, C.S.; Mazerolle, D.M. 2011. Fieldwork 2011. Atlantic Canada Conservation Data Centre. Sackville NB.
3	Blaney, C.S.; Spicer, C.D.; Mazerolle, D.M. 2005. Fieldwork 2005. Atlantic Canada Conservation Data Centre. Sackville NB, 2333 recs.

Table 9: Source Bibliography (100 km) (*continued*)

# recs	Citation
3	Cameron, R.P. 2014. 2013-14 rare species field data. Nova Scotia Department of Environment, 35 recs.
3	Cameron, R.P. 2018. <i>Degelia plumbea</i> records. Nova Scotia Environment.
3	Feltham, Carter. 2022. Monarch (<i>Danaus plexippus</i>) and Milkweed MTRI records from the 2022 Field Season. Mersey Tobeatic Research Institute.
3	Klymko, J. 2025. John Klymko 2024 field data. Atlantic Canada Conservation Data Centre.
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Table 9: Source Bibliography (100 km) (*continued*)

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APPENDIX I
SURFACE WATER AND FISH & FISH HABITAT PHOTO LOG



Photo 1: A representative photo of WC1.



Photo 2: A representative photo of WC3.



Photo 3: A representative photo of WC4.



Photo 4: A representative photo of WC5.



Photo 5: A representative photo of WC6.



Photo 6: A representative photo of WC7.



Photo 7: A representative photo of WC8.

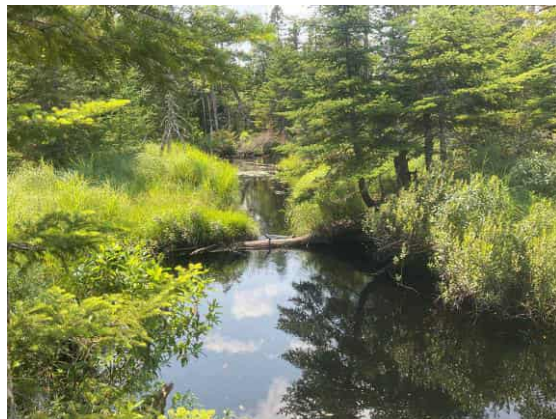


Photo 8: A representative photo of WC9.

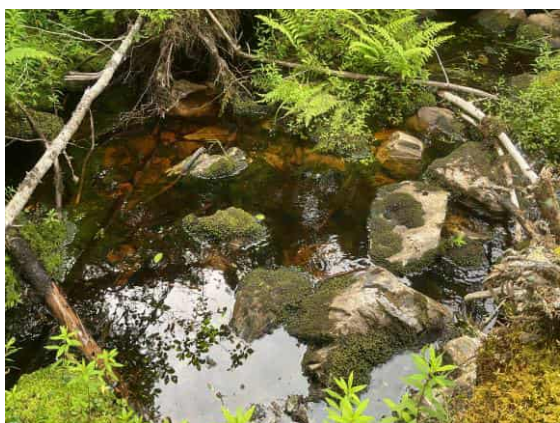


Photo 9: A representative photo of WC10.



Photo 10: A representative photo of WC11.



Photo 11: A representative photo of WC12.



Photo 12: A representative photo of WC13.



Photo 13: A representative photo of WC14.



Photo 14: A representative photo of WC15.



Photo 15: A representative photo of WC16.



Photo 16: A representative photo of WC17.

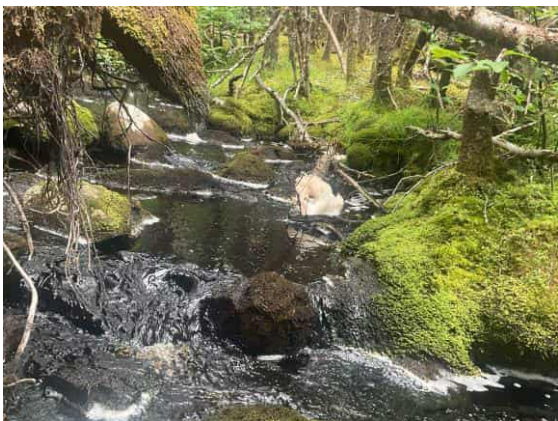


Photo 17: A representative photo of WC18.



Photo 18: A representative photo of WC19.



Photo 19: A representative photo of WC20.



Photo 20: A representative photo of WC21.



Photo 21: A representative photo of WC22.



Photo 22: A representative photo of WC23.



Photo 23: A representative photo of WC24.



Photo 24: A representative photo of WC25.



Photo 25: A representative photo of WC26.



Photo 26: A representative photo of WC27.



Photo 27: A representative photo of WC28.

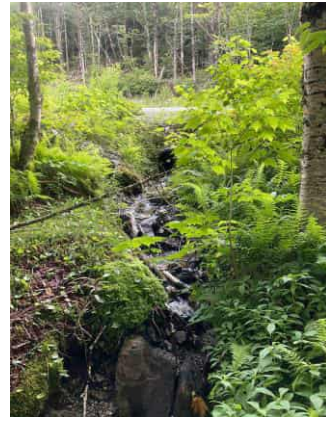


Photo 28: A representative photo of WC29.



