APPENDIX F
MOOSE SURVEY METHODOLOGY

Snow-tracking surveys are an effective method of evaluating the terrestrial fauna community in an area. Survey areas within the Project site were developed with the following considerations:

- Coverage of the Project site: Survey areas were designed to cover as much of the Project site as possible;
- Habitat: Multiple habitats were targeted including mature softwood forest, young hardwood forest, mixed wood forest, and wetlands;
- Development footprint: Survey areas focused on land incorporating the development footprint (access roads and turbines), to the extent possible; and
- Access: The Project site incorporates a large tract of land which is only accessible via a limited number of logging roads. Transects were designed to start and finish at existing logging roads/access roads.

Two pre-construction surveys were completed on January 26 and March 25, 2013 using the snow-tracking methodology and were conducted 1 to 7 days after a ≥ 10 cm snowfall. Survey areas were located across the Project site, and included nine 0.67 km transects, and a 3.15 km transect along an existing road that runs along the north-eastern Project site boundary (Drawing F1). Surveys were conducted by a team of biologists with a demonstrable knowledge of mammalian animal sign and the ability to distinguish Mainland moose sign from that of other species.

All transects were surveyed on-foot. All wildlife sign, primarily tracks but also including foraging sign, scat, and rubs, encountered during the surveys were identified to species, where possible. In addition, the locations of all noteworthy observations were recorded using GPS receivers capable of sub 5 m accuracy, with representative photos taken.

N

Pockwock Lake

Hamilton Pond

Alt 01

01

02

Alt 02

03

04

05

Little Pockwock Lake

Lizard Lake

Tomahawk Lake

Beaver Lake

Pockwock Rd

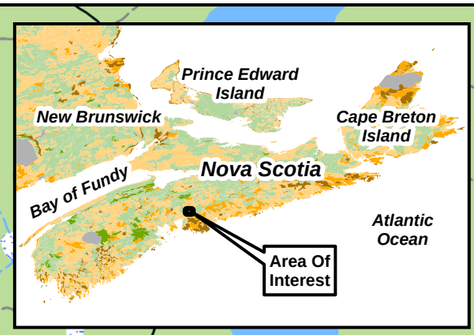
Anderson Rd

Orchard Dr

Daisywood Dr

Slate Dr

Rockcrest Dr



0 100 200 400 600 800 1,000 1,200 Metres

Notes:

1. Reference: Digital Topographic Mapping By Nova Scotia Geomatics Centre.
2. Projection: NAD83(CSRS), UTM Zone 20 North.

Legend:

- Proposed Turbine
- Alternate Turbine
- Moose Survey Transects
- Project Site Boundary
- Building
- Major Roads and Highways
- Public Roads
- Access Roads / Trails
- Existing Pipeline
- Existing Transmission Lines
- Large Structure
- Mapped Stream
- Mapped Indefinite Stream
- Water Bodies
- Mapped Reservoir
- Mapped Wet Area
- Cleared Area

Moose Survey Transects

Chebucto WindField
Community Owned. Naturally.

Community Wind Farms Inc.

juwi

Strum CONSULTING

Date:	Project #:
April 2013	12-4326
Scale: 1:15,000	Drawing #: 1
Drawn By: H. Serhan	
Checked By: A. Walter	

APPENDIX G
BIRD SURVEY METHODOLOGY AND RESULTS

BIRD MONITORING PROTOCOL
PRE-CONSTRUCTION SURVEYS

Pre-construction (baseline) avian field surveys were completed to complement desktop information and to characterize the pre-construction bird community at the Project site throughout the year. These surveys were carried out by an expert birder and were designed with the purpose of collecting data on species presence, abundance, and habitat usage at the Project site during the months coinciding with spring migration, breeding, fall migration and the winter season. All field surveys were designed to conform to protocols outlined in the document "Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds" (CWS 2007).

Surveys were completed in March, April, May, June, July, October, and November 2012. The following information was recorded at each survey location:

- Weather conditions (temperature, wind speed, cloud cover, and presence of precipitation);
- Date and time of day;
- Habitat description; and
- GPS coordinates of the survey location.

Surveys employed point count, area search, and stopover count methodologies depending on the season and target species. Regardless of survey methodology, the following elements were consistent among surveys:

- surveys were four hours in duration, commencing as close to sunrise as possible;
- species presence and abundance were recorded based on visual and acoustic observations;
- approximate distance to each bird was recorded using a scale of 0-50 m, 50-100 m and further than 100 m;
- behavioural patterns were noted to determine whether birds flying over the site would be within the future blade-swept area of a turbine; and
- survey locations during each survey were separated by a minimum distance of 300 m, whenever possible, to account for all present habitat types throughout the Project site.

REFERENCES

CWS (Canadian Wildlife Service). 2007. Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds. 33 pp.

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation				
March 16/2012	PockE1	0432461E, 4958494N	Mid-aged mixedwoods, stream	10 km/h N	-2	Overcast	None	9:58 AM	Black-capped Chickadee	8	0-50
…	…	…	…	…	…	…	…	…	Common Raven	2	FO
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	3	0-50
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	2	0-50
…	…	…	…	…	…	…	…	…	Hairy Woodpecker	1	0-50
…	…	…	…	…	…	…	…	…	Song Sparrow	1	0-50
…	PockE2	0432784E, 4958691N	Wetland, stream, mid-aged softwood	10 km/h N	-2	Overcast	None	10:05 AM	Common Raven	2	50-100
…	PockE3	0433088E, 4958863N	Mid-aged mixedwoods	10 km/h N	-2	Overcast	None	10:11 AM	Black-capped Chickadee	8	0-50
…	…	…	…	…	…	…	…	…	Common Raven	2	FO
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	2	0-50
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	2	0-50
…	…	…	…	…	…	…	…	…	Hairy Woodpecker	1	0-50
…	…	…	…	…	…	…	…	…	Pine Siskin	1	0-50
…	…	…	…	…	…	…	…	…	Red-breasted Nuthatch	2	0-50
…	…	…	…	…	…	…	…	…	White-winged Crossbill	4	0-50
…	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	10 km/h N	-2	Overcast	None	10:47 AM	American Crow	4	50-100
…	…	…	…	…	…	…	…	…	Common Raven	2	50-100
…	…	…	…	…	…	…	…	…	Pileated Woodpecker	1	50-100
…	…	…	…	…	…	…	…	…	White-winged Crossbill	2	0-50
…	PockE5	0433874E, 4957798N	Powerline, young softwood	10 km/h N	-2	Overcast	None	10:58 AM	American Crow	1	100+
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	5	0-50
…	…	…	…	…	…	…	…	…	Boreal Chickadee	2	0-50
…	…	…	…	…	…	…	…	…	Common Raven	1	100+
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	2	0-50
…	…	…	…	…	…	…	…	…	Pine Siskin	1	FO
…	PockE6	0434092E, 4957610N	Powerline, young softwood	10 km/h N	-2	Overcast	None	11:09 AM	American Crow	32	100+
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	4	0-50
…	…	…	…	…	…	…	…	…	Common Raven	2	100+
…	…	…	…	…	…	…	…	…	Evening Grosbeak	2	0-50
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	2	0-50
…	…	…	…	…	…	…	…	…	Red-tailed Hawk	2	100+

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation				
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	10 km/h N	-2	Overcast	None	11:19 AM	American Crow	2	100+
...	...	...	...	...	...	...	...	...	Common Raven	2	100+
...	...	...	...	...	...	...	...	...	White-winged Crossbill	2	100+
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	10 km/h N	-2	Overcast	None	11:28 AM	American Crow	1	50-100
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	5	0-50
...	...	...	...	...	...	...	...	...	Boreal Chickadee	2	0-50
...	...	...	...	...	...	...	...	...	Common Raven	1	100+
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	50-100
...	...	...	...	...	...	...	...	...	Pine Siskin	2	0-50
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	10 km/h N	-2	Overcast	None	11:37 AM	American Crow	2	50-100
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	0-50
...	...	...	...	...	...	...	...	...	Boreal Chickadee	4	0-50
...	...	...	...	...	...	...	...	...	Common Raven	2	50-100
...	...	...	...	...	...	...	...	...	Downy Woodpecker	1	50-100
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	0-50
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	10 km/h N	-2	Overcast	None	11:45 AM	American Crow	2	50-100
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50
...	...	...	...	...	...	...	...	...	Common Raven	2	100+
...	...	...	...	...	...	...	...	...	Gray Jay	2	0-50
...	...	...	...	...	...	...	...	...	White-winged Crossbill	4	0-50
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	10 km/h N	-2	Overcast	None	11:57 AM	American Crow	1	50-100
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	0-50
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50
...	...	...	...	...	...	...	...	...	White-winged Crossbill	2	0-50
...	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	10 km/h N	0	Overcast	None	12:09 PM	Gray Jay	2	0-50
...	...	...	...	...	...	...	...	...	Pine Siskin	2	0-50
...	PockE13	0433899E, 4957457N	Mid-aged softwood	10 km/h N	0	Overcast	None	12:57 PM	White-winged Crossbill	2	FO
...	PockE14	0433839E, 4957666N	Mid-aged softwood	10 km/h N	1	Overcast	None	1:16 PM	American Crow	6	100+

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation				
...	...	...	...	...	...	...	...	...	Boreal Chickadee	2	0-50
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	2	50-100
...	...	...	...	...	...	...	...	...	White-winged Crossbill	2	50-100
...	PockE15	0433796E, 4958214N	Water plant, young mixedwoods	10 km/h N	1	Overcast	None	1:39 PM	American Crow	4	0-50
...	...	...	...	...	...	...	...	...	Common Raven	1	FO
...	PockE16	0433552E, 4958340N	Mid-aged softwood	10 km/h N	1	Overcast	None	1:45 PM	American Crow	2	0-50
...	...	...	...	...	...	...	...	...	Common Raven	1	0-50
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50
...	...	...	...	...	...	...	...	...	White-winged Crossbill	2	0-50
...	PockE17	0433344E, 4958799N	Young mixedwoods	10 km/h N	1	Overcast	None	1:51 PM	Dark-eyed Junco	2	0-50
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	2	100+
...	...	...	...	...	...	...	...	...	White-winged Crossbill	4	50-100
...	PockE18	0433166E, 4959113N	Pockwock Lake, pumping station	10 km/h N	1	Overcast	None	2:03 PM	Common Raven	2	FO
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50
...	...	...	...	...	...	...	...	...	Song Sparrow	1	0-50
...	...	...	...	...	...	...	...	...	White-winged Crossbill	4	FO

Table G2: Winter Bird Survey Results Summary, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Common Name	Scientific Name	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
American Crow	*Corvus brachyrhynchos*	Green	Not Listed	Not Listed	Not Listed	11	57
American Goldfinch	*Carduelis tristis*	Green	Not Listed	Not Listed	Not Listed	1	2
Black-capped Chickadee	*Parus atricapillus*	Green	Not Listed	Not Listed	Not Listed	8	40
Boreal Chickadee	*Parus hudsonicus*	Yellow	Not Listed	Not Listed	Not Listed	4	10
Common Raven	*Corvus corax*	Green	Not Listed	Not Listed	Not Listed	13	22
Dark-eyed Junco	*Junco hyemalis*	Green	Not Listed	Not Listed	Not Listed	4	8
Downy Woodpecker	*Picoides pubescens*	Green	Not Listed	Not Listed	Not Listed	1	1
Evening Grosbeak	*Coccothraustes vespertinus*	Green	Not Listed	Not Listed	Not Listed	1	2
Golden-crowned Kinglet	*Regulus satrapa*	Yellow	Not Listed	Not Listed	Not Listed	7	14
Gray Jay	*Perisoreus canadensis*	Yellow	Not Listed	Not Listed	Not Listed	2	4
Hairy Woodpecker	*Picoides villosus*	Green	Not Listed	Not Listed	Not Listed	3	3
Pileated Woodpecker	*Dryocopus pileatus*	Green	Not Listed	Not Listed	Not Listed	1	1
Pine Siskin	*Carduelis pinus*	Yellow	Not Listed	Not Listed	Not Listed	4	6
Purple Finch	*Carpodacus purpureus*	Green	Not Listed	Not Listed	Not Listed	1	1
Red-breasted Nuthatch	*Sitta canadensis*	Green	Not Listed	Not Listed	Not Listed	4	7
Red-tailed Hawk	*Buteo jamaicensis*	Green	Not at Risk	Not Listed	Not Listed	1	2
Song Sparrow	*Melospiza melodia*	Green	Not Listed	Not Listed	Not Listed	2	2
White-winged Crossbill	*Loxia leucoptera*	Green	Not Listed	Not Listed	Not Listed	10	28

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
April 16/2012	PockE1	0432461E, 4958494N	Mid-aged mixedwoods, stream	10 km/h SE	5	Foggy	None	7:52 AM	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	6	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	1P
...	...	...	...	...	...	...	...	...	Pine Siskin	6	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	0-50	...
...	PockE2	0432784E, 4958691N	Wetland, stream, mid-aged softwood	10 km/h SE	5	Foggy	None	8:07 AM	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	50-100	1P
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Gray Jay	1	50-100	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Pine Siskin	5	50-100	...
...	PockE3	0433088E, 4958863N	Mid-aged mixedwoods	10 km/h SE	5	Foggy	None	8:21 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	3	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	4	0-50	2P
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	1P
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	50-100	...
...	...	...	...	...	...	...	...	...	Pine Siskin	2	0-50	1P
...	...	...	...	...	...	...	...	...	Rusty Blackbird	1	0-50	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	6	0-50	FAMILY
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	10 km/h SE	5	Foggy	None	9:23 AM	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	50-100	1P
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Grackle	1	0-50	...
...	...	...	...	...	...	...	...	...	Northern Flicker	4	0-50	2P
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	10 km/h SE	5	Foggy	None	9:36 AM	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	5	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Grackle	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	1P
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	2	50-100	1P

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Winter Wren	1	50-100	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	10 km/h SE	5	Foggy	Drizzle	9:52 AM	Black-capped Chickadee	3	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	1P
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	4	0-50	2P
...	...	...	...	...	...	...	...	...	Song Sparrow	1	0-50	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	10 km/h SE	5	Foggy	Drizzle	10:06 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	50-100	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	10 km/h SE	6	Foggy	Drizzle	10:20 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	0-50	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	10 km/h SE	6	Foggy	Drizzle	10:34 AM	American Crow	4	100+	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Grackle	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	50-100	...
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	10 km/h SE	7	Foggy	None	10:50 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Boreal Chickadee	4	0-50	2P
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	50-100	...
...	...	...	...	...	...	...	...	...	Gray Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Pine Siskin	1	0-50	...
...	...	...	...	...	...	...	...	...	Swamp Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	10 km/h SE	7	Foggy	None	11:05 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	1	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	2	0-50	1P
...	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	10 km/h SE	9	Foggy	None	11:19 AM	American Crow	1	0-50	...
...	...	...	...	...	...	...	...	...	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Common Grackle	1	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	1P
...	...	...	...	...	...	...	...	...	Gray Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	50-100	...
...	PockE15	0433796E, 4958214N	Water plant, young mixedwoods	10 km/h SE	5	Foggy	None	9:07 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	3	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	50-100	...
...	...	...	...	...	...	...	...	...	Song Sparrow	2	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	2	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE16	0433552E, 4958340N	Mid-aged softwood	10 km/h SE	5	Foggy	None	8:56 AM	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE17	0433344E, 4958799N	Young mixedwoods	10 km/h SE	5	Foggy	None	8:44 AM	Pine Siskin	2	0-50	1P
...	...	...	...	...	...	...	...	...	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	3	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	3	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	100+	...
...	...	...	...	...	...	...	...	...	Brown Creeper	1	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	1P
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	1P
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
May 22/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	9	Overcast/ fog	None	5:45 AM	Alder Flycatcher	2	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	3	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
…	…	…	…	…	…	…	…	…	American Redstart	1	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	2	0-50	…
…	…	…	…	…	…	…	…	…	American Robin	2	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	5	100+	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	3	0-50	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	100+	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	2	0-50	1P
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Canada Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Cape May Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	3	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	2	50-100	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	2	0-50	1P
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	2	50-100	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	4	50-100	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	7	100+	…
…	…	…	…	…	…	…	…	…	Least Flycatcher	2	50-100	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	6	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	4	50-100	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	100+	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	100+	…
…	…	…	…	…	…	…	…	…	Northern Parula	1	100+	…
…	…	…	…	…	…	…	…	…	Ovenbird	2	100+	…
…	…	…	…	…	…	…	…	…	Red-breasted Nuthatch	1	100+	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	0-50	2P
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	50-100	2P
…	…	…	…	…	…	…	…	…	Winter Wren	1	100+	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	2	50-100	…
…	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	9	Overcast/ fog	None	6:03 AM	American Crow	2	100+	…
…	…	…	…	…	…	…	…	…	American Goldfinch	2	50-100	…
…	…	…	…	…	…	…	…	…	American Redstart	1	100+	…
…	…	…	…	…	…	…	…	…	American Robin	2	0-50	…
…	…	…	…	…	…	…	…	…	American Robin	4	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	2	100+	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	3	50-100	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	2	0-50	1P
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	3	50-100	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	100+	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	1	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	1	100+	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	2	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	6	100+	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	5	50-100	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	100+	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	100+	…
…	…	…	…	…	…	…	…	…	Northern Flicker	1	100+	…
…	…	…	…	…	…	…	…	…	Ovenbird	1	0-50	…

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Ovenbird	2	100+	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	6	0-50	3P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	6	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	100+	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	9	Overcast/ fog	None	6:19 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	4	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	50-100	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	6	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Downy Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Herring Gull	1	FOW	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	8	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	6	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Pine Siskin	2	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Swamp Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Tennessee Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	6	0-50	3P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	8	50-100	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	9	Overcast/ fog	None	6:36 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	3	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	2	50-100	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	8	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	2	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	6	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	Calm	9	Overcast/ fog	None	6:54 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Redstart	2	50-100	...
...	...	...	...	...	...	...	...	...	American Redstart	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	3	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	3	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Gray Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	6	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	2	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	2P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	100+	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	Calm	9	Overcast/ fog	None	7:12 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Blue Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	4	100+	...
...	...	...	...	...	...	...	...	...	Broad-winged Hawk	1	0-50	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Grackle	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	6	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	6	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	5	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	0-50	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	50-100	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	2	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Tennessee Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	3	0-50	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	Calm	9	Overcast/ fog	Drizzle	7:31 AM	Alder Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	1	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	1	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	50-100	2P
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	100+	1P

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Black-throated Blue Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	6	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	50-100	1P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	Calm	9	Overcast/ fog	Drizzle	7:48 AM	American Goldfinch	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	3	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	100+	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	5	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	5	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	5	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	0-50	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	2P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	100+	...
...	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	Calm	9	Overcast/ fog	Scattered drizzle	8:32 AM	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	2	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Eastern Wood-Pewee	1	100+	...
...	...	...	...	...	...	...	...	...	Evening Grosbeak	1	FON	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	100+	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	100+	...
June 2/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	8	Clear	None	5:11 AM	Alder Flycatcher	5	0-50	...
...	...	...	...	...	...	...	...	...	American Crow	5	100+	...
...	...	...	...	...	...	...	...	...	American Redstart	5	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	9	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Blackburnian Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	50-100	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	8	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	6	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	6	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Veery	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Sapsucker	1	100+	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	8	Clear	None	5:30 AM	Alder Flycatcher	4	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	1	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	5	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	0-50	...
...	...	...	...	...	...	...	...	...	Cedar Waxwing	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	5	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	50-100	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	7	0-50	1P

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	100+	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	100+	...
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	8	Clear	None	5:49 AM	Alder Flycatcher	4	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Chipping Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	100+	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	0-50	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Swamp Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Veery	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	Wilson's Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	4	50-100	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	8	Clear	None	6:25 AM	Alder Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	4	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	6	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	100+	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	1P

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Downy Woodpecker	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	2	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Tree Swallow	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	3	0-50	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	Calm	8	Clear	None	6:25 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	3	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	3	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	50-100	...
...	...	...	...	...	...	...	...	...	Gray Catbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	3	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	2	0-50	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	1P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	2	100+	...
...	...	...	...	...	...	...	...	...	Yellow Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	4	0-50	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	Calm	9	Clear	None	6:45 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	1P
...	...	...	...	...	...	...	...	...	American Robin	3	0-50	4

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	2	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	4	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	Calm	10	Clear	None	7:02 AM	Alder Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	6	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Robin	4	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	5	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	Calm	10	Clear	None	7:23 AM	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	6	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	0-50	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	100+	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	1P
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	50-100	...
...	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	Calm	11	Clear	None	7:12 AM	Alder Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	50-100	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	6	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	100+	...
...	...	...	...	...	...	...	...	...	Evening Grosbeak	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	3	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	4	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	2	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Pairs
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	100+	...
...	PockE14	0433839 4957666	Mid-aged softwood	Calm	12	Clear	None	8:11 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	100+	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	2	0-50	...
...	PockE13	0433899 4957457	Mid-aged softwood	Calm	12	Clear	None	8:39 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	2	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	6	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	2	0-50	...