Photo 29: A representative photo of WC30.



Photo 30: A representative photo of WC31.



Photo 31: A representative photo of WC32.



Photo 32: A representative photo of WC33.



Photo 33: A representative photo of WC34.



Photo 34: A representative photo of WC35.



Photo 35: A representative photo of WC36.



Photo 36: A representative photo of WC37.



Photo 37: A representative photo of WC38.



Photo 38: A representative photo of WC39.



Photo 39: A representative photo of WC40.



Photo 40: A representative photo of WC41.



Photo 41: A representative photo of WC42.



Photo 42: A representative photo of WC43.



Photo 43: A representative photo of WC44.



Photo 44: A representative photo of WC45.



Photo 45: A representative photo of WC46.



Photo 46: A representative photo of WC47.



Photo 47: A representative photo of WC48.



Photo 48: A representative photo of WC49.



Photo 49: A representative photo of WC50.



Photo 50: A representative photo of WC51.



Photo 51: A representative photo of WC52.



Photo 52: A representative photo of WC53.



Photo 53: A representative photo of WC54.



Photo 54: A representative photo of WC55.



Photo 55: A representative photo of WC56.



Photo 56: A representative photo of WC57.



Photo 57: A representative photo of WC58.



Photo 58: A representative photo of WC59.



Photo 59: A representative photo of WC60.



Photo 60: A representative photo of WC61.



Photo 61: A representative photo of WC62.



Photo 62: A representative photo of WC63.



Photo 63: A representative photo of WC64.



Photo 64: A representative photo of WC65.



Photo 65: A representative photo of WC66.



Photo 66: A representative photo of WC67.



Photo 67: A representative photo of WC68.



Photo 68: A representative photo of WC69.



Photo 69: A representative photo of WC71.



Photo 70: A representative photo of WC72.



Photo 71: A representative photo of WC73.

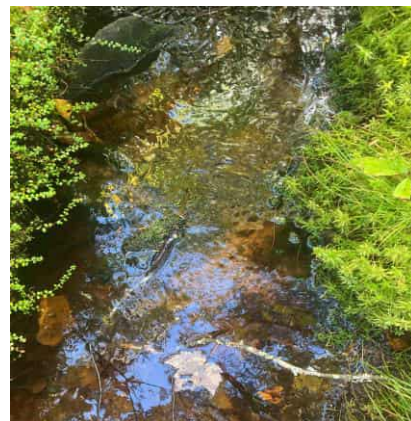


Photo 72: A representative photo of WC74.



Photo 73: A representative photo of WC75.



Photo 74: A representative photo of WC76.



Photo 75: A representative photo of WC77.



Photo 76: A representative photo of WC78.



Photo 77: A representative photo of WC79.



Photo 78: A representative photo of WC80.



Photo 79: A representative photo of WC81.



Photo 80: A representative photo of WC82.



Photo 81: A representative photo of WC83.



Photo 82: A representative photo of WC84.



Photo 83: A representative photo of WC85.



Photo 84: A representative photo of WC86.



Photo 85: A representative photo of WC87.



Photo 86: A representative photo of WC89.



Photo 87: A representative photo of WC90.



Photo 88: A representative photo of WC91.



Photo 89: A representative photo of WC92.



Photo 90: A representative photo of WC93.



Photo 91: A representative photo of WC94.



Photo 92: A representative photo of WC95.



Photo 93: A representative photo of WC96.



Photo 94: A representative photo of WC97.



Photo 95: A representative photo of WC98.



Photo 96: A representative photo of WC99.



Photo 97: A representative photo of electrofishing Site 1.



Photo 98: A representative photo of electrofishing Site 2.



Photo 99: A representative photo of electrofishing Site 3.



Photo 100: A representative photo of electrofishing Site 4.

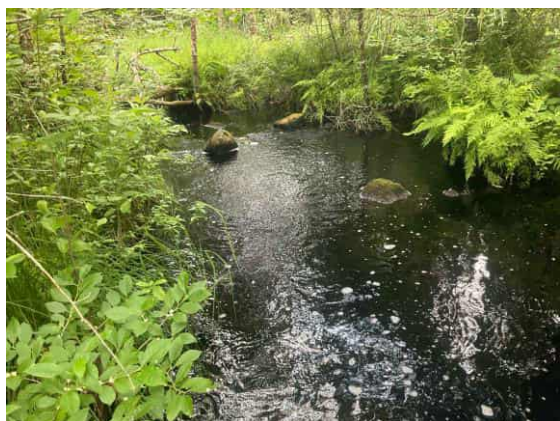


Photo 101: A representative photo of electrofishing Site 5.



Photo 102: A representative photo of an American eel (*Anguilla rostrata*).



Photo 103: A representative photo of a brook trout (*Salvelinus fontinalis*).