Common Name	*Scientific Name*	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
Alder Flycatcher	*Empidonax alnorum*	Green	Not Listed	Not Listed	Not Listed	12	34
American Crow	*Corvus brachyrhynchos*	Green	Not Listed	Not Listed	Not Listed	27	50
American Goldfinch	*Spinus tristis*	Green	Not Listed	Not Listed	Not Listed	14	25
American Redstart	*Setophaga ruticilla*	Green	Not Listed	Not Listed	Not Listed	7	14
American Robin	*Turdus migratorius*	Green	Not Listed	Not Listed	Not Listed	59	178
Black-and-White Warbler	*Mniotilta varia*	Green	Not Listed	Not Listed	Not Listed	26	49
Blackburnian Warbler	*Dendroica fusca*	Green	Not Listed	Not Listed	Not Listed	1	1
Black-capped Chickadee	*Poecile atricapillus*	Green	Not Listed	Not Listed	Not Listed	27	55
Black-throated Blue Warbler	*Dendroica caerulescens*	Green	Not Listed	Not Listed	Not Listed	2	2
Black-throated Green Warbler	*Dendroica virens*	Green	Not Listed	Not Listed	Not Listed	41	84
Blue Jay	*Cyanocitta cristata*	Green	Not Listed	Not Listed	Not Listed	18	27
Blue-headed Vireo	*Vireo solitarius*	Green	Not Listed	Not Listed	Not Listed	3	4
Boreal Chickadee	*Poecile hudsonicus*	Yellow	Not Listed	Not Listed	Not Listed	2	6
Broad-winged Hawk	*Buteo platypterus*	Green	Not Listed	Not Listed	Not Listed	1	1
Brown Creeper	*Certhia americana*	Green	Not Listed	Not Listed	Not Listed	1	1
Canada Warbler	*Wilsonia canadensis*	Red	Threatened	Threatened	Not Listed	3	3
Cape May Warbler	*Dendroica tigrina*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Cedar Waxwing	*Bombycilla cedrorum*	Green	Not Listed	Not Listed	Not Listed	1	2
Chestnut-sided Warbler	*Dendroica pensylvanica*	Green	Not Listed	Not Listed	Not Listed	6	6
Chipping Sparrow	*Spizella passerina*	Green	Not Listed	Not Listed	Not Listed	1	1
Common Grackle	*Quiscalus quiscula*	Green	Not Listed	Not Listed	Not Listed	5	5
Common Raven	*Corvus corax*	Green	Not Listed	Not Listed	Not Listed	5	5
Common Yellowthroat	*Geothlypis trichas*	Green	Not Listed	Not Listed	Not Listed	39	128
Dark-eyed Junco	*Junco hyemalis*	Green	Not Listed	Not Listed	Not Listed	31	49
Downy Woodpecker	*Picoides pubescens*	Green	Not Listed	Not Listed	Not Listed	2	2
Eastern Wood-Pewee	*Contopus virens*	Yellow	Special Concern	Not Listed	Not Listed	1	1
Evening Grosbeak	*Coccothraustes vespertinus*	Green	Not Listed	Not Listed	Not Listed	2	2
Golden-crowned Kinglet	*Regulus satrapa*	Yellow	Not Listed	Not Listed	Not Listed	6	14
Gray Catbird	*Dumetella carolinensis*	Red	Not Listed	Not Listed	Not Listed	1	1
Gray Jay	*Perisoreus canadensis*	Yellow	Not Listed	Not Listed	Not Listed	4	4
Hairy Woodpecker	*Picoides villosus*	Green	Not Listed	Not Listed	Not Listed	1	1
Hermit Thrush	*Catharus guttatus*	Green	Not Listed	Not Listed	Not Listed	38	124
Herring Gull	*Larus argentatus*	Green	Not Listed	Not Listed	Not Listed	1	1
Least Flycatcher	*Empidonax minimus*	Green	Not Listed	Not Listed	Not Listed	1	2
Magnolia Warbler	*Dendroica magnolia*	Green	Not Listed	Not Listed	Not Listed	45	147
Mourning Dove	*Zenaida macroura*	Green	Not Listed	Not Listed	Not Listed	15	16
Nashville Warbler	*Vermivora ruficapilla*	Green	Not Listed	Not Listed	Not Listed	6	7
Northern Flicker	*Colaptes auratus*	Green	Not Listed	Not Listed	Not Listed	15	19
Northern Parula	*Parula americana*	Green	Not Listed	Not Listed	Not Listed	6	6
Ovenbird	*Seiurus aurocapilla*	Green	Not Listed	Not Listed	Not Listed	18	26
Palm Warbler	*Dendroica palmarum*	Green	Not Listed	Not Listed	Not Listed	5	5
Pileated Woodpecker	*Dryocopus pileatus*	Green	Not Listed	Not Listed	Not Listed	7	7

Table G4: Spring Migration Survey Results Summary, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Common Name	*Scientific Name*	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
Pine Siskin	*Spinus pinus*	Yellow	Not Listed	Not Listed	Not Listed	6	18
Purple Finch	*Carpodacus purpureus*	Green	Not Listed	Not Listed	Not Listed	14	22
Red-breasted Nuthatch	*Sitta canadensis*	Green	Not Listed	Not Listed	Not Listed	13	14
Red-eyed Vireo	*Vireo olivaceus*	Green	Not Listed	Not Listed	Not Listed	3	4
Ring-necked Pheasant	*Phasianus colchicus*	Exotic	Not Listed	Not Listed	Not Listed	5	7
Ruby-crowned Kinglet	*Regulus calendula*	Yellow	Not Listed	Not Listed	Not Listed	18	23
Ruffed Grouse	*Bonasa umbellus*	Green	Not Listed	Not Listed	Not Listed	13	14
Rusty Blackbird	*Euphagus carolinus*	Red	Special Concern	Special Concern	Not Listed	1	1
Song Sparrow	*Melospiza melodia*	Green	Not Listed	Not Listed	Not Listed	5	6
Swainson's Thrush	*Catharus ustulatus*	Green	Not Listed	Not Listed	Not Listed	21	38
Swamp Sparrow	*Melospiza georgiana*	Green	Not Listed	Not Listed	Not Listed	3	3
Tennessee Warbler	*Vermivora peregrina*	Yellow	Not Listed	Not Listed	Not Listed	2	2
Tree Swallow	*Tachycineta bicolor*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Veery	*Catharus fuscescens*	Green	Not Listed	Not Listed	Not Listed	2	2
White-throated Sparrow	*Zonotrichia albicollis*	Green	Not Listed	Not Listed	Not Listed	38	147
White-winged Crossbill	*Loxia leucoptera*	Green	Not Listed	Not Listed	Not Listed	4	14
Wilson's Warbler	*Wilsonia pusilla*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Winter Wren	*Troglodytes troglodytes*	Green	Not Listed	Not Listed	Not Listed	16	18
Yellow Warbler	*Dendroica petechia*	Green	Not Listed	Not Listed	Not Listed	2	2
Yellow-bellied Flycatcher	*Empidonax flaviventris*	Yellow	Not Listed	Not Listed	Not Listed	5	10
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Green	Not Listed	Not Listed	Not Listed	1	1
Yellow-rumped Warbler	*Dendroica coronata*	Green	Not Listed	Not Listed	Not Listed	23	41

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
June 14/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	10	Clear	None	4:56AM	Alder Flycatcher	6	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	4	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	5	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	50-100	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Raven	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	2	100+	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	3	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	10	Clear	None	5:13AM	Alder Flycatcher	4	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	2	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	4	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	6	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-backed Woodpecker	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
…	…	…	…	…	…	…	…	…	Blue Jay	1	50-100	…
…	…	…	…	…	…	…	…	…	Chestnut-sided Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Common Raven	1	100+	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	0-50	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	50-100	…
…	…	…	…	…	…	…	…	…	Hairy Woodpecker	1	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	4	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	5	50-100	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	4	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	100+	…
…	…	…	…	…	…	…	…	…	Nashville Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Northern Flicker	1	100+	…
…	…	…	…	…	…	…	…	…	Northern Parula	1	50-100	…
…	…	…	…	…	…	…	…	…	Ruby-crowned Kinglet	1	0-50	…
…	…	…	…	…	…	…	…	…	Ruby-crowned Kinglet	1	50-100	…
…	…	…	…	…	…	…	…	…	Swainson's Thrush	2	0-50	…
…	…	…	…	…	…	…	…	…	Swainson's Thrush	2	50-100	…
…	…	…	…	…	…	…	…	…	Swainson's Thrush	1	100+	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	0-50	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	50-100	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	1	100+	…
…	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	10	Clear	None	5:30AM	Alder Flycatcher	4	0-50	…
…	…	…	…	…	…	…	…	…	Alder Flycatcher	4	50-100	…
…	…	…	…	…	…	…	…	…	American Crow	4	100+	…
…	…	…	…	…	…	…	…	…	American Robin	4	0-50	…
…	…	…	…	…	…	…	…	…	American Robin	2	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	3	100+	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	100+	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	50-100	…
…	…	…	…	…	…	…	…	…	Blue-headed Vireo	1	0-50	…
…	…	…	…	…	…	…	…	…	Chestnut-sided Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	1	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	3	50-100	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	0-50	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	100+	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	2	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	4	50-100	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	4	100+	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	4	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	100+	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	50-100	…
…	…	…	…	…	…	…	…	…	Mourning Dove	2	100+	…
…	…	…	…	…	…	…	…	…	Nashville Warbler	3	0-50	…
…	…	…	…	…	…	…	…	…	Northern Flicker	1	100+	…
…	…	…	…	…	…	…	…	…	Northern Parula	1	50-100	…

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	3	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	5	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	3	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE8	0434545E,	Powerline, young	Calm	10	Overcast	None	6:08AM	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	1	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	3	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Veery	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	10	Overcast	None	5:48AM	Alder Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	4	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Common Yellowthroat	5	50-100	...
...	...	...	...	...	...	...	...	...	Gray Jay	3	0-50	Fledgling
...	...	...	...	...	...	...	...	...	Gray Jay	1	0-50	Adult
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	2	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	Calm	10	Overcast	None	6:25AM	Alder Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	2	50-100	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	4	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	1P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Cedar Waxwing	1	0-50	...
...	...	...	...	...	...	...	...	...	Chestnut-sided Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	6	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Least Flycatcher	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	2	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	6	50-100	...
...	...	...	...	...	...	...	...	...	Wilson's Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	100+	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	Calm	12	Overcast	None	6:44AM	Alder Flycatcher	2	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	5	50-100	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	2	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	1	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	2	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	0-50	2P
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	100+	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	100+	...
...	...	...	...	...	...	...	...	...	Ring-necked Pheasant	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	4	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Swamp Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	Calm	12	Overcast	None	7:02AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	1P
...	...	...	...	...	...	...	...	...	American Redstart	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
…	…	…	…	…	…	…	…	…	American Robin	2	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	3	100+	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	0-50	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	3	50-100	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	1	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	2	50-100	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	0-50	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	50-100	…
…	…	…	…	…	…	…	…	…	Downy Woodpecker	1	50-100	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	3	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	2	50-100	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	2	100+	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	1	100+	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	100+	…
…	…	…	…	…	…	…	…	…	Northern Parula	1	100+	…
…	…	…	…	…	…	…	…	…	Ovenbird	1	50-100	…
…	…	…	…	…	…	…	…	…	Palm Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Purple Finch	1	50-100	…
…	…	…	…	…	…	…	…	…	Ruffed Grouse	1	100+	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	5	0-50	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	50-100	…
…	…	…	…	…	…	…	…	…	White-winged Crossbill	2	50-100	…
…	…	…	…	…	…	…	…	…	Yellow-bellied Flycatcher	3	50-100	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	1	50-100	…
…	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	Calm	12	Overcast	None	7:18AM	American Crow	2	100+	…
…	…	…	…	…	…	…	…	…	American Robin	2	0-50	…
…	…	…	…	…	…	…	…	…	American Robin	2	50-100	…
…	…	…	…	…	…	…	…	…	American Robin	4	100+	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	0-50	…
…	…	…	…	…	…	…	…	…	Black-and-White Warbler	1	50-100	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	2	0-50	1P
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	0-50	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Black-throated Green Warbler	1	100+	…
…	…	…	…	…	…	…	…	…	Blue-headed Vireo	2	0-50	1P
…	…	…	…	…	…	…	…	…	Blue-headed Vireo	1	0-50	…
…	…	…	…	…	…	…	…	…	Boreal Chickadee	2	0-50	1P
…	…	…	…	…	…	…	…	…	Common Yellowthroat	2	0-50	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	2	50-100	…
…	…	…	…	…	…	…	…	…	Common Yellowthroat	2	0-50	1P
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	2	0-50	1P
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	2	50-100	…
…	…	…	…	…	…	…	…	…	Mourning Dove	1	50-100	…
…	…	…	…	…	…	…	…	…	Ovenbird	1	50-100	…
…	…	…	…	…	…	…	…	…	Ovenbird	1	100+	…
…	…	…	…	…	…	…	…	…	Palm Warbler	1	0-50	…

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	0-50	...
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	100+	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruby-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Song Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	0-50	1P
...	PockE14	0433839E 4957666N	Mid-aged softwood	Calm	12	Overcast	None	7:43AM	Mourning Dove	1	50-100	...
...	...	...	...	...	...	...	...	...	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	6	0-50	Adults w/Young
...	...	...	...	...	...	...	...	...	Gray Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Northern Parula	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	2	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	2	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	2	50-100	...
...	PockE13	0433899E 4957457N	Mid-aged softwood	Calm	12	Overcast	None	8:03AM	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	3	100+	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Loon	1	100+	...
...	...	...	...	...	...	...	...	...	Gray Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	4	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	2	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Observations
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
July 8/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	15	Clear with a few clouds	None	5:17 AM	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Alder Flycatcher	2	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	3	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	15	Clear with a few clouds	None	5:37 AM	American Robin	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Canada Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	50-100	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	2	0-50	...
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	15	Clear with a few clouds	None	5:59 AM	Alder Flycatcher	1	0-50	...
...	...	...	...	...	...	...	...	...	American Redstart	1	50-100	...
...	...	...	...	...	...	...	...	...	American Robin	1	100+	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Canada Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Lincoln's Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...

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				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Pine Siskin	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	0-50	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	15	Clear with a few clouds	None	6:19 AM	Alder Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	50-100	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	4	50-100	Adults w/Young
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	50-100	...
...	...	...	...	...	...	...	...	...	Ruffed Grouse	1	100+	Adult
...	...	...	...	...	...	...	...	...	Ruffed Grouse	2	100+	Fledgling
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	Calm	15	Clear with a few clouds	None	6:38 AM	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	2	0-50	Fledgling
...	...	...	...	...	...	...	...	...	Boreal Chickadee	1	0-50	Adult
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	0-50	Fledgling
...	...	...	...	...	...	...	...	...	Red-eyed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	3	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	Calm	15	Clear with a few clouds	None	6:52 AM	American Robin	1	50-100	...

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				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Black-and-White Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	50-100	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	Calm	16	Clear with a few clouds	None	7:08 AM	American Redstart	1	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Loon	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	100+	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Purple Finch	1	50-100	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	Calm	16	Clear with a few clouds	None	7:25 AM	Palm Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	Adult Carrying Food
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	50-100	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Mourning Warbler	1	100+	...
...	...	...	...	...	...	...	...	...	Nashville Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...

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				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	Calm	16	Clear with a few clouds	None	7:45 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	1	100+	...
...	...	...	...	...	...	...	...	...	Brown Creeper	1	0-50	...
...	...	...	...	...	...	...	...	...	Common loon	1	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	50-100	...
...	...	...	...	...	...	...	...	...	Winter Wren	1	0-50	...
...	PockE14	0433839E 4957666N	Mid-aged softwood	Calm	16	Clear with a few clouds	None	8:04 AM	American Redstart	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue-headed Vireo	1	50-100	...
...	...	...	...	...	...	...	...	...	Cedar Waxwing	1	50-100	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	1	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Northern Flicker	1	50-100	...
...	...	...	...	...	...	...	...	...	Ovenbird	2	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...
...	PockE13	0433899E 4957457N	Mid-aged softwood	Calm	16	Clear with a few clouds	None	8:26 AM	Black-throated Green Warbler	1	50-100	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	50-100	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	2	100+	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	2	50-100	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Ovenbird	1	0-50	...
...	...	...	...	...	...	...	...	...	Swainson's Thrush	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-bellied Flycatcher	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	1	50-100	...

Table G6: Breeding Bird Survey Results Summary, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Common Name	*Scientific Name*	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
Alder Flycatcher	*Empidonax alnorum*	Green	Not Listed	Not Listed	Not Listed	15	45
American Crow	*Corvus brachyrhynchos*	Green	Not Listed	Not Listed	Not Listed	9	17
American Goldfinch	*Spinus tristis*	Green	Not Listed	Not Listed	Not Listed	5	10
American Redstart	*Setophaga ruticilla*	Green	Not Listed	Not Listed	Not Listed	14	23
American Robin	*Turdus migratorius*	Green	Not Listed	Not Listed	Not Listed	37	91
Black-and-White Warbler	*Mniotilta varia*	Green	Not Listed	Not Listed	Not Listed	18	20
Black-backed Woodpecker	*Picoides arcticus*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Black-capped Chickadee	*Poecile atricapillus*	Green	Not Listed	Not Listed	Not Listed	4	10
Black-throated Green Warbler	*Dendroica virens*	Green	Not Listed	Not Listed	Not Listed	43	68
Blue Jay	*Cyanocitta cristata*	Green	Not Listed	Not Listed	Not Listed	8	9
Blue-headed Vireo	*Vireo solitarius*	Green	Not Listed	Not Listed	Not Listed	9	10
Boreal Chickadee	*Poecile hudsonicus*	Yellow	Not Listed	Not Listed	Not Listed	6	14
Brown Creeper	*Certhia americana*	Green	Not Listed	Not Listed	Not Listed	1	1
Canada Warbler	*Wilsonia canadensis*	Red	Threatened	Threatened	Not Listed	5	6
Cedar Waxwing	*Bombycilla cedrorum*	Green	Not Listed	Not Listed	Not Listed	2	2
Chestnut-sided Warbler	*Dendroica pensylvanica*	Green	Not Listed	Not Listed	Not Listed	5	5
Common Loon	*Gavia immer*	Red	Not at Risk	Not Listed	Not Listed	3	3
Common Raven	*Corvus corax*	Green	Not Listed	Not Listed	Not Listed	2	3
Common Yellowthroat	*Geothlypis trichas*	Green	Not Listed	Not Listed	Not Listed	30	60
Dark-eyed Junco	*Junco hyemalis*	Green	Not Listed	Not Listed	Not Listed	9	11
Downy Woodpecker	*Picoides pubescens*	Green	Not Listed	Not Listed	Not Listed	1	1
Golden-crowned Kinglet	*Regulus satrapa*	Yellow	Not Listed	Not Listed	Not Listed	5	9
Gray Jay	*Perisoreus canadensis*	Yellow	Not Listed	Not Listed	Not Listed	4	7
Hairy Woodpecker	*Picoides villosus*	Green	Not Listed	Not Listed	Not Listed	2	2
Hermit Thrush	*Catharus guttatus*	Green	Not Listed	Not Listed	Not Listed	36	90
Least Flycatcher	*Empidonax minimus*	Green	Not Listed	Not Listed	Not Listed	1	1
Lincoln's Sparrow	*Melospiza lincolnii*	Green	Not Listed	Not Listed	Not Listed	1	1
Magnolia Warbler	*Dendroica magnolia*	Green	Not Listed	Not Listed	Not Listed	41	82
Mourning Dove	*Zenaida macroura*	Green	Not Listed	Not Listed	Not Listed	12	15
Mourning Warbler	*Oporornis philadelphia*	Green	Not Listed	Not Listed	Not Listed	1	1
Nashville Warbler	*Vermivora ruficapilla*	Green	Not Listed	Not Listed	Not Listed	6	9
Northern Flicker	*Colaptes auratus*	Green	Not Listed	Not Listed	Not Listed	4	4
Northern Parula	*Parula americana*	Green	Not Listed	Not Listed	Not Listed	6	6
Ovenbird	*Seiurus aurocapilla*	Green	Not Listed	Not Listed	Not Listed	20	23
Palm Warbler	*Dendroica palmarum*	Green	Not Listed	Not Listed	Not Listed	8	11
Pileated Woodpecker	*Dryocopus pileatus*	Green	Not Listed	Not Listed	Not Listed	2	2
Pine Siskin	*Spinus pinus*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Purple Finch	*Carpodacus purpureus*	Green	Not Listed	Not Listed	Not Listed	7	9
Red-breasted Nuthatch	*Sitta canadensis*	Green	Not Listed	Not Listed	Not Listed	4	5
Red-eyed Vireo	*Vireo olivaceus*	Green	Not Listed	Not Listed	Not Listed	9	10
Ring-necked Pheasant	*Phasianus colchicus*	Exotic	Not Listed	Not Listed	Not Listed	1	1
Ruby-crowned Kinglet	*Regulus calendula*	Yellow	Not Listed	Not Listed	Not Listed	11	11

Table G6: Breeding Bird Survey Results Summary, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Common Name	*Scientific Name*	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
Ruffed Grouse	*Bonasa umbellus*	Green	Not Listed	Not Listed	Not Listed	3	4
Song Sparrow	*Melospiza melodia*	Green	Not Listed	Not Listed	Not Listed	3	3
Swainson's Thrush	*Catharus ustulatus*	Green	Not Listed	Not Listed	Not Listed	19	38
Swamp Sparrow	*Melospiza georgiana*	Green	Not Listed	Not Listed	Not Listed	1	1
Veery	*Catharus fuscescens*	Green	Not Listed	Not Listed	Not Listed	1	1
White-throated Sparrow	*Zonotrichia albicollis*	Green	Not Listed	Not Listed	Not Listed	29	78
White-winged Crossbill	*Loxia leucoptera*	Green	Not Listed	Not Listed	Not Listed	1	2
Wilson's Warbler	*Wilsonia pusilla*	Yellow	Not Listed	Not Listed	Not Listed	1	1
Winter Wren	*Troglodytes troglodytes*	Green	Not Listed	Not Listed	Not Listed	7	7
Yellow-bellied Flycatcher	*Empidonax flaviventris*	Yellow	Not Listed	Not Listed	Not Listed	8	14
Yellow-rumped Warbler	*Dendroica coronata*	Green	Not Listed	Not Listed	Not Listed	24	26

	Confirmed Breeder
	Probable Breeder
	Possible Breeder

Table G7: Detailed Fall Migration Survey Results, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
Oct. 3/2012	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	15 km/h NW	15	Sunny	None	9:23 AM	American Crow	1	FO SW to NW	>100
...	...	...	...	...	...	...	...	...	American Goldfinch	6	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	0-50	...
...	...	...	...	...	...	...	...	...	Blackpoll Warbler	3	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	4	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	5	0-50	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	15 km/h NW	15	Sunny	None	9:02 AM	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Loon	1	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	9	0-50	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	15 km/h NW	14	Sunny	None	8:47 AM	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	3	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	2	50-100	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	8	0-50	...
...	...	...	...	...	...	...	...	...	Gray Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Gray Jay	2	100+	...
...	...	...	...	...	...	...	...	...	Palm Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	6	0-50	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	15 km/h NW	14	Clear	None	8:31 AM	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	American Robin	4	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	11	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	4	0-50	...
...	...	...	...	...	...	...	...	...	Common Raven	2	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	10	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	7	0-50	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	Calm	14	Clear	None	8:15 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	0-50	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
…	…	…	…	…	…	…	…	…	Common Raven	2	100+	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	12	0-50	…
…	…	…	…	…	…	…	…	…	Gray Jay	4	0-50	…
…	…	…	…	…	…	…	…	…	Hermit Thrush	2	0-50	…
…	…	…	…	…	…	…	…	…	Palm Warbler	5	0-50	…
…	…	…	…	…	…	…	…	…	Pileated Woodpecker	1	100+	…
…	…	…	…	…	…	…	…	…	Sharp-shinned Hawk	1	0-50	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	4	0-50	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	6	0-50	…
…	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	14	Clear	None	7:59 AM	Black-capped Chickadee	5	0-50	…
…	…	…	…	…	…	…	…	…	Blackpoll Warbler	2	0-50	…
…	…	…	…	…	…	…	…	…	Common Raven	2	100+	…
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	15	0-50	…
…	…	…	…	…	…	…	…	…	Gray Jay	4	0-50	…
…	…	…	…	…	…	…	…	…	Palm Warbler	4	0-50	…
…	…	…	…	…	…	…	…	…	Purple Finch	2	0-50	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	6	0-50	…
…	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	14	Clear	None	7:41 AM	American Crow	6	100+	…
…	…	…	…	…	…	…	…	…	American Robin	4	0-50	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	6	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	3	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	5	FO N to S	>100
…	…	…	…	…	…	…	…	…	Blue Jay	2	50-100	…
…	…	…	…	…	…	…	…	…	Boreal Chickadee	4	0-50	…
…	…	…	…	…	…	…	…	…	Common Raven	3	0-50	…
…	…	…	…	…	…	…	…	…	Common Raven	2	100+	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	4	0-50	…
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	4	0-50	…
…	…	…	…	…	…	…	…	…	Gray Jay	3	0-50	…
…	…	…	…	…	…	…	…	…	Magnolia Warbler	4	0-50	…
…	…	…	…	…	…	…	…	…	Palm Warbler	7	0-50	…
…	…	…	…	…	…	…	…	…	Purple Finch	1	0-50	…
…	…	…	…	…	…	…	…	…	Red-breasted Nuthatch	2	100+	…
…	…	…	…	…	…	…	…	…	Song Sparrow	1	0-50	…
…	…	…	…	…	…	…	…	…	White-throated Sparrow	2	0-50	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	15	0-50	…
…	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	14	Overcast	None	7:21 AM	American Crow	6	100+	…
…	…	…	…	…	…	…	…	…	American Goldfinch	4	0-50	…
…	…	…	…	…	…	…	…	…	American Robin	11	0-50	…

Table G7: Detailed Fall Migration Survey Results, Chebucto Pockwock Community Wind Project *Project # 12-4326*

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	12	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	4	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	4	100+	...
...	...	...	...	...	...	...	...	...	Cedar Waxwing	4	0-50	...
...	...	...	...	...	...	...	...	...	Common Raven	2	FO NW to SE	>100
...	...	...	...	...	...	...	...	...	Common Raven	2	0-50	...
...	...	...	...	...	...	...	...	...	Common Raven	4	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	2	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	4	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	6	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	13	0-50	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	0-50	...
...	...	...	...	...	...	...	...	...	Palm Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	2	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	4	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	100+	...
...	...	...	...	...	...	...	...	...	White-throated Sparrow	4	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	34	0-50	...
...	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	14	Overcast	None	6:58 AM	American Crow	12	100+	...
...	...	...	...	...	...	...	...	...	American Crow	2	FO NW to SE	>100
...	...	...	...	...	...	...	...	...	American Robin	8	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	16	0-50	...
...	...	...	...	...	...	...	...	...	Blackpoll Warbler	7	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	4	50-100	...
...	...	...	...	...	...	...	...	...	Common Raven	2	100+	...
...	...	...	...	...	...	...	...	...	Common Yellowthroat	3	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	11	0-50	...
...	...	...	...	...	...	...	...	...	Mourning Dove	1	100+	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	14	0-50	...
...	PockE13	0433899E 4957457N	Mid-aged softwood	15 km/h NW	15	Sunny	None	10:01 AM	American Goldfinch	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-backed Woodpecker	2	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	6	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	50-100	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	10	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Palm Warbler	2	0-50	...
...	...	...	...	...	...	...	...	...	Purple Finch	4	50-100	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	2	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	3	0-50	...

Table G7: Detailed Fall Migration Survey Results, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	PockE14	0433839E 4957666N	Mid-aged softwood	15 km/h NW	15	Sunny	None	9:43 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Robin	5	50-100	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	4	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	4	50-100	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	12	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	8	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	3	0-50	...
...	...	...	...	...	...	...	...	...	Hermit Thrush	3	50-100	...
...	...	...	...	...	...	...	...	...	Palm Warbler	8	0-50	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	5	0-50	...
...	PockE15	0434032E 4957321N	Mixed woodland, deciduous brush, wetland	15 km/h NW	19	Sunny	None	10:29 AM	American Goldfinch	1	0-50	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	7	0-50	...
...	...	...	...	...	...	...	...	...	Black-throated Green Warbler	1	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	0-50	...
...	...	...	...	...	...	...	...	...	Cedar Waxwing	2	0-50	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	8	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	4	0-50	...
...	...	...	...	...	...	...	...	...	Gray Jay	2	0-50	...
...	...	...	...	...	...	...	...	...	Magnolia Warbler	4	0-50	...
...	...	...	...	...	...	...	...	...	Palm Warbler	7	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	50-100	...
...	...	...	...	...	...	...	...	...	Yellow-rumped Warbler	10	0-50	...
Nov. 2/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	9	Mainly Sunny	None	7:46 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	0-50	...
...	...	...	...	...	...	...	...	...	Bohemian Waxwing	2	100+	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	9	Mainly Sunny	None	8:02 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	American Goldfinch	4	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	2	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	2	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	Pine Siskin	1	50-100	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
…	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	9	Mainly Sunny	None	8:29 AM	American Crow	1	100+	…
…	…	…	…	…	…	…	…	…	American Goldfinch	1	100+	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	5	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	100+	…
…	…	…	…	…	…	…	…	…	Boreal Chickadee	2	100+	…
…	…	…	…	…	…	…	…	…	Boreal Chickadee	1	0-50	…
…	…	…	…	…	…	…	…	…	Hairy Woodpecker	1	100+	…
…	…	…	…	…	…	…	…	…	Pine Siskin	2	100+	…
…	…	…	…	…	…	…	…	…	Yellow-rumped Warbler	1	100+	…
…	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	9	Foggy	None	8:52 AM	Black-capped Chickadee	2	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	100+	…
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	3	0-50	…
…	…	…	…	…	…	…	…	…	Hairy Woodpecker	1	100+	…
…	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	Calm	9	Foggy/ sunny breaks	None	9:08 AM	Blue Jay	1	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	100+	…
…	…	…	…	…	…	…	…	…	Boreal Chickadee	2	0-50	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	3	50-100	…
…	…	…	…	…	…	…	…	…	White-winged Crossbill	2	100+	…
…	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	Calm	9	Mainly Sunny	None	9:25 AM	Black-capped Chickadee	1	100+	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	100+	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	2	0-50	…
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	3	50-100	…
…	…	…	…	…	…	…	…	…	White-winged Crossbill	2	F/O NE	…
…	PockE6	0434092E, 4957610N	Powerline, young softwood	Calm	9	Partly Cloudy	None	9:43 AM	American Crow	1	100+	…
…	…	…	…	…	…	…	…	…	American Goldfinch	1	100+	…
…	…	…	…	…	…	…	…	…	American Robin	1	0-50	…
…	…	…	…	…	…	…	…	…	Black-capped Chickadee	2	0-50	…
…	…	…	…	…	…	…	…	…	Blue Jay	1	0-50	…
…	…	…	…	…	…	…	…	…	Dark-eyed Junco	1	0-50	…
…	…	…	…	…	…	…	…	…	Golden-crowned Kinglet	3	0-50	…
…	…	…	…	…	…	…	…	…	Gray Jay	2	0-50	…
…	…	…	…	…	…	…	…	…	Purple Finch	1	100+	…
…	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	Calm	10	Sun and Cloud	None	10:06 AM	American Crow	2	100+	…
…	…	…	…	…	…	…	…	…	Common Raven	1	100+	…

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	50-100	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	Calm	10	Sun and Cloud	None	10:26 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	American Robin	1	100+	...
...	...	...	...	...	...	...	...	...	Black-capped Chickadee	3	0-50	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	1	100+	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	50-100	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	3	100+	...
...	PockE14	0433839E 4957666N	Mid-aged softwood	Calm	11	Sun and Cloud	None	10:45 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	50-100	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	3	100+	...
...	PockE13	0433899E 4957457N	Mid-aged softwood	Calm	11	Sun and Cloud	None	11:06 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Evening Grosbeak	3	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	50-100	...
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	100+	...
...	...	...	...	...	...	...	...	...	Red-breasted Nuthatch	1	0-50	...
Nov. 21/2012	PockE12	0435442E, 4956434N	Young mixedwoods, powerline	Calm	0	Clear	None	7:27 AM	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	3	100+	...
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	50-100	...
...	...	...	...	...	...	...	...	...	Pine Grosbeak	1	100+	...
...	PockE11	0435217E, 4956628N	Young mixedwoods, powerline	Calm	0	Clear	None	7:43 AM	American Crow	2	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Common Redpoll	1	100+	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	100+	...
...	PockE10	0434989E, 4956821N	Treed swamp, powerline	Calm	1	Clear	None	7:58 AM	Black-capped Chickadee	2	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Redpoll	4	50-100	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	3	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	100+	...
...	PockE9	0434764E, 4957024N	Powerline, mid-aged softwood	Calm	1	Clear	None	8:10 AM	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Canada Goose	7	F/O SW	...
...	...	...	...	...	...	...	...	...	Common Redpoll	3	50-100	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	3	50-100	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	F/O NW	...
...	PockE8	0434545E, 4957213N	Powerline, young mixedwoods	10 km/h	3	Clear	None	8:32 AM	Blue Jay	2	100+	...
...	...	...	...	...	...	...	...	...	Common Redpoll	1	100+	...
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	100+	...
...	PockE7	0434316E, 49557415N	Powerline, young mixedwoods	10 km/h	3	Clear	None	8:48 AM	Black-capped Chickadee	1	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Boreal Chickadee	1	00+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	0-50	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Dark-eyed Junco	1	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	0-50	...
...	...	...	...	...	...	...	...	...	Pileated Woodpecker	1	100+	...
...	PockE6	0434092E, 4957610N	Powerline, young softwood	10 km/h	3	Clear	None	9:03 AM	Black-capped Chickadee	3	50-100	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	50-100	...
...	...	...	...	...	...	...	...	...	Evening Grosbeak	1	100+	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	2	50-100	...
...	PockE4	0433642E, 4957996N	Mid-aged mixedwoods	20 km/h NE	3	Clear	None	9:20 AM	Blue Jay	1	100+	...
...	PockE5	0433874E, 4957798N	Powerline, young softwood	20 km/h NE	3	Mix of Sun and Cloud	None	9:35 AM	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Raven	1	100+	...
...	...	...	...	...	...	...	...	...	Pine Grosbeak	1	50-100	...
...	PockE14	0433839E 4957666N	Mid-aged softwood	20 km/h NE	5	Mix of Sun and Cloud	None	9:52 AM	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Common Redpoll	3	0-50	...
...	...	...	...	...	...	...	...	...	Golden-crowned Kinglet	1	100+	...
...	...	...	...	...	...	...	...	...	White-winged Crossbill	1	100+	...

Date	Location	Coordinates (UTM NAD83)	Habitat	Conditions				Time	Common Name	Number Observed	Distance to Observer (m)	Flyover Height (m)
				Wind Speed and Direction	Temperature °C	Sky	Precipitation					
...	PockE13	0433899E 4957457N	Mid-aged softwood	20 km/h NE	5	Mix of Sun and Cloud	None	10:12 AM	American Crow	1	100+	...
...	...	...	...	...	...	...	...	...	Blue Jay	1	100+	...
...	...	...	...	...	...	...	...	...	Hairy Woodpecker	1	50-100	...

Table G8: Fall Migration Survey Results Summary, Chebucto Pockwock Community Wind Project ***Project # 12-4326***

Common Name	Scientific Name	NSDNR Status	COSEWIC Status	SARA Status	NSESA Status	Number of Times Observed	Number of Individuals Observed
American Crow	*Corvus brachyrhynchos*	Green	Not Listed	Not Listed	Not Listed	18	46
American Goldfinch	*Spinus tristis*	Green	Not Listed	Not Listed	Not Listed	9	23
American Robin	*Turdus migratorius*	Green	Not Listed	Not Listed	Not Listed	10	40
Black-backed Woodpecker	*Picoides arcticus*	Yellow	Not Listed	Not Listed	Not Listed	1	2
Black-capped Chickadee	*Poecile atricapillus*	Green	Not Listed	Not Listed	Not Listed	17	90
Blackpoll Warbler	*Dendroica striata*	Yellow	Not Listed	Not Listed	Not Listed	3	12
Black-throated Green Warbler	*Dendroica virens*	Green	Not Listed	Not Listed	Not Listed	5	7
Blue Jay	*Cyanocitta cristata*	Green	Not Listed	Not Listed	Not Listed	34	62
Bohemian Waxwing	*Bombycilla garrulus*	Green	Not Listed	Not Listed	Not Listed	1	2
Boreal Chickadee	*Poecile hudsonicus*	Yellow	Not Listed	Not Listed	Not Listed	9	26
Canada Goose	*Branta canadensis*	Green	Not Listed	Not Listed	Not Listed	1	7
Cedar Waxwing	*Bombycilla cedrorum*	Green	Not Listed	Not Listed	Not Listed	2	6
Common Loon	*Gavia immer*	Red	Not at Risk	Not Listed	Not Listed	1	1
Common Raven	*Corvus corax*	Green	Not Listed	Not Listed	Not Listed	20	33
Common Redpoll	*Acanthis flammea*	Green	Not Listed	Not Listed	Not Listed	5	12
Common Yellowthroat	*Geothlypis trichas*	Green	Not Listed	Not Listed	Not Listed	2	5
Dark-eyed Junco	*Junco hyemalis*	Green	Not Listed	Not Listed	Not Listed	15	75
Evening Grosbeak	*Coccothraustes vespertin*	Green	Not Listed	Not Listed	Not Listed	2	4
Golden-crowned Kinglet	*Regulus satrapa*	Yellow	Not Listed	Not Listed	Not Listed	24	84
Gray Jay	*Perisoreus canadensis*	Yellow	Not Listed	Not Listed	Not Listed	7	19
Hairy Woodpecker	*Picoides villosus*	Green	Not Listed	Not Listed	Not Listed	6	6
Hermit Thrush	*Catharus guttatus*	Green	Not Listed	Not Listed	Not Listed	3	8
Magnolia Warbler	*Dendroica magnolia*	Green	Not Listed	Not Listed	Not Listed	3	21
Mourning Dove	*Zenaida macroura*	Green	Not Listed	Not Listed	Not Listed	2	2
Palm Warbler	*Dendroica palmarum*	Green	Not Listed	Not Listed	Not Listed	8	38
Pileated Woodpecker	*Dryocopus pileatus*	Green	Not Listed	Not Listed	Not Listed	3	3
Pine Grosbeak	*Pinicola enucleator*	Red	Not Listed	Not Listed	Not Listed	2	2
Pine Siskin	*Spinus pinus*	Yellow	Not Listed	Not Listed	Not Listed	2	3
Purple Finch	*Carpodacus purpureus*	Green	Not Listed	Not Listed	Not Listed	7	16
Red-breasted Nuthatch	*Sitta canadensis*	Green	Not Listed	Not Listed	Not Listed	5	7
Sharp-shinned Hawk	*Accipiter striatus*	Green	Not at Risk	Not Listed	Not Listed	1	1
Song Sparrow	*Melospiza melodia*	Green	Not Listed	Not Listed	Not Listed	1	1
White-throated Sparrow	*Zonotrichia albicollis*	Green	Not Listed	Not Listed	Not Listed	3	10
White-winged Crossbill	*Loxia leucoptera*	Green	Not Listed	Not Listed	Not Listed	8	14
Yellow-rumped Warbler	*Dendroica coronata*	Green	Not Listed	Not Listed	Not Listed	13	121

APPENDIX H
MI'KMAQ ECOLOGICAL KNOWLEDGE STUDY

A Mi'kmaq Historical and Ecological Knowledge Study for:
Pockwock Wind Farm

Submitted by:

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April 30, 2013

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1 INTRODUCTION

1.1 Indigenous Knowledge and Knowledge Systems

The collective rights of Indigenous Peoples have gained an increased recognition at the international level over the past 25 years. The International Labor Organization Convention-169 recognized the right of Indigenous Peoples to take control over their own institutions, way of life and economic development, as well as to maintain and develop their culture (ILO, 1989). More recently, the United Nations Declaration on the Rights of Indigenous Peoples set out the individual and collective rights of Indigenous Peoples as well as their rights to culture, identity, language, employment, health, education and other issues (UN, 2008). Indigenous knowledge is an integral component of the Indigenous rights movement. Knowledge manifests itself in the Indigenous community's language, identity and culture.

Indigenous Knowledge (IK)[1] fuses the cultural, social and ecological histories of a community. In general, IK systems assume that people are part of the land, they do not own the land and are instead stewards of the land. IK is dynamic, based upon an intimate understanding of the components of non-living (abiotic) and living (biotic) environments. This knowledge is owned by Indigenous Peoples, which differs between peoples. IK is based on four principles (Singh, 2007):

1. IK is dynamic in nature.
2. IK is tradition based: the way in which knowledge is created, preserved and disseminated.
3. IK is collective in nature and is often considered to be the property of the community.
4. IK is transferred through cultural specific transmission mechanisms[2].

The use of IK has been the subject of international discourse. Growing recognition of the limitations of conventional science in solving ecological problems of increasing complexity and magnitude has turned focus back to IK. IK systems are based on the shared experiences, customs, values, traditions, lifestyles, social interactions and spiritual beliefs specific to Indigenous communities. These systems are forever evolving as new knowledge is obtained or generated.

Over the years, the use of Indigenous Traditional Knowledge (ITK) in Environmental Assessments, Environmental Impact Statements and co-management agreements has

[1] Other phrases for Indigenous Knowledge (IK) include Aboriginal Knowledge (AK), Indigenous Traditional Knowledge (ITK) and Aboriginal Traditional Knowledge (ATK).
[2] Mechanisms include but are not limited to storytelling, ceremonies, dances, traditions, arts and crafts, hunting and trapping, beliefs, medicines, innovations

increased substantially. IK is an accumulation of multiple knowledge sources, one of which is 'Traditional Ecological Knowledge'[3] (TEK) (Stevenson, 1996).

IK studies differ from TEK studies in such that IK includes spiritual, cultural and environmental components in the study, while TEK focuses on the environmental knowledge of an Indigenous Nation. TEK studies have been designed to parallel the western science discipline of ecology (Simpson, 2001). Constructing IK into TEK is a process of 'scientizing' IK for use in Western society. A properly designed TEK includes viewing IK as worldviews, values and processes (Simpson, 2001). It is important to include the context in which gives the knowledge its meaning.

The increased awareness and application of IK through TEK studies in non-indigenous society has brought both opportunities and challenges for Indigenous Nations. Meaningful use of IK can provide Indigenous Nations leverage in pursuing both political and property rights (Stevenson, 1996). With the increased use of IK particular attention has been directed to protect and preserve this knowledge from misappropriation, misuse and theft. Of particular concern to Indigenous Peoples has been the unlicensed use by industry, researchers, artists and authors of traditional knowledge that has been developed over centuries (AFN, n.d.).

In Canada, the application of IK in collaboration with the western approach to resource management has occurred primarily through committees and IK studies. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) established an Aboriginal Traditional Knowledge[4] Sub-Committee to facilitate access to and gathering of available IK as well as the incorporation of this knowledge into the COSEWIC species assessment process (COSEWIC, 2012). Section 16.1 of the *Canadian Environmental Assessment Act,* 2012, provides authorities the discretion to consider IK in an Environmental Assessment.

In Nova Scotia an IK study is referred to as Mi'kmaq Ecological Knowledge study (MEKs).

1.2 The Mi'kmaq Nation

Since time immemorial, Mi'kmaq have used and occupied their traditional territory known as *Mi'kma'ki*, which includes Nova Scotia, Prince Edward Island, New Brunswick, parts of Quebec, Newfoundland and the northeastern parts of Maine. Archaeological sites in Nova Scotia provide evidence of Mi'kmaq occupation for over 10,500 years (Assembly of Nova Scotia Mi'kmaq Chiefs, 2007).

Mi'kma'ki is identified through its seven districts: *Kespukwitk, Sikepne'katik, Eski'kewaq, Unama'kik, Piktuk aqq Epetwitk, Sikniktewaq* and *Kespe'kewaq* (Figure 1). Mi'kmaw names for the seven districts came from the geographical characteristics of the area. Traditional socio-political organization consisted of hereditary Local, District and Grand

[3] A review of traditional knowledge sources can be found in Stevensn (1996).

Chiefs. The Local Chief took care of village affairs in a district with advice from a council of Elders. The District Chief presided over all the Local Chiefs in a given district, while the Grand Chief assigned fishing and hunting privileges and was the official spokesperson for the Mi'kmaq Nation. The Grand Chief has the authority to make treaties with other First Nations and governments. Presently, the Grand Chief and Council (Grand Council) are located in *Unama'kik*.

There are 13 Mi'kmaq Bands in Nova Scotia, each occupying specific areas of land, known as reserves. As set forth in the Indian *Act*, *1951,* each Band is led by a Chief and Council.

Figure 1: Traditional Mi'kmaq Districts (from http://www.danielnpaul.com/Map-Mi'kmaqTerritory.html)

1.3 Mi'kmaq Ecological Knowledge

The Mi'kmaq approach to resource management is best defined through the word, *Netukulimk. Netukulimk* describes the relationship between Mi'kmaq and the Creator in which the Mi'kmaq use the resources provided by the Creator for self-support and wellbeing of the individual and community. *Netukulimk* is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of the environment (UINR, 2011). Simply put, one takes only what he or she needs from the environment to provide a livelihood. *Netukulimk* is expressed through the performance of rituals and the keeping of customary practices (Prosper et al., 2011). While some have argued that the eventual dominance of British

colonial rule eroded traditional Mi'kmaq worldviews, there is strong evidence that Mi'kmaq harvests are still governed by *Netukulimk* principles (Prosper et al., 2011).

Mi'kmaq, like many Indigenous Nations, incorporate cultural and social attributes along with sustenance in resource management. A case study provides insight into the Mi'kmaq relationship with *Ka't* (American Eel- Anguilla rostrata) (Davis et al., 2004). Mi'kmaq would spend the winter months near Antigonish, Nova Scotia fishing for *Ka't.* Mi'kmaq use *Ka't* for food, and it is considered to have spiritual qualities as evident by its frequent appearance in many legends and its use as ceremonial offerings. *Ka't* was also used medicinally as the skin was used as braces and bandages.

Mi'kmaq and Western (Post-Colonial) approaches to resource management are different. This difference can be attributed to Mi'kmaq and Western views of the environment.

In the Mi'kmaq culture, it is understood that *Mi'kma'ki* is held in communal ownership and does not belong to a particular person as it is believed that the land was inherited from their ancestors and would be passed on to their children (Berneshawi, 1997). Natural resources, renewable or non-renewable are considered as gifts from the Creator and therefore can neither be owned nor sold (Lyons, 1984 in Berneshawi, 1997). Similarly, neither the land nor its resources are viewed as commodities. In contrast Western approaches to resource management employ the control and ownership of land and resources. In Canada, it is understood that the Crown, represented by the federal government owns resources (renewable and non-renewable), lands and waters that fall within state boundaries. The federal government facilitates access to the resources and land through a series of licenses and agreement made between federal departments and individuals or corporations. In the Western approach to resource management, these assets are viewed as commodities that can be sold for profit.

In 2008, the Assembly of Nova Scotia Mi'kmaq Chiefs adopted a Mi'kmaq Ecological Knowledge Study protocol which described MEK as a term that "refers to any knowledge relating to the environment including water, land and resources" (MRI, 2008, 1). This knowledge can be cultural, spiritual or ecological. The concept of MEK is not static, but is instead derived from the cumulative experiences of the Mi'kmaq people, based in their traditional territory. In this manner MEK considers and incorporates emerging resource issues. It is therefore important for any MEKS to accurately include Mi'kmaq knowledge of the affected resources, lands and waters in order to understand the relationship between the Mi'kmaq and the project area. As discussed above (section 1.1), a MEKS must describe the cultural, spiritual and ecological relationship of Mi'kmaq with the proposed project site.

1.4 Project Study Areas

Mi'kmaq Ecological Knowledge studies for four wind farms: Millbrook, Truro Heights, Whynott's Settlement and Pockwock are being conducted simultaneously. NEXUS Coastal Resource Management has been engaged to conduct a Mi'kmaq Ecological Knowledge Study for the four Study Areas. The proposed wind turbine farms are located in two Mi'kmaq Districts: *Kespukwitk and Sikepne'katik*

This report deals with the specifics of the proposed farm located in Pockwock, NS (Figure 2).

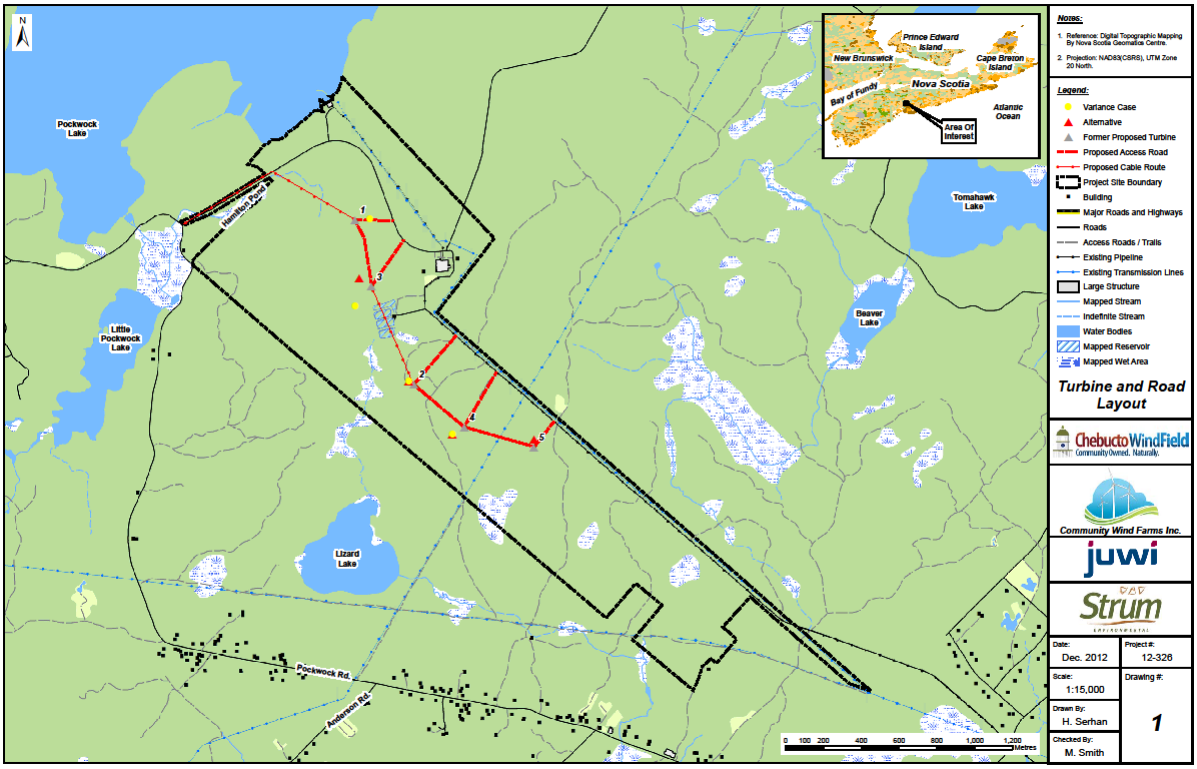

Figure 2: Proposed wind farm in Pockwock, NS

2 BACKGROUND

2.1 Historical Context

Traditionally the Mi'kmaq Nation was a member of the Wabanaki Confederacy, a loose coalition that included the Maliseets, the Pasamaquoddy, the Penobscots, Wowenock and the Eastern and Western Abenakis (Berneshawi, 1997). The Confederacy influenced tribal life from the Gaspé Peninsula to northern New England. The Confederacy continued to function until the early 1700s, at which time the decimation of its member nations by disease and war with the English caused it to become dormant (Paul, 2006).

Traditional Mi'kmaq social structure consisted of a matrilineal, egalitarian and is family centered with living with extended family being common place (Berneshawi, 1997). The strong family connection ensured that the needs of a community were put ahead of individuals. Sharing and the communal use of resources were important for the survival of the Mi'kmaq. There was no hierarchy authority amongst Mi'kmaq. Decision making was made through a consensus approach. The daily life of the Mi'kmaq centered on finding and preparing food, and the sharing of wealth among members of the village (CMM, 2007). Mi'kmaq depended on their knowledge of the seasons, weather, animals, plants and hunting and preparation skills for survival. This knowledge was passed down from generation to generation. Mi'kmaq education included the teaching of traditional hunting skills, construction techniques, food preparation, etc. Traditional teachings, stories, and histories were collected and passed on through an oral tradition.

Archaeological evidence and oral histories suggest that Mi'kmaq travelled to various camps throughout the year. The proportion of terrestrial mammals, marine mammals, fish and shellfish vary greatly across sites and occupations indicating that Mi'kmaq used camps for specific uses (Barsh, 2002).

In the early 1500s, European fishermen travelled to the coasts of North America to fish the Grand Banks off Newfoundland. These fishermen would occasionally come to shore to dry the fish they caught. In the late 1500s a fur trade between Mi'kmaq and Europeans was established and Europeans begun to create settlements throughout *Mi'kma'ki.*

Prior to the fur trade with Europeans, the Mi'kmaq diet consisted largely of meat, animal fat, fish, berries and nuts and broth (Miller, 1976; Krieger, 2002). Mi'kmaq undertook seasonal migrations which aligned with food sources: wild berries, tubers, nuts and herbs (also used for medicine). During the summer months Mi'kmaq lived in coastal villages to harvest seafood and berries; during the winter months they dispersed into smaller bands and moved inland to hunt big game and fish in the rivers. In addition to being used as food, Mi'kmaq used plants for cures and prevention for many common

ailments (UINR, 2010). The fur trade brought non-traditional foods to the Mi'kmaq in exchange for fur. Trade would have included dried peas, corn, beans, prunes, and wheat flour among other things (Miller, 1976).

The 1600s and 1700s were marked by a series of wars between the French and British. These wars often included alliances made between the Europeans, the Mi'kmaq and other First Nations. One of the first treaties between the Mi'kmaq and the British was signed in 1725 in Boston, later ratified by many Mi'kmaq and Maliseet communities in Annapolis Royal in 1726. This was the first treaty in what is now known as the "Peace and Friendship Treaties". The Royal Proclamation of 1763 reserved a large portion of land in North America as Indian hunting grounds and set out a process for cession and purchase of Indian grounds.

The Grand Council continues to exist, but its authority to govern has been largely transferred by the *Indian Act, 1951*, to the elected Band Chiefs and Councils. There are thirteen Mi'kmaq Bands in Nova Scotia, four of which are located within close proximity of the three proposed wind farms sites. These communities were identified due their proximity to the proposed wind farm sites and their historical and contemporary use of the project area and its resources.

Indian Brook First Nation is one of four reserves of the Shubenacadie Band and is the second largest First Nation community in Nova Scotia. In 1848, an Indian Commissioner settled 14 families at Shubenacadie. Indian Brook is located approximately 26km southeast of the proposed wind farm in Millbrook, NS.

In the late 1700's and early 1800's Millbrook First Nation was originally located along the banks of the Salmon River, but were later moved to a property on King Street in Truro (presently St. Mary's school is located on King Street) to make room for the School of Agriculture (Millbrook, 2013). Millbrook Mi'kmaq refer to the King Street location as Christmas Crossing. In 1873 Millbrook First Nation initiated discussions with the Indian Agent to move their reserve from Christmas Crossing to Millbrook. The original Millbrook reserve had a total of 35 acres. Between 1904 and 1910 an additional 120 acres was purchased by the reserve. Millbrook is located approximately 1.7km west of the proposed wind farm in Millbrook, NS.

Acadia First Nation is comprised of five reserves located throughout Southwestern Nova Scotia. The first reserve, Gold River, was established in 1820, and the Yarmouth reserve was established in 1887. Acadia First Nation gained official status from the Canadian Government in 1971 when the Elders of the region decided to form a united Band (Falls, n.d.). Gold River is located approximately 18km northeast of the proposed wind farm in the Whynott's Settlement, 5km northeast of Bridgewater, in Lunenburg County (Strum, 2011b).

The Glooscap First Nation was formed in the 1800s in conjunction with the Micmac Missionary Society. In 1907, the land of the present day reserve was transferred to his

Majesty the King for use as an Indian Reserve (Glooscap, n.d.). Glooscap is located approximately 50km west of the proposed wind farm in Pockwock, NS.

2.2 Environmental Context

The proposed Pockwock wind farm site is located in Upper Hammonds Plains near Pockwock Lake and Little Pockwock Lake. The site is located within the Chester Ecodistrict, which encompasses about 1465 square kilometers in the south-central area of Nova Scotia. The Chester Ecodistrict is located on the eastern end of the South Mountain granitic batholith. The Ecodistrict slopes in a south to southeasterly direction towards the Atlantic Ocean (Webb and Marshall, 1999). Drainage is sluggish, as rivers and streams weave aimlessly from one shallow lake to another or lose themselves in bogs and swamps (Webb and Marshall, 1999).

2.3 Mi'kmaq Wildlife Uses

Historically, the Mi'kmaq practiced a nomadic lifestyle, migrating between hunting and fishing grounds throughout their traditional lands (Chute, 1999). These migrations followed the seasonal cycles of the plants and wildlife in region, which formed the basis of a pattern of Mi'kmaq subsistence. Much of this migration was dependent on riverine and coastal transportation, resulting in a heavy dependence on fish and seafood, which represented a significant portion of the Mi'kmaq diet. Large mammals, especially moose, were also particularly important due to annual subsistence pattern of the people. This was linked to the size of the animal, its seasonal availability and the wide variety of uses the people employed from it (food, clothing and various tools).

During the early winter the Mi'kmaq hunted spawning seals in coastal areas and near shore islands. As the winter progressed they moved inland to more sheltered areas and hunted large game, such as moose, which moved slowly in the deep snow. Winter was also the time to hunt deer, beaver, otter, muskrat and caribou (Davis, 1997). In the spring the Mi'kmaq moved closer to the coastal areas and estuaries in order to catch fish runs in the rivers, using weirs to catch smaller fish such as smelt, eel or bass, and leisters for larger fish such as salmon. Migratory birds such as ducks and geese also started to return during this period, and were often hunted at night (Davis, 1997). During the summer the Mi'kmaq were able to take full advantage of coastal areas and various species of shellfish available to them such as mussels, clams, whelk, lobster and crab. A variety of salt water fish species, such as the cod, mackerel and plaice also appeared in coastal waters as the summer worn on. In the autumn southward migrations of birds moved through the area and salmon, eel and other fish species began to move down the rivers. Certain species were hunted year round; while others may have been pursed on an opportunistic basis. This is likely the case with large marine mammals such as whales, which the Mi'kmaq valued for food, as a source of oil and for tool making (Barsh, 2002; Lockerby, 2004).

2.3.1 Woodland Wildlife

Table 1 describes the various uses for the large mammals and other animals found in the forests of Nova Scotia. While many of these animals provided meat for food, they also offered other uses such as furs for clothing, bones for tools and a variety of medicinal purposes. The arrival of Europeans also opened up the fur trade which created an additional use for certain species such as the beaver, which were highly valued in foreign markets (Davis, 1997). The Mi'kmaq also used certain animal parts, such as porcupine quills, as decoration on clothing or other items.

Table 1: Mi'kmaq Woodland Wildlife Uses

Species	Common Name, *Mi'kmaw Name[5]	Habitat	Mi'kmaq Traditional Uses	Source
Alces alces	Moose, **Team'* **Tiya:m*	Young forests, including wet sites near lakes and swamps. Common in highlands of Cape Breton Island.	Moose meat was a principal food source, as was the oil made from fat which was able to be stored for long periods. Moose also provided a variety of tools such as bone hand tools, bladders for storage and hides for clothing and shoes, shelter, canoes and variety of other purposes.	Barsh, 2002; Bridgland et al, 2007; Caplan, 1978; Davis, 1997; Lockerby, 2004; Maxwell, 1993; VanWart, 1948; Wicken, 1994
Anura (generic)	Toad, **Ĕmkŏkchăjit* **Amqoqjaji*	Found in a variety of areas near a water source including fields, forests and agricultural lands.	Toads were used for medicinal purposes.	VanWart, 1948
Castor canadensis	Beaver, **Kobet* **Kopit*	Slow-flowing streams, lakes, rivers, marshes, and coastal wetlands, usually in forested areas near aspen stands.	Beaver offered an important seasonal food source, and were also used to in a variety of clothing, tools and medicines. Upon European arrival the beaver would become the most important source of the fur trade.	Barsh, 2002; Caplan, 1978; Davis, 1997; Krieger, 2002; Lockerby, 2004; Maxwell, 1993; McNab, 1998; VanWart, 1948;

[5] DeBlois, 1997; Rand, 1888

Species	Common Name, *Mi'kmaw Name*[5]	Habitat	Mi'kmaq Traditional Uses	Source
				Wallis, 1922: Wicken, 1994
Cervus canadensis	Elk, N/A	Historic presence in Nova Scotia	Elk were a food source, and were likely used in the same manner as other large game.	Davis, 1997; Maxwell, 1993
Felis lynx	Canada Lynx, N/A	Young, dense softwood thickets and swamps. Most common on the highlands of Cape Breton Island.	Lynx furs were sold in the fur trade and also used for clothing.	Barsh, 2002; Maxwell, 1993
Lepus americanus	Hare, **Able'gŭmocch* **Apli:kmuj*	Usually found in conifer thickets and alder swamps	Hare were used as a food source	VanWart, 1948
Lutra canadensis	River Otter, **Ňlktŭk* **Kiw'nik*	Marine or freshwater environments, wetlands.	Otter were hunted for food and fur. The pelts were sold and also used in clothing.	Barsh, 2002; Davis, 1997; Krieger, 2002; Maxwell, 1993; VanWart, 1948; Wicken, 1994
Generic (*Martes)*	Marten, **Abistănāooch'* **Apistanewj*	Usually found in mature coniferous or mixed forest areas.	Marten furs were sold in the fur trade and used in clothing.	Barsh, 2002; Maxwell, 1993
Hystricomorph Hystricidae	Porcupine, **Năbegŏk* **Matuwes*	Found in forested areas throughout mainland Nova Scotia, rare in Cape Breton.	Porcupine were used for food and medicine, and the quills were often dyed and used for decoration of clothing.	Davis, 1997; Krieger, 2002; Maxwell, 1993; VanWart, 1948; Wallis, 1922; Wicken, 1994
Mephitis mephitis	Striped Skunk, **Abŭkcheloo* **Apikjilu*	Semi-open forested areas and agricultural lands.	Skunk furs were sold in the fur trade and parts of the animal were used for medicine.	(Barsh, 2002; VanWart, 1948; Wallis, 1922)
Mustela vison	American Mink, **Moochpĕch'* **mujpej*	Variety of wetland habitats, including watercourses, lakes, marshes, and sea coasts.	Archeological evidence of mink at Mi'kmaq campsites demonstrates historical use.	Barsh, 2002

Species	Common Name, *Mi'kmaw Name[5]	Habitat	Mi'kmaq Traditional Uses	Source
Odocoileus virginianus	White Tailed Deer, **Lŭntook'* **Lentuk*	Edge areas between forests and openings, fields and cut overs close to forest cover areas.	Deer offered a valuable food source, and furs could be used or sold in the fur trade. Parts of deer were also used for medicinal purposes.	Parnaby, 2008; VanWart, 1948; Wallis, 1922
Ondatra zibethica	Muskrat, **Keooāsoo* **Ki:kwesu*	Marshes, lakes, and rivers with roughly equal amounts of open water and above-water vegetation.	Muskrat were trapped for the fur trade; the pelts were also used in clothing.	Maxwell, 1993; McNab, 1998
Procyon lotor	Raccoon, **Amalchoogwĕch'* **Amaljikwej*	Abundant across mainland Nova Scotia and Cape Breton Island. Found in urban areas and edges such as streams, marshes, and field/forest boundaries.	Raccoon furs were sold in the fur trade and parts of the animal were used for medicine.	Barsh, 2002; Wallis, 1922
Rangifer tarandus	Caribou, **Kāleboo* **Kalipu*	Historic presence in Nova Scotia	Caribou offered another large game food and fur source when migrating through Mi'kmaq territory.	Barsh, 2002; Caplan, 1978; Davis, 1997; McNab, 1998; VanWart, 1948; Wicken, 1994
Serpentes (generic)	Snake, **Mtāāskŭm* **Mteskm*	Woodlands, agricultural and rocky areas across the province.	Snakes were used for medicinal purposes.	VanWart, 1948
Tamiasciurus hudsonicus	Red Squirrel, **Adoo'dooguĕch* **Atu:tuwej*	Common throughout mature softwood and mixed wood forests.	Squirrel fur was used in clothing, and parts of the animal were used for medicine.	Maxwell, 1993; Wallis, 1922
Ursus americanus	Black Bear, **Mooin* **Muwin*	Forested or wooded areas and swamps. Also settled areas for easy food sources such as bee hives, agricultural crops, and garbage.	Bear were a food source and the hides could be used or sold.	Barsh, 2002; Caplan, 1978; Davis, 1997; Maxwell, 1993; Parnaby, 2008; VanWart, 1948; Wicken, 1994
Vulpes vulpes	Red Fox, **Wokwis* **Wowkwis*	Found throughout Nova Scotia, usually in agricultural areas intermixed with woods.	Fox were trapped for their pelts, which were sold in the fur trade.	(Barsh, 2002; McNab, 1998)

2.3.2 Freshwater Species

Table 2 represents the freshwater, anadromous and catadromous species utilized by the Mi'kmaq. The majority of these species were used mainly as food sources, however medicinal or other uses were possible. It is also important to note that many animals hold non-utility value, for example the spiritual and cultural significance of Atlantic Salmon to the people of Listuguj or eels to the people of Paq'tknkek.

Table 2: Mi'kmaq Freshwater Species Use

Species	Common Name, **Mi'kmaw Name*[6]	Habitat	Mi'kmaq Traditional Uses	Source
Anura (generic)	Frog, **Ŭchkoolch* **Sqolj*	Various species found in streams, rivers, brooks and lakes throughout the province.	Frogs were used for medicinal purposes	VanWart, 1948
Alosa sapidissima	American Shad, **Ŭmsamoo* **Msamu*	Anadromous fish species lives in coastal waters, returning to freshwater rivers to spawn.	Shad were a source of food.	Barsh, 2002; Caplan, 1978
Anguilla Rostrata	American Eel, **Kat* **Ka:t*	Found in the freshwater streams, rivers, lakes and brackish coastal waters.	Eel were a source of food and parts of the animal were used for medicine.	Barsh, 2002; Caplan, 1978; Maxwell, 1993; McNab, 1998; VanWart, 1948; Wicken, 1994
Coregonus huntsmani	Atlantic Whitefish, N/A	Anadromous species found in lakes, rivers and estuaries.	Whitefish were a source of food.	Barsh, 2002
Esox (generic)	Pike, **Měskilk nŭmāāch*	Found in lakes rivers streams and brackish waters.	Pike were a source of food.	Barsh, 2002
Perciformes (generic)	Bass, **Chegaoo* **Jikaw*	Nova Scotia is home to various species of bass which range from fresh to salt water habitats.	Bass were a source of food.	Barsh, 2002; VanWart, 1948
Salmo/Salvelinus(generi	Trout,	Various species found in streams, rivers,	Trout were a source of food.	Barsh, 2002;

[6] DeBlois, 1997; Rand, 1888

Species	Common Name, *Mi'kmaw Name[6]	Habitat	Mi'kmaq Traditional Uses	Source
c)	*Adagwaasoo *Atoqwa:su	brooks and lakes throughout the province.		Caplan, 1978; Maxwell, 1993; VanWart, 1948; Wicken, 1994
Salmo salar	Atlantic Salmon, *Pălămoo *Plamu	Found in the Northern Atlantic ocean, returning to freshwater rivers and streams each year to spawn.	Salmon were an important seasonal food, as well as symbol of cultural identity for Mi'kmaq of Listuguj.	Caplan, 1978; Davis, 1997; Krieger, 2002; Maxwell, 1993; McNab, 1998; VanWart, 1948; Wicken, 1994
Siluriformes (generic)	Catfish, *Ŭtkogwĕch'	Shallow muddy lakes or slow moving streams	Catfish were a source of food.	Barsh, 2002
Testudines (generic)	Turtle, *Mikjikj	Various species found in streams, rivers, brooks and lakes throughout the province.	Turtles were a source of food.	Caplan, 1978

2.3.3 Birds

Table 3 depicts the various bird species harvest by the Mi'kmaq. While the majority of the species were used for food purposes (meat or eggs), other uses included feathers for guides on arrows, or for decorative purposes. It is important to note that some of the birds listed refer to generic groups, the uses and species of which were not always specified. For example, references to eagles as food may refer to the collection of eggs, or may encompass a wide variety of birds such as turkey vultures. The migratory nature of many birds would have limited the Mi'kmaq to seasonal harvests, while other woodland or marine species could be found year round.

Table 3: Mi'kmaq Bird Use

Species	Common Name, *Mi'kmaw Name[7]	Habitat	Mi'kmaq Traditional Uses	Source
Accipitridae (generic)	Eagle, **Kitpoo* **Kitpu*	Isolated forested areas near large bodies of water.	Large birds offered a food source, and feathers were used as guides on arrows.	Lockerby, 2004; Maxwell, 1993
Anatidae (generic)	Duck, **Apchechk*	Wetlands, lakes, rivers, streams and coastal areas.	Ducks were a source of food.	Barsh, 2002; Caplan, 1978; Davis, 1997; Maxwell, 1993; VanWart, 1948; Wicken, 1994)
Anas (generic)	Teal, **Ŭchŭgwè'ch'*	Wetlands, lakes, rivers, streams and coastal areas.	Teal were a source of food.	VanWart, 1948
Anserini (generic)	Goose, **Senŭmkw'* **Takli*:j	Wetlands, lakes, rivers, streams and coastal areas.	Geese were a source of food.	VanWart, 1948
Branta bernicla	Brant Goose, **Mogŭlaweech*	Wetlands, lakes, rivers, streams and coastal areas.	Brant Geese were a source of food.	Lockerby, 2004; Maxwell, 1993
Branta canadensis	Canada Goose, N/A	Wetlands, lakes, rivers, streams and coastal areas.	Canada Geese were a source of food.	Lockerby, 2004
Clangula hyemalis	Oldsquaw, N/A	Wetlands, lakes, rivers, streams and coastal areas.	Oldsquaw were a source of food.	Lockerby, 2004
Columbidae (generic)	Wild Pigeon, **Pŭles'* **Ples*	Common throughout the province in farmlands and residential or urban areas.	Wild pigeons were a source of food.	VanWart, 1948
Gallinago gallinago	Common Snipe, **Oonŏkpŭdeĕg'isoo* **Jijikwatej*	Found in coastal areas, particularly wet meadows or bushy swamps.	Snipe were a source of food.	VanWart, 1948
Laridae (generic)	Gull,	Found in coastal areas around the province	Gulls were a source of food.	Lockerby, 2004

[7] DeBlois, 1997; Rand, 1888

Species	Common Name, *Mi'kmaw Name[7]	Habitat	Mi'kmaq Traditional Uses	Source
	*Kŭlokŭndeĕch'			
Mergus merganser	Merganser, N/A	Wetlands, lakes, rivers, streams and coastal areas.	Mergansers were a source of food.	Lockerby, 2004
Perdix (generic)	Partridge, *Pŭlowwĕch' *Plawej	Hardwood or mixed forest areas, near streams or openings.	Partridge was a source of food.	Maxwell, 1993; VanWart, 1948
Phalacrocoracidae	Cormorant, *Mqatawapu	Coastal areas around the province	Cormorants were a source of food.	Lockerby, 2004
Somateria mollissima	Common Eider, N/A	Coastal areas near shellfish beds.	Eider was a source of food.	Lockerby, 2004

2.3.4 Marine Species

Table 4 summarizes Mi'kmaq use of salt water marine species, as well as anadromous species principally found in ocean environments. Similar to freshwater species, many of the fish listed in this table were used primarily as a food source, although large marine mammals such as whales and seals offered multiple uses. A large portion of the Mi'kmaq diet consisted of seafood, and while the study areas are not directly adjacent to the coast it is important to note these uses as seasonal variations and migrations of these species played a large role in determining how and when the people moved across the land.

Table 4: Mi'kmaq Marine Species Use

Species	Common Name, *Mi'kmaw Name[8]	Habitat	Mi'kmaq Traditional Uses	Source
Acipenser oxyrhynchus oxyrhynchus	Atlantic Sturgeon, *Komkŭdămoo *Komkotamu	Anadromous fish found in coastal waters and rivers.	Sturgeon were a source of food.	Barsh, 2002; Caplan, 1978; Davis, 1997; Lockerby, 2004; McNab, 1998;

[8] DeBlois, 1997; Rand, 1888

Species	Common Name, *Mi'kmaw Name[8]	Habitat	Mi'kmaq Traditional Uses	Source
				Wicken, 1994
Alosa pseudoharengus	Alewife, (Gaspereau) **Abit petŭbĕt'* **Segoonŭmĕkw'* **Kaspalaw*	Anadromous species found in lakes rivers and coastal waters.	Alewife were a source of food.	Caplan, 1978; McNab, 1998; Wicken, 1994
Bivalvia (generic)	Clam, **Āās*; *Ā'sŭk* **Ŭpkwāāsk* **Sebooāās* **Boogoonŭmowāās* *E:*sik*	Gravel and sand beaches in protected bays.	Clams were a source of food.	Barsh, 2002; Caplan, 1978; VanWart, 1948
Brachyura (generic)	Crab, **Nŭmjimegĕch'* **Jakej*	A variety of crab species are found in Nova Scotia's coastal waters.	Crabs were a source of food.	Barsh, 2002; Caplan, 1978; VanWart, 1948
Buccinidae (generic)	Whelk, N/A	Found in coastal waters with muddy or sandy bottoms.	Limpets were a source of food.	Barsh, 2002
Cardiidae (generic)	Cockles N/A	Found in coastal waters on muddy or rocky bottoms.	Cockles were a source of food.	Barsh, 2002
Cetacea (generic)	Whale, **Năbeák'* **Put'p*	A variety of whales are found in Nova Scotia's coastal waters.	Whales were used as a food source, fat was stored as oil and bones were used for tool making.	Barsh, 2002; Lockerby, 2004
Clupea harengus	Atlantic Herring, **Agoogŭmĕkw'* **N'me*:ji:j	Migratory species found in coastal waters of Nova Scotia.	Herring were a source of food.	Barsh, 2002; Caplan, 1978; Krieger, 2002
Cottidae (generic)	Sculpin, **Kŭlok* **Klakw*	Demersel fish found in waters along the Atlantic Coast.	Sculpin were a source of food.	Barsh, 2002
Echinoidea (generic)	Sea Urchin, N/A	Coastal areas with shallow rocky bottoms	Urchins were a source of food.	Barsh, 2002; Caplan, 1978
Gadus morhua	Atlantic Cod, *Pějoo **Peju*	Benthopelagic fish found in coastal waters.	Cod were a source of food and medicine.	Barsh, 2002; Caplan, 1978; Davis, 1997; McNab, 1998;

Species	Common Name, *Mi'kmaw Name[8]	Habitat	Mi'kmaq Traditional Uses	Source
				VanWart, 1948; Wallis, 1922; Wicken, 1994
Hippoglossus (generic)	Halibut, *'*Msânĕkw'*	Benthic species found in coastal waters	Halibut were a source of food.	Caplan, 1978; Lockerby, 2004
Hippoglossoides platessoides	Plaice, N/A	Benthic species found in coastal waters	Plaice were a source of food.	Caplan, 1978
Homarus americanus	American Lobster, **Wŏlŭmkwĕch';* **Chŭgĕch'* **Jakej* **Walumkwej*	Rocky bottoms in coastal waters.	Lobsters were a source of food, and the claws were used as pipes.	Barsh, 2002; Caplan, 1978; Maxwell, 1993; VanWart, 1948
Mallotus villosus	Capelin, N/A	Migratory species found in coastal waters. Spawn on rock and sand beaches	Capelin were a source of food.	Caplan, 1978
Microgadus tomcod	Tomcod, **Poonămoo* **Punamu*	Found in coastal waters of Nova Scotia.	Tomcod were a source of food.	Davis, 1997; Caplan, 1978; Davis, 1997
Odobenus rosmarus rosmarus	Atlantic Walrus , N/A	Large areas of shallow, open water with abundant clam community near ice or low, rocky shores with steep subtidal zones.	Walrus were a source of food.	Barsh, 2002; Caplan, 1978
Osmeridae (generic)	Smelt, **Kákpāsow'* **kaqpesaw*	Anadromous species found in coastal waters, rivers, and streams.	Smelt were a source of food.	Barsh, 2002; Caplan, 1978; Davis, 1997; McNab, 1998; VanWart, 1948
Ostreidae (generic)	Oyster, **Nŭmtŭmoo'* **M'ntmu*	Marine or brackish intertidal zones	Oysters were a source of food and were also used to polish bows.	Maxwell, 1993; Wicken, 1994
Patellogastropoda (generic)	Limpet, N/A	Found in intertidal rocky zones.	Limpets were a source of food.	Barsh, 2002
Pectinidae (generic)	Scallop, **Sâkskalāās* **Sasqale:s*	Sea scallops live in deep waters with sandy bottoms, while bay scallops live in sandy bays and estuaries.	Scallops were a source of food.	Barsh, 2002; Caplan, 1978; VanWart, 1948

Species	Common Name, *Mi'kmaw Name[8]	Habitat	Mi'kmaq Traditional Uses	Source
Pinnipedia (generic)	Seal, **Wŏspoo* **Waspu*	Found in coastal waters, bays, harbours, estuaries and islands.	Seals offered a source of good and oil, and were also used in medicines.	Barsh, 2002; Caplan, 1978; Davis, 1997; Krieger, 2002; Lockerby, 2004; Maxwell, 1993; VanWart, 1948; Wicken, 1994
Pleuronectidae (generic)	Flounder, **Anagwāāch* **Anakwe:j*	Benthic species found in coastal waters.	Flounder were a source of food.	Barsh, 2002; Caplan, 1978
Pseudopleuronectes americanus	Winter Flounder, N/A	Benthic species found in coastal waters.	Winter flounder were a source of food.	Caplan, 1978
Pteriomorphia (generic)	Mussel, **Sipuwe*:s	Found in rocky intertidal zones.	Mussels were a source of food.	Barsh, 2002; Caplan, 1978; VanWart, 1948; Wicken, 1994
Rajidae (generic)	Skate, **Kĕgŭnălooĕch'* **Na'qum*	Found in coastal waters of Nova Scotia.	Skate were a source of food.	Barsh, 2002; Caplan, 1978
Scomber scombrus	Atlantic Mackerel, **Agoogŭmĕkw'* **N'me:ji:j*	Migratory pelagic fish found in coastal waters and estuaries.	Mackerel were a source of food.	Barsh, 2002; Caplan, 1978
Teuthida (generic)	Squid, **Sedaasoo* **Seta:su*	Found in deep water coastal areas.	Squid were a source of food.	Caplan, 1978
Xiphias gladius	Swordfish, **Keneskooněch'* **Kniskunej*	Migratory fish found in coastal waters of Nova Scotia.	Swordfish were a source of food.	Barsh, 2002

2.4 Traditional Plant Uses

Plants, alongside other natural resources, continue to have an intricate role within the Mi'kmaq culture, society and community. The uses of plant species ranged from being major food sources, to providing cures for ailments and providing the raw materials for the construction of tools.

2.4.1 Food Plant Species

Since the colonization of the new world indigenous societies have shared their knowledge of plant species with newcomers. It has been estimated that some fifty plants useful as food have found their way into our diets as a result of earlier cultivation by Indigenous societies (Hamilton, 1974). Indigenous contributions to the modern Western diet include: corn, fiddleheads, potatoes, squash, berries, tobacco and maple syrup. For example, the Mi'kmaq were the first to produce maple syrup by facilitating the sap run using reeds or pieces of bark to collect sap into birch bark containers which were sealed with pine resin for waterproofing (Hamilton, 1974). Table 5 references plant species that were traditionally consumed for food purposes by the Mi'kmaq.

Table 5: Plant Species Traditionally Consumed for Food by Nova Scotia Mi'kmaq.

Scientific Name	Common Name (**Mi'kmaw Name*[9])	Habitat	Mi'kmaq Traditional Uses	Source
Abies balsamea	Balsam Fir **Stoqn*	Various	Bark used for beverage and medicine	Speck and Dexter, 1951; Lacey, 1977
Acer pensylvanicum	Striped Maple; Moosewood; ** Mimkutaqo'q*	Rocky woods, rich deciduous forests, wooded slopes and along streams	Bark used for tea	Speck and Dexter, 1951, 1952; Lacey, 1977; Wallis and Wallis 1955
Acer saccharum	Sugar Maple; ** Snawey*	Well-drained soils	Sap boiled into syrup, and a beverage tea was made from the bark and twigs, Used as cooking broth	Speck and Dexter ,1951; Stoddard ,1962

[9] DeBlois, 1996

Scientific Name	Common Name (*Mi'kmaw Name[9])	Habitat	Mi'kmaq Traditional Uses	Source
Acorus americana	Sweetflag[10]; * *kiw'eswa'skul*	Wet places and the borders of quiet streams. marshes, the edges of ponds and wet meadows. Coastal marshes just above high tides.	Rootstocks used to make a beverage and medicinal tea. Tubers eaten raw, or more commonly boiled or roasted	Yanovsky, 1936; Speck and Dexter, 1951; Wallis and Wallis 1955; Lacey, 1977
Allium tricoccum	Wild leek	Rich deciduous forests and intervals	Bulbs, fresh and dried	Speck and Dexter, 1952; Stoddard, 1962
Apios americana	Groundnut	Thickets and along rivers in alluvial soils	Groundnuts used	Speck and Dexter, 1951
Aralia nudicaulis	Wild Sarsaparilla; * *Wopapa'kjukal*	Dry woodlands and old forests	Used to make a beverage.	Speck and Dexter, 1951
Arctostaphylos uva-ursi	Bearberry * *Kinnickick*	Sandy or gravelly soils	Berries eaten	Speck and Dexter, 1951, 1952
Asclepias syriaca	Common Milkweed	Light soils	The young shoots, stems, flower buds, immature fruits, and even the roots were boiled and eaten as a vegetable The Mi'kmaq cooked the young pods and flowers with meat	Stoddard, 1962
Betula alleghaniensis	Yellow Birch; * *Nimnoqn*	Various	Drank sap, rendered it into syrup and sugar, made tea from the twigs	Waugh, 1916; Stoddard, 1962; Lacey, 1977
Chenopodium album and closely related species	Lambsquarters; Pigweed; Goosefoot	A weed of cultivated and waste ground	Leaves and plants eaten as green, edible greens and seeds. The young plants were cooked as a potherb	Speck and Dexter, 1951, 1952
Cornus sericea ssp. sericea	Red Osier Dogwood; Red Willow; * *Wjkulje'manaqsi*	The edges of intervals, brook sides, wet meadows, and ditches along roadsides. Most common in rich, alkaline soils	Mi'kmaq people made a tea from the bark of dogwood probably this species.	Wallis and Wallis, 1955
Corylus cornuta	Beaked Hazelnut; * *Malipqwanj*	Dry and open woods. Sometimes in climax forests, scattered along roadside	Nuts used	Speck and Dexter, 1951, 1952; Stoddard, 1962

[10] Many references mention Calamus or Sweetflag, *A. calamus*, which does not occur in the Maritime provinces. The species present in this region is actually *A. americana*.

Scientific Name	Common Name (*Mi'kmaw Name[9])	Habitat	Mi'kmaq Traditional Uses	Source
		thickets, along edges of fields and along margins of woods.		
Crataegus spp.	Thornapple; Hawthorn; **kawiksa'qoaqsi*	Various, depending on species	Fruit used fresh and to make beverage	Rousseau, 1945; Speck and Dexter, 1951, 1952; Black, 1980; Speck and Dexter, 1951, 1952; Adney, 1944
Erythronium americanum	Trout Lily; Dogtooth Violet	Upland woods of beech and maple, and along the edges of intervals	Bulbs eaten raw, boiled, or baked in the hot ashes of a fire	Stoddard, 1962
Fagus grandifolia	American Beech	Fertile uplands, rarely in swamps	Nuts used	Speck and Dexter, 1951, 1952
Fragaria virginiana , F. vesca	Virginia and Woodland Strawberries ** Atuomkminaqsi*	Old fields and road sides	Berries used fresh or preserved, or made into beverage	Speck and Dexter, 1951; 1952; Adney, 1944; Rousseau, 1945
Fraxinus pennsylvanica	Red Ash	Near lakes or ponds, or in other low-lying areas	Sap of ash was added to maple and yellow birch sap	Stoddard, 1962
Gaultheria procumbens	Wintergreen; Teaberry; Checkerberry; ** Ka'qaju'mannaqsi*	Woods, barrens, pastures	Berries eaten , Mi'kmaq were said to make juice from the berries	Stoddard, 1962; Speck and Dexter, 1952; Lacey, 1977
Gaylussacia sp.	Huckleberry	Barrens and bogs	Berries eaten	Waugh, 1916; Speck and Dexter, 1951, 1952
Hamamelis virginiana	Witch-hazel	Rocky woods or near cliffs where there is underground water	A decoction of this plant, sweetened with maple sugar, was used as a tea. Also ate the "nuts". Twigs used for beverage	Waugh, 1916; Stoddard, 1962; Lacey, 1977
Helianthus tuberosus	Jerusalem Artichoke	Waste ground, intervales, rich soils	Tubers eaten.	Speck and Dexter, 1951
Juglans cinerea	Butternut	NOT IN NS	Nuts used	Speck and Dexter, 1951
Juniperus communis	Low Bush; Common Juniper; **Kini'skweji'jik; kinikwejitewaqsi*	Sandy areas, old pastures, heaths and bogs	Boughs, with or without the fruits, were used to make a beverage tea	Wallis and Wallis, 1955; Lacey, 1977
Lathyrus maritimus	Beach Pea; **Alawey*	Coastal, along the strand line, mostly in beach gravel. Occasionally a considerable	Pea used	Speck and Dexter, 1951, 1952

Scientific Name	Common Name (*Mi'kmaw Name[9])	Habitat	Mi'kmaq Traditional Uses	Source
		distance from shore		
Matteuccia struthiopteris	Ostrich Fern; * *Ma'susi'l*	Rich, moist soils, often on floodplains. Occasionally in low-lying areas and swamp borders. Often in pure stands	The young vegetative shoots, or "fiddleheads," and sometimes the entire crown, were traditionally eaten, boiled or roasted, as a spring vegetable	
Mitchella repens	Partridge Berry	Moist places, forest ground cover	Berries were eaten fresh or preserved. Used the plant for a beverage tea	Speck, 1917; Speck and Dexter, 1951, 1952,
Picea glauca	White Spruce; Cat Spruce; * *Kawatkw; kawtk*	Old fields and along the coast	Bark used for beverage and medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955;Stoddard, 1962; Lacey, 1977
Picea mariana	Black Spruce; Bog Spruce; * *Kawatkw*	Bogs, swamps and poorly drained areas	The bark of black spruce was used to make a beverage or medicinal tea by the Mi'kmaq of the Maritimes	Speck and Dexter, 1951; Wallis and Wallis, 1955; Lacey, 1977
Pinus strobus	Eastern White Pine	Bogs, swamps and poorly drained areas	Bark used for beverage, Inner bark grated and eaten	Speck and Dexter, 1951; Wallis and Wallis, 1955; Lacey, 1977
Prunus americana	American plum	Does not occur in NS, suspected to be received in trade from outside region (Leonard 1996)	Fruit and beverage	Speck and Dexter, 1951,1952; Leonard, 1996
Prunus spp.	Wild Cherries	Thickets, clearings and open woods	Boiled cherry twigs and bark for tea	Stoddard, 1962; Lacey, 1977; Speck and Dexter, 1951, 1952; Adney, 1944
Quercus sp.	Oak	In light or well drained soils and granitic areas	Nuts used	Speck and Dexter, 1951, 1952
Rhexia virginica	Handsome Harry; Meadow Beauty	Peaty lake margins and swales or wet thickets	Leaves were steeped to produce a sour drink	Speck, 1917; Lacey, 1977
Rhododenrdon (syn. Ledum) groenlandicum	Labrador Tea; * *Apuistekie'ji'jit*	Bogs, wooded swamps, wet barrens, and poorly-drained clearings and pastures	The leaves, and sometimes the whole leafy twigs and flowers, of both species were used, fresh or dried, for tea	Speck, 1917; Speck and Dexter, 1951,1952; Wallis and Wallis, 1955; Stoddard, 1962; Lacey, 1977
Ribes americanum	Wild Black Currant	Fertile thickets and slopes	Berries eaten fresh or dried and preserved	Speck and Dexter, 1951, 1952

Scientific Name	Common Name (*Mi'kmaw Name[9])	Habitat	Mi'kmaq Traditional Uses	Source
Ribes spp.	Wild Gooseberry; Currant	Various, depending on species	Fruit	Speck and Dexter, 1951, 1952
Rubus canadensis	Canada Blackberry; * *Ajioqjominaqsi*	Clearing, thickets, and the edges of woods.	Berries used fresh or preserved, made into beverage	Waugh, 1916; Gilmore, 1933, Speck and Dexter, 1951, 1952; Arnason et al., 1981
Rubus idaeus	Red Raspberry; * *Klitawmanaqsi'k*	Roadsides, deforested land, talus slopes, and rocky ground	Berries used fresh or dried, juice made from berries	Speck and Dexter, 1951, 1952; Stoddard, 1962
Rubus sp.	Blackberry	Various, depending on species	Fruit & beverage	Speck and Dexter, 1951, 1952
Sambucus nigra	European Elder; * *Pukulu'skwimanaqsi'l*	Rich soil, open woods, around old fields and along brooks. On damp ground or wet floodplains	Berries were eaten fresh or dried for winter storage	Speck and Dexter, 1951, 1952; Stoddard, 1962
Sambucus racemosa	Red Elderberry; * *Pukulu'skwimanaqsi'l*	Meadows, wet places, rocky hillsides and along streams. In rich soils	The juicy, tart berries were eaten fresh or dried for winter storage	Speck and Dexter, 1951, 1952
Taraxacum officinale	Common Dandelion	An aggressive weed in lawns, pastures, and even cultivated soil.	Young leaves eaten raw or cooked	Rousseau, 1945; Speck and Dexter, 1951, 1952
Taxus canadensis	Canada Yew	Cool damp woods, ravines, climax coniferous forest, and wooded swamps.	Twigs made into beverage	Lacey, 1977
Tsuga canadensis	Eastern Hemlock	Lakesides and swamps or old pastures, northern slopes or ravines	The inner bark of was grated and eaten by the Mi'kmaq of the Maritimes, and the bark was also used as a beverage and medicinal tea	Speck and Dexter, 1951; Wallis and Wallis, 1955; Stoddard, 1962; Lacey, 1977
Vaccinium spp.	Blueberries; Bilberries; Cranberries	Various, depending on species	Berries used fresh or dried and also the Mi'kmaq made juice from blueberries and bilberries for drinking, but did not state which species were involved.	Speck and Dexter, 195 1,1952; Adney, 1944; Lacey, 1977
Vaccinum macrocarpon	Large -fruited Cranberry	Bogs	Berries eaten fresh	Waugh, 1916; Speck and Dexter, 1951,1952; Stoddard, 1962; Black, 1980
Vaccinum. vitis-idaea	Foxberry; Mountain Cranberry;	Cooler regions, such as exposed, coastal headlands	Berries	

Scientific Name	Common Name (*Mi'kmaw Name[9])	Habitat	Mi'kmaq Traditional Uses	Source
	* *Poqomannaqsi*	and barrens		
Viburnum opulus	Highbush Cranberry; * *Nipanmaqsi'l*	Swamps and along streams	Berries used fresh or in preserve	Speck and Dexter, 1951, 1952

2.4.2 Medicinal Plant Species

Diverse healing systems have developed throughout the world. Although these systems differ greatly in their methods, they are based on the common goal of maintaining the human condition in a state of health (Cook, 2005). Throughout history and today, the Mi'kmaq have learned to use various plant species for medicinal purposes and other uses. This knowledge and use of natural resources is informally passed on from generation to generation. The transfer of knowledge between generations is an important cultural component within Indigenous cultures, in particular amongst the Mi'kmaq. Furthermore, this knowledge acts as a mechanism in which Indigenous communities are able to form a spiritual understanding of the balance between people and their local environment.

Early records indicate that the pre-contact Mi'kmaq society did not require drug therapy as used in modern Western medicine, as good health was generally the natural state of the people (Lacey, 1993). The Mi'kmaq had developed an in-depth and intimate knowledge of local plants, and how they could be used for sustenance, and in some cases, to cure illnesses. Shamans treated serious illnesses, while minor external injuries were dressed with medicines derived from plants, trees and animals parts. Many of these remedies were cures, while others were preventive medicines and others, if not used properly, could be poisonous (TEWC, 1999). As the Mi'kmaq began to experience frequent contact with Europeans they were exposed to new illnesses and their general health conditions began to deteriorate. These harsh conditions drew out the resourcefulness of the Mi'kmaq as they gradually acquired remedies to combat ailments, which were unknown a few generations earlier (Lacey, 1993).

The Mi'kmaq have a long history of territorial occupation by immigrant populations, making them one of the most studied people for the use and knowledge of their traditional medicines (Speck, 1917; Wallis and Wallis, 1955). As a result a number of guidebooks have been published on the subject. Table 6 provides a list of plant species known to be used for medicinal purposes by Mi'kmaq, which may be present in the Study Area.

Table 6: Plant Species Traditionally Used for Medicinal Purposes by Nova Scotia Mi'kmaq.

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Abies balsamea	Balsam Fir; * *Stoqn*	Various regions including mountains, canyons and valleys	Balsam used as sore and wound dressing	Le Clerc, 1910
			Balsam used to treat broken bones	Dièreville, 1933
			Bark used for beverage and medicine	Speck and Dexter, 1951; Lacey, 1977
			Buds used as a laxative	Chandler et al., 1979
			Buds, cones and inner bark used for diarrhea	Chandler et al., 1979
			Colic: cones used	Wallis, 1922
			Cones used for colic	Chandler et al., 1979
			Gum used for bruises, sores and wounds	Chandler et al., 1979
			Gum used for burns	Chandler et al., 1979
			Gum used for colds	Chandler et al., 1979
			Sores, swelling: boil inner bark	Speck, 1917
			Used to treat asthma, colds, colic, coughs, congestion, cuts, flu, sores, sore throat, tuberculosis, ulcers	Lacey, 1993
Acer alba	White Maple; Silver Maple; River Maple; Swamp Maple; *Snawey	Planted in urban areas, commonly found on stream banks, flood plains and lake edges.	Bark used as a cough remedy	Chandler et al., 1979

[11] DeBlois, 1996; Wallis and Wallis, 1955

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Acer pensylvanicum	Moosewood; Striped Maple; Moose Maple; *Mimkutaqo'q; snawey	Minor component in a hardwood forests, tolerant of shade, responds well to increased sunlight	Bark tea used for colds, coughs, influenza	Wallis, 1922
			Bark used for colds	Chandler et al., 1979
			Bark used for coughs	Chandler et al., 1979
			Bark used for medicinal tea	Speck and Dexter, 1951; Lacey, 1977; Wallis and Wallis, 1955
			Wood used for kidney trouble	Chandler et al., 1979
			Wood used for spitting blood	Chandler et al., 1979
Acer saccharum	Sugar Maple; *Snawey	Grows in rich, mesic sites, but also occurs in drier upland forests. Commonly found near American beech, American basswood, northern red and white oak, birch and yellow poplar	Bark used	Speck and Dexter, 1951
Acer sp.	Maple; *Snawey	Found in a variety of diverse regions	Cold, congestion, conjunctivitis, swelling	Lacey, 1993
Acer spicatum	Mountain Maple	Found scattered in the shrub layer of climax forests. Common in upper elevations	Bark used for sore eyes	Chandler et al., 1979
Achillea millefolium	Common Yarrow	Dry or sandy soils as well as damp, salty soils. Pastures, meadows, roadsides, streamsides, and disturbed areas	Bruises, cold, fever, sprain, swelling	Lacey, 1993
			Decoction of plant taken with milk to cause a sweat for colds	Wallis, 1922
			Dried, powdered bark or green leaves rubbed over bruises	Wallis, 1922

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Dried, powdered bark or green leaves rubbed over swellings	Wallis, 1922
			Herb used for colds	Chandler et al., 1979
			Sprains	Wallis, 1922
Acorus americanus (frequently misidentified as A. calamus in many references)*	Sweet Flag; Flagroot; Muskrat Root; Calamus; *Kiw'eswa'skul; ki'kwesu'sk	Growth in marshes, quiet streams and wet meadows	Root used for beverage and medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955
			Root used for colds	Chandler et al., 1979
			Root used for coughs	Chandler et al., 1979
			Use to treat colic, Cholera, Cough, Belching, Cramps, Preventive, Stomach Cramps, Gastrosis, Preventive	Lacey, 1993
Actaea racemosa var. racemosa	Black Bugbane	Grows in a variety of woodland habitats, found in small woodland openings	Root used for kidney trouble	Chandler et al., 1979
Aletris farinosa	White Colicroot	Low crowing perennial herb, found in open dry habitats associated with tall-grass prairies	Root used as a stomachic	Chandler et al., 1979
			Root used as an emmenagogue	Chandler et al., 1979
			Stomachic tonic, emmenagogue: root used	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Alnus crispa	Alder; *Tupi; Tupsi	Lakeshores and associated swampy areas	Cathartic, cramps, depurative, diptheria, fever, gastrosis, lameness, nephrosis, neuralgia, pain, rheumatism, wounds	Lacey, 1993
Alnus sp.	Alder; *Tupi; Tupsi	Lakeshores and associated swampy areas	Bark and leaves used for festers and bark used for wounds	Chandler et al., 1979
			Bark and leaves used for fevers and festers	Chandler et al., 1979
			Bark used as a physic	Chandler et al., 1979
			Bark used for bleeding	Chandler et al., 1979
			Bark used for cramps	Chandler et al., 1979
			Bark used for retching	Chandler et al., 1979
			Bark used for rheumatism	Chandler et al., 1979
			Bleeding, hemorrhage of lungs, fever, fractures, diphtheria,	Chandler et al., 1979
Anaphalis interecedens	Everlasting	Fields, roadsides, and the border of woods	Fumitory, smoked with tobacco	Lacey, 1993
Angelica sylvestris	Woodland Angelica	Tall plants of moist habitats with dilated sheaths. Found in open or woodland habitats	Infusion of roots and spikenard roots used for coughs	Mechling, 1959
			Infusion of roots and spikenard roots used for head colds	Mechling, 1959
			Root used for cough	Chandler et al., 1979
			Root used for head cold	Chandler et al., 1979
Antennaria neodioica	Everlasting	Fields, roadsides, and the border of woods	Fumitory; dried broken into fine pieces and mixed with tobacco or smoked by themselves	Lacey, 1993

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Apocynum cannabinum	Indian Hemp; Worm Root	Found along roadsides, in thickets, fields, waterways, fields and in disturbed regions	Root used as a vermifuge Used internally as a tea to treat worms	Chandler et al., 1979 Lacey, 1993
Aralia nudicaulis	Wild Sarsaparilla; * *Wopapa'kjukal*	Shady, wooded areas, ranging from moist to dry regions	Cold, cough, flu, wounds	Lacey, 1993
			Cough: root used	Chandler et al., 1979
			Plant used, ailment not provided	Speck and Dexter, 1951
			Root used as a cough medicine	Chandler et al., 1979
Aralia racemosa	American Spikenard	Grows on rocky but highly fertile riverbanks	Colds: steep roots	Lacey, 1977
			Colds, sore eyes, wounds: root	Wallis, 1922
			Infusion of roots and angelica roots used for coughs	Mechling, 1959
			Infusion of roots and angelica roots used for head colds	Mechling, 1959
			Root used for colds	Chandler et al., 1979
			Root used for coughs	Chandler et al., 1979
			Root used for female pains	Chandler et al., 1979
			Root used for headaches and female pains	Chandler et al., 1979
			Root used for kidney troubles	Chandler et al., 1979
			Root used for sore eyes	Chandler et al., 1979
			Root used for spitting blood	Chandler et al., 1979
			Root used for wounds	Chandler et al., 1979
Arctium lappa	Greater Burdock;	Disturbed sites, roadsides and pastures	Buds and roots used for sores	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
	*Kawiksaw; Kelikwet			
Arctium minus	Lesser Burrdock: *Kawiksaw; Kelikwet	Disturbed sites, roadsides and pastures	Depurative, dermatosis, tonic	Lacey, 1993
			Roots used for boils and abscesses	Chandler et al., 1979
Arctostaphylos uva-ursi	Bearberry *Kinnickick	Gravel type or sandy soils	Fumitory, urinary antiseptic	Lacey, 1993
Arisaema triphyllum	Indian turnip; jack-in-the-pulpit; *Tanaps; Wennju:sukapun	Predominate in loose soils and wet woods	Cold, gastrosis, tuberculosis	Lacey, 1993
			Parts of plant used for boils and abscesses	Chandler et al., 1979
			Stomach: root bulb, tuberculosis: root bulb, method not mentioned	Lacey, 1977
Aristolochia serpentaria	Virginia Snakeroot	Found in dry-mesic forests above streams or wetlands	Root used for fits	Chandler et al., 1979
Armoracia rusticiana	Horse Radish, Hot Root, Eptekeway	Old gardens	Digestive, inappetance, stomach	Lacey, 1993
Asarum canadense	Canadian Wildginger	Low growing woodland plants, found in moist, humus rich soils of slowing woodland habitats	Root used for cramps and as a stomachic	Chandler et al., 1979
Asclepias spp.	Milkweeds	Growth in light, sandy soils and an abundant amount of sunlight	Root steeped and used as an emetic	Le Clerc, 1910
Asclepias syriaca	Milkweed	Growth in light, sandy soils and an abundant amount of sunlight	Used to treat poison ivy	Lacey, 1993
Baptisia tinctoria	Horseflyweed	Increases in burnt fields, dry open woods and clearings, sandy acidic soil	Root used for kidney trouble	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Root used for spitting blood	Chandler et al., 1979
Betula alleghaniensis	Yellow Birch; *Nimnoqn; puku;skw	Various regions including mountains, canyons and valleys	Bark tea used for diarrhea	Lacey, 1977
			Twigs used for tea	Lacey, 1977
			Used for cramps, diarrhea, dyspepsia, gastrosis, cramps, cramps, rheumatism	Lacey, 1993
			Wood used as hot-water bottle	Chandler et al., 1979
Betula populifolia	Gray Birch	Found in dry barren uplands, also moist soils, in mixed woodlands	Inner bark used an an emetic	Chandler et al., 1979
			Inner bark used as an emetic	Chandler et al., 1979
			Inner bark used for infected cuts	Chandler et al., 1979
Brassica hirta	White Mustard	Found in openings in mesic forests, but also in riparian floodplains, margins of fens, marshes and streams, and wet meadows, fields and pastures	Tuberculosis of lungs (no part mentioned)	Chandler et al., 1979
Brassica napus	Wild Turnip, Rape; * *tanaps; wennju:-sukapun; wennju:s'pekn*	Found in fields, vegetable gardens, mills, roadsides, loading areas, and rubbish tips	Bark used for colds	Chandler et al., 1979
			Bark used for coughs	Chandler et al., 1979
			Bark used to treat colds, cough, grippe, smallpox	Wallis, 1922
Chelone glabra	White Turtlehead	Found in open woodlands in floodplain areas, thickets in floodplain areas, wet prairies, sedge meadows, seeps, springs, marshes and fens	Herb used to prevent pregnancy	Chandler et al., 1979
Chimaphila umbellata	Pipsissewa, Prince's Pine	Found in coniferous and mixed forests with numerous tree species and dry soils.	Herb used as a blood purifier	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
	*Kuwow			
			Herb used for blisters	Chandler et al., 1979
			Herb used for kidney trouble	Chandler et al., 1979
			Herb used for kidney trouble and rheumatism	Chandler et al., 1979
			Herb used for rheumatism	Chandler et al., 1979
			Herb used for stomach trouble	Chandler et al., 1979
			Jsed as stomach medicine and for tuberculosis	Lacey, 1977
			Used for kidney pains	Rousseau, 1948
			Used for tuberculosis	Lacey, 1993
Chrysanthemum	Field Daisy	Found in gardens, grassy temperate climate, rainfall and sunlight	Used for conjunctivitis	Lacey, 1993
Clintonia borealis	Northern Clintonia	Found in rich coniferous and mixed wood stands, thickets	Root decoction used to treat "gravel" (kidney stones)	Speck, 1917
Comptonia peregrina	Sweet Fern; *masoose	Shrub and brushlands, grasslands, and in open or barren soils	Boils, dermatosis, poison ivy, rheumatism, sore, tonic	Lacey, 1993
			Leaf tea used as tonic	Lacey, 1977
			Leaves used for posion ivy	Chandler et al., 1979
			Leaves used for sprains, swellings, poison ivy and inflammation	Chandler et al., 1979
			Leaves used for swellings and poison ivy	Chandler et al., 1979
			Root used for headache and inflammation	Chandler et al., 1979
Coptis trifolia	Goldthread; * wisowtaqjijl;	Coniferous forests and damp areas such as swamps, hummocks on bogs and	Roots used for sore eyes, root tea uses as stomach medicine	Lacey, 1977

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
	malj:japa:qawey	roadside banks		
			Used for chafing, diabetes, diarrhea, lack of appetiite, stomatosis, stomach cancer, also used as a tonic	Lacey, 1993
Cornus canadensis	Bunchberry, Dwarf Dogwood; * *ŭsogomanŭl*	Various locations; largely in woodlands and scattered throughout bogs	Berries, roots and leaves used forseizures	Chandler et al., 1979
			Leaf tea used for bed wetting and kidney ailments	Lacey, 1977
			Used for enuresis, gastrosis, hemorrhage, nephrosis, wounds	Lacey, 1993
Cornus sericea ssp. sericea	Redosier Dogwood; Red Willow; **Wjkulje'manaqsi*	Commonly found in sandy areas, moist sandy thickets, shrub swamps, shrubby bogs, sand areas along rivers, marshes and sandy ditches	Herb used for headache	Chandler et al., 1979
			Herb used for sore eyes	Chandler et al., 1979
Cornus sp.	Dogwood; **ŭchkoolchemoose; oojegŭnŭmoose*	Sunny moist to wet places, often being the first to colonize wet meadows in floodplains	Bark of unidentified species for tea	Wallis and Wallis, 1955
			Fumitory	Lacey, 1993
Cypripedium acaule	Pink Lady Slipper; Moccasin Flower; * *'mtooögwāāch; lipkŭdămoon'*	Requires acidic soil with a fungus association, but can tolerate a variety of shady and moisture rich areas. Prefers well drained slopes an is usually found in pine and deciduous forests	Nervine, tuberculosis	Lacey, 1993
			Nervousness: root decoction	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Daucus carota	Queen Anne's Lace, Wild Carrot; *enmapet; enmapej	Found in fields, meadows, waste places, roadsides, fence rows, and disturbed habitats	Leaves used as a purgative	Chandler et al., 1979
			Purgative: leaves used	Wallis, 1922
Dirca palustris	Leatherwood, Moosewood	Rich deciduous or mixed woods in moist situations often on calcareous soils	Bark tea used for Colds, coughs, influenza	Wallis, 1922
			Seeds steeped and used as Emetic	Le Clerc, 1910
Eupatorium perfoliatum	Common Boneset	Low meadows and damp grounds such as swamps, bogs, and along streams and ditches	Arthritis, Cold, Insomnia, Gastric ulcers, Pain, Tonic	Lacey, 1993
			Parts of plant used for kidney trouble	Chandler et al., 1979
Euphorbia corollata	Flowering Spurge	Found in mesic to dry black soil prairies, sand prairies, gravel prairies and dolomite prairies; openings in upland forests and sandy forests; various kinds of hill prairies	Root used as an emetic	Chandler et al., 1979
Fagus grandifolia	American Beech; *suwo:musi; munkwaqanemusi	Scattered throughout, mainly in dry forest ridges and atop hills	Used for antiseptic, appetite, enteritis, hepatosis, nephrosis, rheumatism, tonic, tuberculosis	Lacey, 1993
Fragaria virginiana	Virginia Strawberry; *Atuomkminaqsi; klitaw	Often found in disturbed areas from dry to moist open woodlands and clearings	Parts of plant used for irregular menstruation	Chandler et al., 1979
			Plant steeped in water and used for cramps, depurative, dysentery, gastrosis, gingivitis, tonic, urinary antiseptic	Lacey, 1993
Fraxinus americana	White Ash; *elikpetamit	Found in moist upland sites	Leaves used for cleansing after childbirth	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Galium aparine	Stickywilly	Found in part shade, shade; moist woods, thickets	Parts of plant used for kidney trouble	Chandler et al., 1979
			Parts of plant used for persons spitting blood and gonorrhea	Chandler et al., 1979
Gaultheria procumbens	Teaberry; **Ka'qaju'mannaqsi; kakaju:man*	Requires acidic or sandy soils, forests, woodlands, old pastures, bogs and road banks	Cardiopathy (Heart attack), Preventitive (Heart attack), Stroke	Lacey, 1993
			Leaves used for tea	Lacey, 1977
Geum aleppicum	Yellow Avens	Found in low ground, moist meadows, swamps	Roots used for coughs and croup	Chandler et al., 1979
Geum rivale	Chocolate Root, Purple Avens; Water Avens	Found in White Cedar fens, bogs, marshes and soggy meadows	Decoction of root taken, especially by children, for colds	Speck, 1917
			Decoction of root taken, especially by children, for coughs	Speck, 1917
			Decoction of root taken, especially by children, for dysentery	Speck, 1917
			Root used for diarrhea	Chandler et al., 1979
			Root used for diarrhea or dysentery	Chandler et al., 1979
Habenaria dilatata	Tall White Bog Orchid	Found in wet areas, bogs	Root decoction used for kidney stones	Speck, 1917
Hamamelis virginiana	Witch Hazel	Understory of deciduous and mixed forests, rocky woods or near cliffs	Understory of deciduous and mixed forests, rocky woods or near cliffs	Lacey, 1993
			Twigs used for beverage	Lacey, 1977

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Heracleum lanatum	Cow Parsnip; **wabegpagosi; pagosi*	On the sides of brooks in alluvial soil and in wet meadows	Root tea used as general preventative medicine	Lacey, 1977
			Used for cold, flu, tuberculosis	Lacey, 1993
Heracleum sphondylium	Eltrot; Hogweed; Rough Cow Parsnip	Common in herbaceous places, along roads, in hedges, meadows and woods, especially in mountain areas, prefers rich in nitrogen, moist soils	Green and light color plant used as medicine for women	Wallis, 1922
			Lighter colour part of plant used as medicine for women, darker coloured part for men (part not explained)	Wallis, 1922
Hierochloe odorata	Sweet Grass; **Kjimskiku; welim'qewe'l msiku*	Upper areas of tidal marshes (moist heavy soils)	Vital spiritual and ceremonial purpose, including smudging, cleansing and purification purposes.	Lacey, 1993
Hydrastis canadensis	Goldenseal	Typically found in shady, rich, mesic southern forests, occurs in moist microhabitats near vernal pools, along forested streams	Root used for chapped or cut lips	Chandler et al., 1979
Hylotelephium telephium ssp. telephium	Witch's Moneybags	Found in dry sites with rocky soil: roadsides, railways, old fields, open woods, clearings, shore lines, swamps, forests, waste places	Leaves used for boils and carbuncles	Chandler et al., 1979
Ilex aquifolium	English Holly	Found in woodland and hedgerows, grows in forests, parks, gardens and in plains and mountain areas	Part of plant used for fevers, root used for consumption	Chandler et al., 1979
			Root used for cough	Chandler et al., 1979
Ilex verticillata	Black Alder; **tupi; tupsi*	Lakeshores and associated swampy areas	Seeds steeped and used as an emetic	Le Clerc, 1910

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Impatiens capensis	Jewelweed	Grows in shady ad wet places	Herbs used for jaundice	Chandler et al., 1979
Inula helenium	Elecampane Inula	Found in fields, waysides, waste places, often on moist soils in shade	Root used for colds	Chandler et al., 1979
			Root used for headaches	Chandler et al., 1979
			Root used for heart trouble	Chandler et al., 1979
Iris versicolor	Blue flag; muskrat root; Harlequin Blue flag; *mooskoonamook'	Wet areas along roadsides, in meadows and along streams and wet coastal regions	Root used for wounds and herb used for sore throat	Chandler et al., 1979
			Root used to treat wounds	Wallis, 1922
			Used as antidote and emetic	Lacey, 1993
Juglans cinerea	Butternut	Commonly found in riparian habitats, found on rich, moist, well-drained loams and well-drained gravels	Bark used as a purgative	Chandler et al., 1979
Juniperus communis	Common Juniper; *Kini'skweji'jik; kinikwejitewaqsi	Rocky and sandy soil environments, old pastures and heaths	Cones used for rheumatism, ulcers	Chandler et al., 1979
			Decoctions of juniper bark, roots, or needlesused to treat a variety of lung-related disorders, from colds to asthma to tuberculosis	Waugh, 1916; Mechling, 1959
			Gum, bark used for sprains, wounds, tuberculosis	Wallis, 1922
			Part of plant used for rheumatism and bark used for tuberculosis	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Stems used in hair wash, gum used for wounds and cones used for ulcers	Chandler et al., 1979
			Used for burns, colds, cuts, flu, gastrosis, nephrosis, rheumatism, sore, sprain, tonic, dysuria	Lacey, 1993
Juniperus sp.	Juniper; **Kini'skweji'jik; kinikwejitewaqsi*	Rocky and sandy soil environments, old pastures and heaths	Tips used for beverage	Wallis and Wallis, 1955
Kalmia angustifolia	Lambkill, Sheep Laurel	Bog areas in eastern lowland forests	Coultice of crushed leaves used for headache, leaf decoction used for stomach trouble	Speck, 1917
			Herb used for pain, swellings and sprains	Chandler et al., 1979
			Herb used for swellings, pain and sprains	Chandler et al., 1979
			Plant used as pain killer	Wallis, 1922
			Poultice of crushed leaves bound to head for headache	Speck, 1917
			Used for rheumatism, sore limbs, swelling. Poisonous in large doses	Lacey, 1993
Larix americana	Eastern Larch, Tamarack, Hackmatack	Found in wetlands such as swamps and bogs as well as wet depressions in forests	Bark used for colds	Chandler et al., 1979
			Bark used for suppurating wounds and colds	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Boughs brewed into tea and used for sores and swelling, boiled inner bark used as diuretic	Speck, 1917
			Decoction of boughs taken as a diuretic	Speck, 1917
			Poultice of boiled inner bark applied to sores and swellings	Speck, 1917
			Running sores: bark	Chandler et al., 1979
			Used for cold, flu, infections, tuberculosis, wounds	Lacey, 1993
Ledum groenlandicum	Labrador Tea	Thrives in bogs, on wet shores, damp barrens, poorly drained pastures and on rocky alpine slopes	Decoction of leaves taken as a diuretic	Speck, 1917
			Leaf tea used for asthma, cold, scurvy	Chandler et al., 1979
			Leaves used for kidney trouble and to make a beverage	Chandler et al., 1979
			Leaves used for tea	Speck and Dexter, 1951, 1952; Wallis and Wallis, 1955; Lacey, 1977
			Leaves used for the common cold	Chandler et al., 1979
			Tea of plant used for nephrosis, tonic	Lacey, 1993
Leonurus cardiaca	Common Motherwort	Found in open disturbed woodlands, areas along woodland paths, woodland borders and thickets, edges of degraded wetlands	Part of plant used for obstetric cases	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Lilium canadense	Canada Lily	Found in open woodlands, wooded slopes, savannas, woodland openings, and moist meadows	Parts of plant used for irregular menstruation	Chandler et al., 1979
Lilium philadelphicum	Wood Lily	Found in part shade, sun, dry woods, meadows, prairies	Roots used for coughs	Chandler et al., 1979
			Roots used for fever	Chandler et al., 1979
			Roots used for swellings and bruises	Chandler et al., 1979
Lobelia inflata	Indian tobacco; *nutmawey	Found growing naturally in dry pastures, barren areas and meadows	Smoke used to treat earache	Lacey, 1977
			Used for asthma, earache, fumitory	Lacey, 1993
Lycopodium sp.	Club Moss	Found in moist, shaded woodlands	Herb used for fever	Chandler et al., 1979
Maianthemum racemosum	Feather Solomon's Seal	Found in deep, humus-rich, acid soils. Prefers moist, deciduous woods, growing in drier, shallower soils or open spaces	Leaves and stems used for rashes and itch	Chandler et al., 1979
Mentha arvensis	Canadian Mint	Found along forest edge, wet meadows and fields, riparian, swamps/marshes, lakeshores	Herb used for children with an upset stomach	Chandler et al., 1979
Mitchella repens	Partridgeberry, Squaw Vine	Moist and damp regions, and along the ground of forest covered areas	Plant used for beverage and medicine	Speck and Dexter, 1951
			Used for parturition, pregnancy	Lacey, 1993
Myrica gale	Sweet Gale	Found in watersides, bogs, edges of lakes and streams	Roots pounded,soaked in hot water and used for inflammation	Wallis, 1922

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Myrica pensylvanica	Northern Bayberry, Waxberry	Coastal headlands and beaches, swamp and boggy forests, dry rocky forest and semi-open rocky ridges	Headaches: plant, snuff;inflammation: root poultice; exhilarant: tea, berries, bark, leaves	Wallis, 1922
			Used for arthritis, mouthwash, pain, rheumatism, stomatitis	Lacey, 1993
Nicotiana tabacum	Cultivated Tobacco; *nutmawey	For adequate growth found in soils without a high level of nitrogen	Drowning, earache	Lacey, 1993
			Leaves used for bleeding	Chandler et al., 1979
			Leaves used for earache	Chandler et al., 1979
Nuphar advena	Yellow Pond Lily; *pagose	Found in the floating leaved plant community, found in shallow depths, in less than 1 meter of water, in lakes, ponds, and stillwater	Poultice of bruised root with flour or meal applied to swellings and bruises	Speck, 1917
			Swellings of the limbs: leaves	Chandler et al., 1979
			Swellings, bruises: root with flour, poultice	Speck, 1917
Nuphar variegatum	Yellow Water Lily, Big One Side, Cow Lily; *pagose	Wetlands ranging from lakes, ponds and stillwaters	Root brewed into tea or worn around neck as general preventative	Lacey, 1977
			Used for swelling	Lacey, 1993
Nymphaea odorata	American White Waterlily, Sweet-Scented Water Lily; *pagose	Slow moving rivers, lakes and mucky ponds	Juice of root taken for coughs	Speck, 1917
			Leaves used for colds	Chandler et al., 1979
			Poultice of boiled root applied to swellings	Speck, 1917

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Root decoction used for coughs, swellings	Speck, 1917
			Roots used for colds, grippe, swelling; leaves used for suppurating glands	Chandler et al., 1979
			Roots used for suppurating glands and leaves used for colds	Chandler et al., 1979
			Used as preventive, swelling	Lacey, 1993
Panax quinquefolius	American Ginseng	Found in woodlands	Roots used as a "detergent for the blood"	Chandler et al., 1979
Panicum capillare	Witch Grass	Growth in disturbed areas, along roadsides, headlands and on lakeshores	Tonic	Lacey, 1993
Phytolacca americana	American Pokeweed; Pigeon-berry	Found in thickets, fields, roadsides and clearings	Leaves used for bleeding wounds	Chandler et al., 1979
			Leaves used for bleeding wounds	Wallis, 1922
Picea glauca	White Spruce; * *Kawatkw; kawtk*	Tolerable of a wide range of moisture conditions, mainly found along the coast and in old fields	Bark used as a cough remedy	Chandler et al., 1979
			Bark used for beverage and medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955
			Bark used to prepare a salve for cuts and wounds	Chandler et al., 1979
			Gum and twigs used for scurvy	Chandler et al., 1979
			Gum used for scabs and sores	Chandler et al., 1979
			Parts of plant used for stomach trouble	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Picea mariana	Black Spruce; * *Kawatkw*	Primarily found on wet organic soils, peat bogs and swamps	Bark used for beverage or medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955;Lacey, 1977
			Bark, leaves, twigs used for colds, cough, grippe; sap used for hemorrh;age, unknown part used for kidney trouble; bark used for wounds	Wallis, 1922
			Colds, cough, grippe, scurvy: bark, leaves, twigs	Chandler et al., 1979
			Cough remedy: bark	Wallis, 1922
Picea spp.	Spruce; **Kawatkw*	Found in boreal regions	Used for tuberculosis, infections, cold, tonic, laryngitis, scurvy, warts	Lacey, 1993
Pinus strobus	Eastern White Pine; * *kuwow; kuwaq*	Thrives on dry/fresh, shallow and stony soils	Bark used for beverage or medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955; Lacey, 1977
			Bark used for wounds and sap used for hemorrhaging	Chandler et al., 1979
			Bark, leaves and stems used for colds	Chandler et al., 1979
			Bark, leaves and stems used for coughs	Chandler et al., 1979
			Boiled inner bark used for sores and swellings	Speck, 1917
			Plant parts used for kidney trouble	Chandler et al., 1979
			Sap used for hemorrhaging	Chandler et al., 1979
			Used for colds, hemorrhage, nephrosis	Lacey,,1993

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Plantago major	Common Plantain	Found in open, disturbed places such as waste areas, as well as in fields and along roads	Leaf poultice used for infected wounds	Lacey, 1977
			Used for gastrosis, sore, infection, sore, ulcer, wound, infection, sore, wound	Lacey, 1993
Polygala senega	Seneca Snakeroot	Found in upland gravel prairies, hill prairies, savannas, wooded slopes along rivers or lakes and abandoned fields	Root used for colds	Chandler et al., 1979
Polypodium virginianum	Rock Polypody	Grows on boulders, cliffs and rocky slopes and does not need well-developed soil	Infusion of plant used for urine retention	Rousseau, 1948
Pontederia cordata	Pickerelweed	Found in shallow water of marshes, swamps, bogs, ponds and protected areas of rivers where the water is slow-moving	Herbs used to prevent pregnancy	Chandler et al., 1979
Populus balsamifera	Balsam Poplar	Found on sites that are relatively rich in nutrients and less acidic, and in relatively small, localized stands	Barked baked, brewed into tea to treat worms	Chandler et al., 1979
			Buds and other parts of plant used as salve forr sores, chancre	Chandler et al., 1979
Populus sp.	Poplar sp.; * *miti*	A variety of diverse habitats (open disturbed sites to grasslands to floodplain woodlands)	Used for cold, flu	Lacey, 1993
			Worms: bake bark, make tea	Lacey, 1977
Populus tremuloides	Quaking Aspen	Occurring alongside conifer trees, grow best in fertile, moist loams or well-draining silts or clay loams.	Bark used for colds	Chandler et al., 1979
			Bark used to stimulate the appetite	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Prunus cerasus	Red Cherry; Sour Cherry	Found in moist, open woods	Used for cold, cough, hypertension	Lacey, 1993
Prunus pensylvanica	Pin Cherry	Dry to moist open forests and clearings	Wood used for chafed skin and prickly heat	Chandler et al., 1979
Prunus serotina	Black Cherry	Found in deciduous woodlands, open woodlands, woodland borders, fence rows, powerline clearances, vacant lots, and waste areas	Bark used for colds	Chandler et al., 1979
			Bark used for coughs	Chandler et al., 1979
			Bark used for smallpox	Wallis, 1922
			Cold, cough, depurative, flu, tonic	Lacey, 1993
Prunus spp.	Wild Cherry; * *maskwesmnaqsi; maskwe:simanagsi*	Open woodland areas, thickets and various clearings	Bark steeped for medicine	Lacey, 1977
			Bark used for beverage and medicine	Speck and Dexter, 1951
Prunus virginiana	Bitterberry, Chokecherry	Found along streams, springs and seeps, intolerant of poor drainage, silty or sandy soils	Bark used for diarrhea	Chandler et al., 1979
			Used for cough, diarrhea	Chandler et al., 1979
Pyrola asarifolia	Liverleaf Wintergreen	Found in calcareous woods, thickets and wetlands	Parts of plant used for kidney trouble	Chandler et al., 1979
			Gonorrhoea, kidney trouble, spitting blood: part not mentioned	Chandler et al., 1979
			Parts of plant used for spitting blood	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Quercus alba	White Oak; *mimkwaqanimusi	Found on sandy plains, gravelly ridges, rich uplands, coves and well-drained loamy soils	Bark used to induce thirst; treat bleeding piles	Chandler et al., 1979
			Nuts used to induce thirst	Chandler et al., 1979
			Plant parts used for bleeding piles	Chandler et al., 1979
Quercus rubra	Northern Red Oak *mimkwaqanimusi	Grows on a variety of dry-mesic to mesic sites, occurs in rich, mesic woods, on sandy plains, rock outcrops, stable interdunes, and at the outer edges of floodplains	Bark and roots used for diarrhea	Chandler et al., 1979
Quercus sp.	Oak; *mimkwaqanimusi	Thrive in both lightly and well drained soils and granitic regions	Used for hemorrhage, piles	Lacey, 1993
Ranunculus acris	Tall Buttercup	Found in various locations such as in ponds, along shores and in meadows	Leaves used for headaches	Chandler et al., 1979
			Used as throat treatment	Chandler et al., 1979
			Used to treat cancer, headache, phobia	Lacey, 1993
Rhexia virginica	Meadow Beauty	Lightly shaded, wet regions such as swamps, higher parts of marshes, peaty lake margins and wet meadows and prairies	Leaves and twigs used as throat cleanser	Wallis, 1922
			Leaves steeped to produce a sour drink	Lacey, 1993
Rhinanthus crista-galli	Yellow Rattle	Typically growth in old fields, along roadsides and in places of prevalent waste	Used for epilepsy, seizures	Chandler et al., 1979
Rhus glabra	Smooth Sumac	Found on the edges of moist to dry black soil prairies, upland forests with a history of disturbance; thickets and woodland borders	Earache: part not mentioned	Lacey, 1993

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Used for cough, earache, sore throat	Chandler et al., 1979
Rhus typhina	Staghorn Sumac	Typically found in open areas such as fields, grasslands, along roadsides, hillsides and prairies	Bark and roots used as a physic	Chandler et al., 1979
			Berries and roots used for loss of appetite	Lacey, 1993
Ribes uva-crispa var. sativum	European Gooseberry; *kawaqteik; ka:to:min	Found in rocky hillocks, forest margins, shores	Bark and roots used as a physic.	Chandler et al., 1979
Rubus alleghanensis	Blackberry; * *Ajiyoqjimin; kl'muwejimin*	Easily grown in well-drained loamy soil in sun and semi shade, specifically dry thickets, clearings and woodland margins, open meadows, roadsides.	Used for canker, diarrhea, sore throat, stomach, stomatosis	Chandler et al., 1979
Rubus chamaemorus	Cloudberry	Found in bogs, wet peaty meadows, and tundra	Roots used for cough	Chandler et al., 1979
			Roots used for fever	Chandler et al., 1979
Rubus fruticosus	Shrubby Blackberry; *Ajiyoqjimin	Found in lower rainfall areas	Bark and roots used for children's diarrhea	Chandler et al., 1979
Rubus hispidus	Bristly Dewberry	Found in conifer swamps, wet hardwood forests, thickets and usually in an areas that are shaded, live in drainage ditches, low woods and swampy meadows	Roots used for cough	Lacey, 1993
			Roots used for fever	Chandler et al., 1979
Rubus idaeus	Raspberry; *Klitawmanaqsi'k; klitaw	Rocky grounds, along roadsides, and in exposed lands from deforestation	Used for canker, diarrhea, sore throat, stomach, stomatosis	Lacey, 1977
Rubus pubescens	Dwarf Red Blackberry; *Ajiyoqjimin	Grows in shaded environments and is common in the shaded understory beneath glossy buckthorn	Parts of plant used for irregular menstruation	Chandler et al., 1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Rubus sp.	Blackberry, Raspberry; *Ajiyoqjimin; klitaw	Found in a variety of habitats	Tea from canes used to treat stomach issues, with strawberry runners	Lacey, 1977
Rumex crispus	Curly Dock	Grows as a weed in pastures, hay fields, forages, landscapes, and some crop field areas	Infusion of roots used as a purgative	Mechling, 1959
			Roots used as a purgative	Chandler et al., 1979
			Roots used treat "cold in bladder"	Mechling, 1959
Salix cordata	Heartleaf Willow; Sand Dune Willow; Furry Willow	Found along dunes and lakeshores	Bark used for blisters	Chandler et al., 1979
			Bark used for colds	Chandler et al., 1979
			Bark used to stimulate the appetite	Chandler et al., 1979
Salix discolor	Pussy Willow;	Swamps, stream banks, marsh borders, floodplains and fens	Bruises, cancer, cold, nephrosis	Lacey 1993
Salix lucida	Shining Willow	Found in wetland habitats	Bark used for bleeding	Chandler et al.,1979
			Poultice of bruised leaves used on sprains and bruises	Wallis, 1922
Salix nigra	Black Willow	Found in marsh areas with standing water and most often seen along rivers and small streams, well suited to a riparian habitat	Poultice of scraped root and spirits applied to bruises and sprains	Speck, 1917
Salix sp.	Red Willow	Found in a variety of habitats	Fumitory	Lacey, 1993
Sambucus canadensis	American Elder; *Pukulu'skwimanaqsi'l	Various locations including wet barrens, swamps and open woodland areas	Berries, bark and flower used as a purgative and bark used as a physic	Chandler et al.,1979
			Berries, bark and flower used as a purgative and bark used as an emetic	Chandler et al.,1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Emetic	Lacey, 1993
			Soporific, purgative: cones, berries, flowers; emetic, physic: bark	Chandler et al.,1979
			Used as cathartic, emetic	Lacey, 1993
Sambucus racemosa	Scarlet Elderberry; *Pukulu'skwimanaqsi'l	Grows in riparian environments, woodlands, and other habitat, generally in moist areas	Herbs used as an "emetic (with round wood)"	Chandler et al.,1979
Sanguinaria canadensis	Bloodroot	In or at the edge of rich, moist woods, in the shade	Infusion of roots used for colds	Rousseau, 1948
			Roots used for hemorrhages and to prevent bleeding	Chandler et al.,1979
			Roots used for infected cuts	Chandler et al.,1979
			Used as an abortifacient	Rousseau, 1948
			Used as an aphrodisiac	Rousseau, 1948
			Used for hemorrhage, rheumatism, tuberculosis	Lacey, 1993
Sanicula marilandica	Maryland Sanicle	Found in rich woods, meadows and shores	Roots used for irregular menstruation	Chandler et al.,1979
			Roots used for kidney trouble	Chandler et al.,1979
			Roots used for menstrual pain	Chandler et al.,1979
			Roots used for menstrual pain and slow parturition	Chandler et al.,1979
			Roots used for rheumatism	Chandler et al.,1979
Sarracenia purpurea	Northern Pitcher Plant	Bogs	Used to treat dyspepsia, nephrosis, tuberculosis	Lacey, 1993
			Herb used for pain	Chandler et al.,1979
			Herbs used for kidney trouble and consumption	Chandler et al.,1979
			Herbs used for spitting blood	Chandler et al.,1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Roots steeped, used for sore throat, spitting blood	Speck, 1917
			Strong decoction of root taken for "spitting blood" and pulmonary complaints	Speck, 1917
			Used for spitting blood	Chandler et al.,1979
Scirpus microcarpus	Panicled Bulrush	Found in course, fine, or medium textured saturated soils. Lowland to middle elevations in mountain riparian, marshes and wet meadow zones	Roots used for abscesses	Chandler et al.,1979
Solanum dulcamara	Climbing Nightshade	In open woods, edges of fields, fence lines, roadsides, and occasionally in hedges and gardens	Roots used for nausea	Chandler et al.,1979
Sorbus americana	American Mountain Ash; **aqamoq' wisqoq*	Found along hedgerows and in open wooded areas	Bark used for "mother pains"	Chandler et al.,1979
			Bark used for boils	Chandler et al.,1979
			Infusion of root taken for colic	Speck 1917
			Parts of plant used as an emetic	Chandler et al.,1979
			Used for stomachache, witchcraft	Chandler et al.,1979
Streptopus amplexifolius	Claspleaf Twistedstalk	Found in wet sub-alpine woods and thickets, rich moist coniferous and deciduous woods at elevations	Parts of plant used for kidney trouble	Chandler et al.,1979
			Parts of plant used for spitting blood	Chandler et al.,1979
Symphoricarpus albus	Waxberry	Commonly found in gardens and surrounding buildings	Used for headache and as tonic	Chandler et al.,1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Symplocarpus foetidus	Skunk Cabbage;	Grows in large, dense stands in wet thickets, woods and swamps	Diabetes, toothache, tuberculosis	Chandler et al.,1979
			Herb used for headache	Lacey, 1993
			Herbs used for headache	Lacey, 1993
Tanacetum vulgare	Common Tansy	Found in pastures, hay fields, riparian habitats and wastelands	Herb used for prevention of pregnancy; leaves used for kidney trouble	Chandler et al.,1979
			Herbs used to prevent pregnancy	Chandler et al.,1979
			Leaves used for kidney trouble	Chandler et al.,1979
Taxus canadensis	Canada Yew	Found in forests, thriving in swampy woods, ravines, riverbanks and on lakes shores	Bark used for bowel and internal troubles	Chandler et al.,1979
			Leaf tea used for fever	Lacey, 1977
			Parts of plant used for afterbirth pain and blood clots	Chandler et al.,1979
			Parts of plant used for afterbirth pain and clots	Chandler et al.,1979
			Parts of plant used for fever	Chandler et al.,1979
Thuja occidentalis	Eastern White Cedar; * *qaskusi; qaskusi a:qamikt*	Found in swampy regions (both fresh and salt water) and near old pastures	Inner bark, bark and stems used for burns	Chandler et al.,1979
			Inner bark, bark and stems used for cough	Chandler et al.,1979
			Stems used for headaches	Chandler et al.,1979
			Twigs used for headache; leaves used for swollen feet and hands	Chandler et al.,1979
			Used for swelling	Lacey, 1993
Tiarella cordifolia	Heartleaf Foamflower	Found in rich moist woodlands in the mountains	Roots used for diarrhea.	Chandler et al.,1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Tilia americana	American Basswood	Found in moist soils along stream banks and pond margins. Also in low woods	Bark used for suppurating wounds	Chandler et al.,1979
			Inner bark, bark and stems used for cough	Chandler et al.,1979
			Roots used for worms	Chandler et al.,1979
Tilia sp.	American Basswood	Found in moist soils along stream banks and pond margins. Also in low woods	Used for infections, sores, wounds	Lacey, 1993
Trifolium pratense	Red Clover	Found in open, moist or dry sites like old fields, pastures, roadsides and disturbed areas	Used as tonic	Lacey, 1993
Trifolium sp.	Clover	Found in open, moist or dry sites like old fields, pastures, roadsides and disturbed areas	Used for fever, insect stings	Lacey, 1993
Tsuga canadensis	Eastern Hemlock; **Ksu:skw; kastuk; qast'k*	Mountains (northern slopes) and valleys	Bark and stems used for colds	Chandler et al.,1979
			Bark used as cough medicine and for grippe	Chandler et al.,1979
			Bark used for beverage or medicine	Speck and Dexter, 1951; Wallis and Wallis, 1955; Lacey, 1977
			Bark used for stomach troubles, colds, cough, grippe; inner bark used for scurvy	Chandler et al., 1979
			Bowel and internal troubles, colds cough, grippe, bark	Wallis, 1922
			Inner bark used for chapped skin	Chandler et al.,1979
			Inner bark used for diarrhea	Chandler et al.,1979

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
			Parts of plant used for bowel, stomach and internal troubles	Chandler et al.,1979
			Roots and stems used for "cold in kidney"	Chandler et al.,1979
			Used to treat cold	Lacey, 1993
Typha latifolia	Broadleaf Cattail; *nukwa:luwejkewey; poqomaqan'skw	Found in full sun, wet conditions and soil that is muddy or sandy	Leaves used for sores	Chandler et al.,1979
Ulmus rubra	Slippery Elm; *wikpi	Found in moist, rich to dry, limestone soils	Bark used for suppurating wounds	Chandler et al.,1979
Vaccinium macrocarpon	Large-fruited Cranberry; *Su:n	Bogs and marshes	Tonic to treat urinary and bladder infections	Lacey, 1993
Vaccinium myrtilloides (presumed)	Blueberry; *Pkuman; pkwiman	Common in peat covered barrens, dry soil, headlands and sandy regions	Tonic for rheumatism	Lacey, 1993
Vaccinium spp.	Blueberries, Bilberries, Cranberries; *Pkuman; pkwiman; su:n	Flourish in acidic, sandy soils. Found in wetlands, bogs and meadows	Berry juice used, unknown ailment	Lacey, 1977
Verbascum thapsus	Common Mullein	Found in pastures and in gravel plains as well as along roadsides and in light soils	Used to treat asthma	Lacey, 1993
			Parts of plant used for sores and cuts	Chandler et al.,1979
Viburnum lentago	Nannyberry	Found in moist mixed grassland, aspen parkland and boreal transition	Roots used for irregular menstruation	Chandler et al.,1979
Viburnum prunifolium	Blackhaw	Found in rich mesic woodlands, upland woodlands, thinly wooded bluffs, rocky wooded slopes, limestone glades	Infusion of plant taken before and during parturition	Wallis, 1922

Species	Common Name (*Mi'kmaw name[11])	Habitat	Mi'kmaq Traditional Use	Source
Viburnum trilobum	Highbush Cranberry; * *Nipanmaqsi'l*	Predominantly along streams and in swamps	Used to treat adenopathy, swellings	Lacey, 1993
Viola arvensis	Field Pansy	Along roadsides and in fields	Effective in the treatment of sore eyes	Lacey, 1993
Viola sp.	Violet	Found in moist to mesic black soil prairies, open woodlands, wooded slopes along rivers or lakes	Conjunctivitis	Lacey, 1993

2.4.3 Additional Plant Uses

The Mi'kmaq have a long-standing history of utilizing the land for not only food and medicine, but have also harvested resources for aesthetic purposes and/or tool making. Table 7 provides the plant species that were traditionally used by the Mi'kmaq for variety of purposes including tools, construction, clothing, heat, dyes, etc.

Table 7: Plant Species Traditionally Used by Nova Scotia Mi'kmaq

Scientific Name	Common Name (*Mi'kmaw Name[12])	Habitat	Mi'kmaq Traditional Uses	Source
Abies balsamea	Balsam Fir; * *Stogn*	Various regions including mountains, canyons and valleys	Wood used for kindling and fuel;Boughs used to make beds.	Speck and Dexter, 1951; Unama'ki Institute of Natural Resources, 2012
Acer pensylvanicum	Moosewood; Striped Maple; *Mimkutago'q*	Rocky woods, rich deciduous forests, wooded slopes and along streams	Thin saplings used in wigwam construction	Nova Scotia Museum factsheet, ND
Acer rubrum	Red Maple	Swamps, alluvial soils, and moist uplands	Used to make basketware.	Speck and Dexter, 1951

[12] DeBlois, 1996; Wallis and Wallis, 1995; Unama'ki Institute of Natural Resources, 2012

Scientific Name	Common Name (*Mi'kmaw Name[12])	Habitat	Mi'kmaq Traditional Uses	Source
Acer saccharum	Sugar Maple *Snawey	Well-drained soils	Used to make bows and arrows.	Speck and Dexter, 1951
Acer sp.	Maple	Various	Pins for securing clothing	Wallis and Wallis, 1964
Alnus sp.	Alder *Tupsi	Low ground in alluvial soils	Bark used to make a dye.	Speck and Dexter, 1951
Betula papyrifera	White/Paper Birch *Maskwi	Forests, especially on slopes	Bark used to make baskets; bark used to make boxes, coffins and other containers; bark used to make canoes; bark used to make dishes and cooking utensils; bark used to make house coverings.	Speck and Dexter, 1951; Speck and Dexter, 1951; Rousseau, 1948; Speck and Dexter, 1951; Speck and Dexter, 1951
Betula alleghaniensis	Yellow birch		Branches used as straps and thongs.	Wallis and Wallis, 1960
Betula sp.	Birch	Various depending on species	Bark used to make torches for night fishing. Bark used to make trumpets for calling game. Bark used to construct containers, boxes, and cups Bark sheets used in wigwam construction	Speck and Dexter, 1951; Speck and Dexter, 1951; Wallis and Wallis, 1955; Nova Scotia Museum factsheet, ND.
Corylus cornuta	Hazel root		Basketry	Wallis and Wallis, 1955
Fagus grandifolia	American Beech	Fertile uplands, rarely in swamps	Used to make snowshoe frames.	Speck and Dexter, 1951
Fraxinus americana	White Ash	Intervale forests, low ground, and open woods	Used to make axe and knife handles.	Speck and Dexter, 1951
Fraxinus nigra	Black Ash *Wiskoq	Low ground, damp woods and swamps	Used to make basketware.	Speck and Dexter, 1951
Galium tinctorium	Stiff Marsh Bedstraw/ Small Bedstraw	Low-lying areas, brooks, marshes, and bogs	Roots used to make a red dye for porcupine quills.	Speck and Dexter, 1951
Hierochloe odorata	Sweetgrass *Kjimskiku	Moist heavy soils, generally in the upper reaches of tidal marshes	Used to make baskets. Used to make mats.	Speck and Dexter, 1951
Juniperus sp.	Red Cedar	Various, depending on species	Wood used for kindling and fuel.	Speck and Dexter, 1951
Larix laricina	Eastern Larch/ Tamarack	Bogs and wet depressions in forests	Wood used for kindling and fuel.	Speck and Dexter, 1951

Scientific Name	Common Name (*Mi'kmaw Name[12])	Habitat	Mi'kmaq Traditional Uses	Source
	*Apu'tam'kie'jit			
Picea glauca	White Spruce; Cat Spruce; *Kawatkw	Old fields and along the coast	Boughs used to make beds. Wood used for kindling and fuel.	Speck and Dexter, 1951Speck and Dexter (1951)
Picea mariana	Black Spruce; Bog Spruce; *Kawatkw	Bogs, swamps and poorly drained areas	Boughs used to make beds. Roots used as sewing material for canoe birch bark products. Wood used for kindling and fuel.	Speck and Dexter, 1951
Pinus strobus	Eastern White Pine	Bogs, swamps and poorly drained areas	Wood used for kindling and fuel.	Speck and Dexter, 1951
Picea spp.	Spruce	See White and/or Black Spruce	Poles for wigwam construction Root used as twine, for sewing	Nova Scotia Museum factsheet, ND Wallis and Wallis, 1955
Salix sp.	Willow	Various, depending on species	Leaves used as tobacco.	Speck and Dexter, 1951
Taxus canadensis	Canada Yew	Cool damp woods, ravines, climax coniferous, and wooded swamps.	Leaves used to make a green dye.	Speck, 1917
Thuja occidentalis	Eastern White Cedar	Lakesides and swamps or old pastures	Used to make arrow shafts; used to make canoe slats; wood used for kindling and fuel; woven into bags and mats; inner bark used as twine, for sewing	Speck and Dexter, 1951Nova Scotia Museum factsheet, ND Wallis and Wallis, 1955
Tilia spp[13].	Basswood	Not native to NS	Bark woven into bags and mats	Nova Scotia Museum factsheet, ND
Tsuga canadensis	Eastern Hemlock	Northern slopes or ravines	Bark used to make a dye. Wood used for kindling and fuel.	Speck and Dexter, 1951
Typha spp.	Cattails	Marshes, wet depressions	Woven into bags and mats	Nova Scotia Museum factsheet, ND

[13] There may be confusion over this common name, as basswood (*Tilia* species, or Linden) is not native to NS or NB.

2.5 Traditional Mi'kmaq Place Names

An investigation of the traditional place names of *Mi'kma'ki* (Figure 1) reveals much about the unique relationship held between the Mi'kmaq and the land and resources on which they depend. The names are versatile and dynamic; they describe where to find resources, features of the landscape or where events took place. The names were descriptive of place but also represent the imagination and interpretation of a people moving through a dynamic and changing landscape. Evidence of this can be found in the language, history and myths of the Mi'kmaq people.

Language is one way cultures structure, give meaning to, and interact with the world around them. This is especially true for indigenous peoples with longstanding connections to a place. "Language is the principal instrument by which culture is transmitted from one generation to another, by which members of a culture communicate meaning and make sense of their shared experience. Because language defines the world and experience in cultural terms, it literally shapes our way of perceiving — our world view" (Canada, 1996). The Mi'kmaq language emerged from the sustained presence of the people in their territory for over 10 000 years. This ancient relationship has resulted in a distinct worldview which is inherently place based due to the cumulative experience of the people interacting with the landscape. The place names that were developed through this process give insight into the changing nature of the landscape, but also the cultural nuances of the people.

Before the arrival of European settlers the Mi'kmaq were a nomadic people, migrating seasonally throughout *Mi'kma'ki*. This freedom from a single dwelling place played a role in the way the Mi'kmaq conceptualized both the physical geography of their territory, and understood their place within it. While the Mi'kmaq frequented certain locations, their interaction with the landscape and conceptualization of space was based on movement through an area, rather than the identification of a single point or location. Unlike European languages, the Mi'kmaq language is verb oriented. Many place names are verbs rather than nouns, describing a sense of 'being from' or 'going to' a given place (Sable and Francis, 2012). The Mi'kmaq relationship to place was more important than any one location; the people interacted with the land through a dynamic interpretation of the landscape as they moved through it. While many names may appear to describe a single location, these names represented cultural indicators which the people interpreted in relation to the surrounding area and the collective memory of the people.

Place names also give insight into the character of the Mi'kmaq and their traditional beliefs and way of life. This is evident in the role that oral history played in the interpretation of landscape and underlying lessons on how they ought to interact with it. Although many names appear to describe a physical characteristic of the landscape, many of these names are tied into cultural practices, concepts or myths (Hornborg, 2008). This is common in many indigenous cultures with oral traditions where place names act as mnemonic devices, providing a framework for cultural identity and memory

(Sable& Francis, 2012). An example of this are the connection between myth and the explanation of place, such as the relationship between the Glooscap myths and many place names along the shores of the Bay of Fundy (Sable and Francis, 2012). These myths and legends held many moral lessons, but also acted as oral maps of the territory.

The Mi'kmaq conceptualization of place is a complex and holistic subject that intertwines the language, culture, myth and territory of the Mi'kmaq people. Unfortunately during the colonial period many aspects of this Mi'kmaq tradition were lost or forgotten. The following tables offer an incomplete account of the place names within a 10km radius of the study area, as well as other prominent places names from within the region. Some of the place names included here occur in multiple instances across the province and are marked with an asterisk. For example, the name Partridge Island most likely refers to Partridge Island in the Bay of Fundy, as described in the Glooscap myths.

Pockwock place names (Table 8) and corresponding distance markers (Appendix A).

Table 8: Pockwock Place Names

Place Name	Mi'kmaw Name	Meaning	Source
Bedford	*Kweběk*	The head of the tide	Rand, 1888
	Kebek or Kebak	The narrows above Halifax	Rand, 1919
	Kebaak	Narrows above Halifax. Quebec is evidently the same. A narrow place in any river.	Rand, 1919
Halifax (Chebucto)	*Chebooktook*	Great harbour	Rand, 1875
	Chebookt	From Ŭkchebookt, the chief or largest harbor or bay.	Rand, 1888; Frame, 1891
	Chebooktook	At, to, or from Halifax	Rand, 1888
	Chebookt (Ukchebookt)	The great bay or harbour. The name has been adopted in chebucto or chedabucto.	Rand, 1919
	Chēbookt'-ook	Great Harbour or running far into the great woods.	Rand, 1919
Indian River*	*Lēbănkoodichk*	Portage over a sand bar	Rand, 1919
Northwest Arm (Halifax Harbour)	*Wagwoltich*	Ending without a river coming in	Rand, 1919
	Wagwoltichk	End of the bay	Rand, 1919
Owl Head	*Pugooôpskook*	N/A	Frame, 1892
Pockwock	*Paakwaak*	Stop here, you cannot go any further	Frame, 1892
Pockwock Lake	*Pogwek (a lake near Hammonds Plains); Pokwok*	The smoky lake or dry lake	Rand, 1919

*Multiple instances retrieved from database

3 METHODOLOGY

The project methodology was developed in accordance with the MEKs Protocol adopted by the Assembly of Nova Scotia Chiefs, through the Kwilmu'kw Maw-klusuagn (KMK). The KMK MEKs Protocol provides a number of key guidelines and standards on suggested practices and procedures relevant to the planning, design, development, implementation and reporting of a MEKs.

The methodology for the MEK Study for the proposed wind farms consisted of three main elements. The NEXUS Team conducted a desktop review to gather all relevant information pertaining to the project study areas, historical Mi'kmaq knowledge and Mi'kmaq resource use. Workshops with local Mi'kmaq knowledge holders enabled the collection of local site-specific knowledge of historical and current Mi'kmaq use of natural resources in the area[14]. Field surveys updated the available knowledge of the study areas.

3.1 Literature Review

Archival documents and published works were reviewed for information regarding the past and present Mi'kmaq occupation and use of the Study Areas. The NEXUS Team utilized a range of data sources including historical documents, journal articles, published books, Nova Scotia Public Archives and Records, microfiche scans and local archives. A thorough literature review on existing knowledge and mapped data facilitates the preparation of a concise and accurate MEKs report.

3.2 Mi'kmaq Ecological Knowledge Workshop Preparation and Protocol

NEXUS has adopted the workshop format for conducting MEKs. The process for collecting TEK has moved away from the individual informant interview process to one that brings small groups of community members together in a workshop format. This process enables researchers an opportunity to observe and collect information from a variety of sources (such as youth, elders, women, hunters, community leaders, etc.) during focus group sessions.

The workshop format provides the opportunity to assess the validity of information collected. A participant who is knowledgeable about historical activity or environmental matters is just as concerned about the accuracy of information as any researcher. However, there remains the temptation to embellish certain facts to ensure the final decisions favor the participant's community or agenda (Johannes, 1993). In addition, there is also the risk of having non- MEK experts participating in the study as a means of receiving outside recognition (these individuals have been referred to in Mi'kmaq communities as 'glory seekers'). These individuals do not intend to compromise the reliability of the information gathered in MEKs, however, it does identify the need to integrate a process whereby the information collected is verified.

[14] Workshops are schedule for mid-April.

This workshop format provides a number of benefits to ascertain the validity of information collected. First, the group dynamic created in a workshop format provides the opportunity to dampen embellishment of stories and information. Second, groups can provide multiple perspectives on past community experience and stories passed down from generation to generation within the community. Third, group sessions allow the opportunity for conversations amongst community members, which may trigger old memories. Fourth, groups can provide greater understanding on the 'systems' used in the community to pass information between community members and between generations. Finally, workshops are a more cost and time effective means to conduct MEK surveys. These benefits are not present in 'one on one' interviews between a researcher and participant.

The workshop format requires engagement of Mi'kmaq knowledge holders at the community level. NEXUS worked with individuals from local Mi'kmaq communities in acquiring information on current use and interest of the Study Areas as well as preparing the workshops.

3.3 Surveys of the Study Areas

In addition to the evidence of Mi'kmaq knowledge of the Study Areas, information on the general area encompassing the site was achieved through the workshop maps, field surveys and habitat modeling exercise.

3.3.1 Mi'kmaq Knowledge Workshop Maps

NEXUS collected Mi'kmaq Ecological Knowledge from workshop participants in relation to the three Study Areas. NEXUS digitized the aggregated data on the maps produced in the workshops. The final MEKs maps were entered into a Geographic Information System (GIS) using ArcGIS to create user-generated maps. Copies of these maps are included in this report.

3.3.2 Field Survey for General Habitats and Plant Species

[This section will be updated upon completion of field survey in June]

Field surveys of the Study Areas will be completed to identify and locate plants and other related resources that may be of importance. Field surveys identified plants used by the Mi'kmaq located within the Study Areas.

A vegetation survey will be conducted. The vegetation survey was used to verify the presence of plant species identified during the desktop review stage in the Study Areas. The survey will consist of optically controlled meanders through habitat polygons identified to potentially contain plants of significance to Mi'kmaq. General locations of significant plants will be identified in the field using GPS and photographs recorded with a digital camera.

3.3.3 Wildlife Habitat Modeling Exercise

Wildlife species potentially located in the Study Area were determined through an analysis of available information. The analysis included information obtained on the historical and contemporary use of wildlife and fish resources by Mi'kmaq (from the literature review and workshop) combined with known wildlife habitat preferences and the results of the habitat surveys.

Information obtained from the literature review, field surveys and workshop were compiled and a habitat modeling exercise conducted. The likelihood of each species' presence on the Study Areas was determined by comparing habitat preferences of NS wildlife species with the habitats known to occur on the Study Areas.

[This section will be updated upon completion of field survey in June]

3.4 Analysis of Primary Data

This report includes an analysis of data achieved through workshop, surveys and the collation of supplementary data. The analysis provides a comprehensive and accurate account of the Mi'kmaq Ecological Knowledge, as well as the Mi'kmaq practices, interests and uses within the Study Areas.

[This section will be updated upon completion of field survey in June]

4 RESULTS

4.1 Mi`kmaq Ecological Knowledge Workshops

A workshop was held with members of Millbrook First Nation in order to discuss current land and resource uses within the four Study Areas. The workshop occurred on Thursday April 11, 2013 at the Glooscap Heritage Centre. Hunters, fishers and harvesters attended the meeting. These participants provided information on the Study Areas (Truro Heights, Millbrook and Whynott's Settlement) and provided considerable insight into the current state of use and knowledge associated to the areas near the Millbrook reserve. While some participants were familiar with the Whynott's Settlement and Pockwock Study Areas, the vast majority of input focused on the Truro Heights and Millbrook Study Areas.

Insightful conversations with the Glooscap First Nation provided information that due to the long distance to the four Study Areas that the majority of hunters, fishers and harvesters in the community were not currently frequenting the Study Areas on a regular basis. Although members of Glooscap First Nation have traditionally travelled to these areas and hold interest in the areas, no community members attended the workshop.

Conversations with individuals from the Acadia First Nation led to the understanding that there has been little recent harvesting activity in the area near the Study Areas, thus participation in a workshop would be unnecessary. Active hunters from the Acadia Band travel to Sheet Harbour, NS and Musquodobit NS to hunt. It is important acknowledge the long-standing relationship the Mi'kmaq have with *Mi'kma'ki* and locally, the Study Areas. This intimate relationship is not defined solely by the current use and occupation of a geographical area but by the extensive awareness and interests the Mi'kmaq hold of regions resources. Therefore, the current absence of Mi`kmaq from an area should not be mistaken for an absence of interest (current and future) of the area and resources located within the Study Areas.

The general attitude towards the potential wind farm developments was positive; many participants supported development of non-carbon based or 'green' energy sources. Some concern was expressed over the benefits from the project to the local community. Another issue raised was the potential impacts of the turbines on local wildlife migratory patterns, particularly winged species such as birds, bats and insects. Potential impacts on the Millbrook community (ex. noise) were perceived to be minimal due to the distance from the nearest houses to the proposed turbine location and the density of the forested area between these locations.

4.1.1 Pockwock Study Area

Workshop participants did not provide information of Mi'kmaq use or harvesting of plants and wildlife in the Pockwock Study Area.

4.2 Results of General Habitats and Plant Species Survey

A site assessment was completed to identify and locate potential medicinal plants and other related resources located in the Study Areas.

[This section will be updated upon completion of field survey in June]

4.3 Wildlife Habitat Modeling Exercise

Wildlife species potentially occurring in the Study Areas will be determined from an analysis of the historical use of wildlife and fish resource by Mi'kmaq (Section 2.3), combined with known wildlife habitat preferences and the habitat surveys.

[This section will be updated upon completion of field survey in June]

5 DISCUSSION & CONCLUSION

The MEKS demonstrates that there has been a long-standing relationship and interest with the regions in and around the Study area.

The meeting held with Mi'kmaq participants from the Millbrook First Nation highlights the vested interest the Mi'kmaq have with their traditional territory. Many users described learning about the lands, resources, skills and knowledge from their relatives, friends and family members. Elders and the fathers of hunters were often cited as the source of knowledge about a particular region or hunting technique. The knowledge of the study areas demonstrated by meeting participants suggest that the Mi'kmaq ecological and traditional knowledge associated to these areas is still accessible in the communities and is being utilized by a wide range of community sectors, from youth to elders. While some activities and areas are more commonly cited than others, the level of community interest in the lands and resources remains active and relevant.

In keeping with the principles and statements of the United Nations Declaration of the Rights of Indigenous Peoples, future planning and collaboration between the project proponent and Mi'kmaq should be implemented and maintained through the application of Mi'kmaq Ecological Knowledge.

[This section will be updated upon completion of field survey in June]

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Appendix A: Pockwock Place Names Radius

Centre Point: Pockwock 44º 46' 34" N, 63º 51' 18" W

Place Name	Feature Type	Distance (km)
Anderson Lake	Lake	5
Ash Lake	Lake	13
Back Lake	Lake	7
Baptizing Lake	Lake	9
Bare Hill	Mountain	5
Bartlett Lake	Lake	7
Bear Trap Falls	Falls	10
Beaver Lake	Lake	4
Beaver Lake	Lake	6
Beaver Pond	Lake	7
Beaver Pond	Lake	12
Beaver Pond	Lake	3
Beaverdam Lake	Lake	10
Bennys Bad Lake	Lake	11
Bezanson Ponds	Lake	7
Big Connor Lake	Lake	10
Big Indian Lake	Lake	6
Big Walsh Lake	Lake	9
Blue Mountain Hill	Mountain	14
Bottle Lake	Lake	7
Bottle Lake	Lake	8
Bowsprit Lake	Lake	10
Brushy Hill	Mountain	11
Bull Pond	Lake	6
Burns Runs	River	5
Burnt Point	Cape	6
Camp Cove	Bay	9
Camp Hill Lake	Lake	9
Campbell Hill	Mountain	5
Carney Lake	Lake	9
Cat Gut Pond	Lake	8

Place Name	Feature Type	Distance (km)
Cellarhole Lake	Lake	10
Christie Hill	Mountain	10
Christie Lake	Lake	8
Clay Lake	Lake	4
Clements Lake	Lake	8
Coon Pond	Lake	7
Cooper Lake	Lake	4
Cox Lake ** ‡	Lake	7
Coxs Lake	Lake	7
Cranberry Lake	Lake	11
Crane Cove	Bay	2
Crane Nest Brook	River	3
Culvert Brook	River	9
Daley Lake	Lake	11
Dauphinees Marsh	Low vegetation	11
Dauphinees Pond	Lake	8
Dorey Pond	Lake	9
Doreys Island	Island	8
Drain Lake	Lake	8
Drinking Hole Brook	River	14
Duck Pond	Lake	7
Duck Pond	Lake	10
Duck Ponds	Lake	9
Elbow Lake	Lake	10
English Corner	Unincorporated area	7
First Narrows	Channel	10
Flat Lake	Lake	8
Flat Lake	Lake	8
Flat Lake Brook	River	8
French Village **	Unincorporated area	10
Gowans Cove	Bay	4
Grassy Brook	River	7
Green Lake	Lake	4
Green Point	Cape	6
Groves **	Unincorporated area	11

Place Name	Feature Type	Distance (km)
Gull Rock	Shoal	4
Half-way Lake ** ‡	Lake	7
Halfway Lake	Lake	7
Hamilton Pond	Lake	0
Hammond Plains ** ‡	Unincorporated area	7
Hammonds Plains	Unincorporated area	8
Hammonds Plains	Low vegetation	5
Hammonds Plains Road	Unincorporated area	10
Haverstock Island	Island	2
Head Bay	Bay	10
Hickeys Marsh	Low vegetation	10
Hoop Hole Pond ** ‡	Lake	5
Hoop Pole Pond	Lake	5
Hoophole Pond ** ‡	Lake	5
Horse Pond	Lake	9
Hub Rock	Shoal	7
Hubley Mill Lake	Lake	9
Hubley Mill Lake Road	Unincorporated area	9
Indian River	River	10
Isaac Lake ** ‡	Lake	10
Isaacs Lake	Lake	9
Island Lake	Lake	8
Island Lake	Lake	10
Island Lake	Lake	9
Kehoe Hill	Mountain	8
Kehoe Lake	Lake	7
Kehoe Mountain	Mountain	8
Lacey Lake	Lake	9
Lacey Mill Lake ** ‡	Lake	9
Lacey River	River	7
Land of Laziness Lake	Lake	8
Lewis Lake	Lake	10
Lewis Lake	Lake	8
Lewis Lake	Lake	12
Lewis Lake	Unincorporated area	8

Place Name	Feature Type	Distance (km)
Lewis Lake Provincial Park	Conservation area	10
Little Connor Lake	Lake	11
Little Deadwaters	River feature	9
Little Indian Lake	Lake	8
Little Lake	Lake	5
Little Pockwock Lake	Lake	1
Little Springfield Lake	Lake	9
Little Walsh Lake	Lake	9
Littles Lake ** ‡	Lake	5
Lizard Lake	Lake	2
Long Cove	Bay	7
Long Gullies	River	6
Long Hill Pond	Lake	6
Long Lake	Lake	12
Long Lake	Lake	9
Long Ponds	Lake	4
Long Stillwater	River feature	10
Loon Cove ** ‡	Bay	1
Maple Falls	Falls	11
Maple Lake	Lake	11
Marr Brook	River	3
Marr Lake ** ‡	Lake	4
Marshy Lake	Lake	8
Mason Pond ** ‡	Lake	7
Masons Mill Pond	Lake	7
Masons Mill Pond Brook	River	8
McCabe Lake	Lake	8
McNab Pond	Lake	10
McQuade Lake	Lake	11
Melvin Brook	River	6
Melvin Brook Deadwaters	River feature	5
Melvin Cove	Bay	1
Melvin Lake	Lake	4
Mile Rock	Shoal	6
Mill Lake	Lake	8

Place Name	Feature Type	Distance (km)
Minister Hill	Mountain	10
Mitchells Pond	Lake	10
Moose Cove	Bay	3
Morton Lake ** ‡	Lake	10
Mortons Lake	Lake	11
Mud Cove	Bay	5
Muskrat Lakes	Lake	7
Narrows Lake ** ‡	Lake	10
Narrows Lake ** ‡	Lake	10
North River	River	9
North Slough Brook	River	10
Northeast River	River	8
Northwest Brook	River	8
Oak Island	Island	4
Owl Head	Cape	3
Owls Head ** ‡	Cape	3
Patient Ross Lake	Lake	6
Peggy Brook	River	4
Peggy Cove	Bay	3
Peggy Pond ** ‡	Lake	6
Peggy Pond Brook ** ‡	River	5
Peggys Pond	Lake	7
Perry Pond ** ‡	Lake	6
Perrys Pond	Lake	6
Pockwock	Unincorporated area	0
Pockwock Lake	Lake	3
Pockwock River	River	3
Pompeys Island	Island	2
Ponhook Cove	Bay	1
Porcupine Lake	Lake	11
Proctor Pond	Lake	9
Rafter Lake	Lake	6
Ragged Lake	Lake	13
Rees Brook	River	7
Rees Deadwater	River feature	7

Place Name	Feature Type	Distance (km)
Rees Lake	Lake	7
Round Lake	Lake	9
Round Point	Cape	4
Round Pond	Lake	10
Salmon Rock	Shoal	6
Sand Cove ** ‡	Bay	3
Sand Cove	Bay	2
Sand Cove Island	Island	1
Sand Cove Mountain	Mountain	2
Sandy Brook	River	9
Sandy Brook	River	8
Sandy Lake	Lake	6
Sandy Lake	Lake	11
Sandy Lake	Lake	7
Schmidt Lake	Lake	10
Schwartz Pond	Lake	11
Scout Island	Island	6
Second Lake	Lake	9
Second Lake Brook	River	10
Second Narrows	Channel	10
Shaffer Cove ** ‡	Bay	2
Smelt Brook Lake	Lake	12
Snowshoe Pond	Lake	7
South Slough Brook	River	10
Springfield Lake	Lake	10
Springfield Lake	Unincorporated area	10
Spruce Island	Island	8
Squaw Point **	Cape	3
St. Margarets Bay **	Unincorporated area	9
Stillwater Lake	Lake	7
Stillwater Lake	Unincorporated area	9
Stillwater Narrows	Channel	6
Tars Cove	Bay	14
Taylor Lake	Lake	4
The Gullies	Channel	6

Place Name	Feature Type	Distance (km)
The Gullies	River	8
The Hay Marsh	Low vegetation	11
The Hay Marsh	Low vegetation	8
The Portage	Road feature	3
The Promised Land	Forest	13
The Slough Hole	Low vegetation	10
Thompson Lake	Lake	3
Thompson Pond	Lake	3
Thompson Pond ** ‡	Lake	7
Thompson Run	River	8
Thompson's Run ** ‡	River	7
Thompsons Pond	Lake	7
Tiny Hole	Lake	10
Tiny Hole Barrens	Low vegetation	10
Tomahawk Lake	Lake	4
Two Mile Lake	Lake	10
Uplands Park	Unincorporated area	11
Upper Duck Rocks	Shoal	8
Upper Hammonds Plains	Unincorporated area	3
Upper Narrows	Channel	6
Upper Pompeys Island	Island	2
Upper Sackville	Unincorporated area	10
Upper Tantallon	Unincorporated area	10
Wall Lake	Lake	10
Wallace Hill	Mountain	7
Walsh Brook	River	8
Walsh Brook ** ‡	River	8
Walsh Cove	Bay	7
Witherod Lake	Lake	11
Wright Lake ** ‡	Lake	4
Wrights Lake	Lake	4
Yankeetown	Unincorporated area	6
Yellow Lily Lake	Lake	10
Legend		
**	Indicates a former name	

Place Name	Feature Type	Distance (km)
‡	Indicates that the official name is available	
†	Indicates that this name is available in another language	
◊	Indicates a Pan-Canadian feature	

APPENDIX I
SHADOW FLICKER MODELING RESULTS

Receptor ID	Easting (m)	Northing (m)	Predicted Shadow Hours/Year	Predicted Shadow Hours on Worst Day of Year
R1	433009	4956070	0:00	0:00
R2	434476	4955841	0:00	0:00
R3	433738	4955984	0:00	0:00
R4	433699	4955934	0:00	0:00
R5	433852	4956083	0:00	0:00
R6	434206	4956265	0:00	0:00
R7	433840	4955960	0:00	0:00
R8	433518	4955976	0:00	0:00
R9	434464	4955844	0:00	0:00
R10	434018	4955751	0:00	0:00
R11	433681	4955999	0:00	0:00
R12	433617	4956023	0:00	0:00
R13	432902	4956090	0:00	0:00
R14	432881	4956152	0:00	0:00
R15	433004	4956116	0:00	0:00
R16	433563	4955965	0:00	0:00
R17	435047	4955539	0:00	0:00
R18	434429	4955475	0:00	0:00
R19	433663	4955781	0:00	0:00
R20	432289	4957760	0:00	0:00
R21	434490	4955862	0:00	0:00
R22	433944	4955840	0:00	0:00
R23	433754	4955761	0:00	0:00
R24	433542	4956069	0:00	0:00
R25	435030	4955517	0:00	0:00
R26	432462	4956233	0:00	0:00
R27	432696	4956238	0:00	0:00
R28	433833	4955837	0:00	0:00
R29	432203	4957736	0:00	0:00
R30	434117	4955935	0:00	0:00
R31	434760	4955740	0:00	0:00
R32	435068	4955659	0:00	0:00
R33	434561	4955832	0:00	0:00
R34	432462	4956168	0:00	0:00
R35	432852	4956091	0:00	0:00
R36	433830	4955983	0:00	0:00
R37	433769	4955972	0:00	0:00
R38	432754	4956157	0:00	0:00
R39	433477	4956053	0:00	0:00
R40	433860	4955889	0:00	0:00
R41	434459	4955467	0:00	0:00
R42	435367	4955476	0:00	0:00
R43	434212	4955641	0:00	0:00
R44	432561	4956276	0:00	0:00
R45	434341	4955846	0:00	0:00
R46	434465	4955828	0:00	0:00
R47	434014	4955940	0:00	0:00
R48	433866	4956010	0:00	0:00
R49	432973	4956075	0:00	0:00
R50	432677	4956384	0:00	0:00
R51	432899	4956145	0:00	0:00
R52	435233	4955462	0:00	0:00
R53	432888	4956174	0:00	0:00
R54	434425	4955775	0:00	0:00
R55	433692	4955811	0:00	0:00
R56	434354	4955864	0:00	0:00
R57	434246	4955818	0:00	0:00

Receptor ID	Easting (m)	Northing (m)	Predicted Shadow Hours/Year	Predicted Shadow Hours on Worst Day of Year
R58	432825	4956079	0:00	0:00
R59	433117	4955764	0:00	0:00
R60	434163	4955837	0:00	0:00
R61	433625	4955939	0:00	0:00
R62	434497	4955822	0:00	0:00
R63	433326	4955927	0:00	0:00
R64	435211	4955637	0:00	0:00
R65	435323	4955485	0:00	0:00
R66	432902	4956128	0:00	0:00
R67	432415	4956232	0:00	0:00
R68	435152	4955639	0:00	0:00
R69	434565	4955788	0:00	0:00
R70	434831	4955717	0:00	0:00
R71	434238	4955358	0:00	0:00
R72	435221	4955537	0:00	0:00
R73	433871	4955868	0:00	0:00
R74	435386	4955508	0:00	0:00
R75	434394	4955842	0:00	0:00
R76	433529	4956093	0:00	0:00
R77	434153	4955285	0:00	0:00
R78	432739	4956164	0:00	0:00
R79	434696	4955752	0:00	0:00
R80	432581	4956193	0:00	0:00
R81	433726	4955993	0:00	0:00
R82	433962	4955967	0:00	0:00
R83	435141	4956098	0:00	0:00
R84	433874	4955908	0:00	0:00
R85	434718	4955793	0:00	0:00
R86	434000	4955878	0:00	0:00
R87	432646	4956193	0:00	0:00
R88	433695	4955983	0:00	0:00
R89	434287	4955913	0:00	0:00
R90	434421	4955830	0:00	0:00
R91	432889	4956039	0:00	0:00
R92	432123	4957030	0:00	0:00
R93	432447	4956175	0:00	0:00
R94	433834	4955881	0:00	0:00
R95	432667	4956091	0:00	0:00
R96	434615	4955661	0:00	0:00
R97	434826	4955702	0:00	0:00
R98	433810	4955909	0:00	0:00
R99	435220	4955441	0:00	0:00
R100	432994	4956055	0:00	0:00
R101	435086	4955624	0:00	0:00
R102	435220	4955554	0:00	0:00
R103	432117	4956785	0:00	0:00
R104	433850	4955907	0:00	0:00
R105	435079	4955656	0:00	0:00
R106	433969	4955881	0:00	0:00
R107	432648	4956230	0:00	0:00
R108	432098	4956787	0:00	0:00
R109	434407	4955853	0:00	0:00
R110	432678	4956402	0:00	0:00
R111	433777	4955989	0:00	0:00
R112	433977	4955861	0:00	0:00
R113	433055	4955704	0:00	0:00
R114	434099	4955861	0:00	0:00

Receptor ID	Easting (m)	Northing (m)	Predicted Shadow Hours/Year	Predicted Shadow Hours on Worst Day of Year
R115	434154	4955257	0:00	0:00
R116	435413	4955501	0:00	0:00
R117	433739	4955755	0:00	0:00
R118	433623	4956004	0:00	0:00
R119	433825	4955852	0:00	0:00
R120	435127	4955616	0:00	0:00
R121	432365	4958310	0:00	0:00
R122	432832	4956047	0:00	0:00
R123	432531	4956161	0:00	0:00
R124	432842	4956157	0:00	0:00
R125	432532	4956244	0:00	0:00
R126	433320	4955914	0:00	0:00
R127	433781	4955928	0:00	0:00
R128	433340	4955921	0:00	0:00
R129	432529	4956230	0:00	0:00
R130	433841	4955832	0:00	0:00
R131	435087	4955605	0:00	0:00
R132	432204	4957782	0:00	0:00
R133	434258	4955932	0:00	0:00
R134	434700	4955772	0:00	0:00
R135	432548	4956252	0:00	0:00
R136	432878	4956170	0:00	0:00
R137	433837	4955997	0:00	0:00
R138	432609	4956387	0:00	0:00
R139	434959	4955495	0:00	0:00
R140	434970	4955471	0:00	0:00
R141	434992	4955482	0:00	0:00
R142	435036	4955505	0:00	0:00
R143	434930	4955658	0:00	0:00
R144	433902	4955984	0:00	0:00
R145	434339	4955711	0:00	0:00
R146	434625	4955770	0:00	0:00
R147	434555	4955717	0:00	0:00
R148	434309	4955509	0:00	0:00
R149	433550	4955941	0:00	0:00
R150	432333	4956281	0:00	0:00
R151	432463	4957579	0:00	0:00
R152	432229	4957453	0:00	0:00
R153	432139	4957702	0:00	0:00
R154	435407	4955493	0:00	0:00
R155	435426	4955515	0:00	0:00
R156	435231	4955674	0:00	0:00